



**BELIZE**

**BELIZE AGRICULTURAL HEALTH AUTHORITY ACT  
CHAPTER 211**

**REVISED EDITION 2003**

SHOWING THE SUBSIDIARY LAWS AS AT 31ST OCTOBER, 2003

This is a revised edition of the Subsidiary Laws, prepared by the Law Revision Commissioner under the authority of the Law Revision Act, Chapter 3 of the Substantive Laws of Belize, Revised Edition 2000.

**ARRANGEMENT OF SUBSIDIARY LAWS**



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**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY ACT**  
**(COMMENCEMENT) ORDER**

35/2000

**ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Commencement.
-

**CHAPTER 211**

35/2000.

**BELIZE AGRICULTURAL HEALTH AUTHORITY ACT  
(COMMENCEMENT) ORDER***[8<sup>th</sup> April, 2000.]*

Short title.

1. This Order may be cited as the

**BELIZE AGRICULTURAL HEALTH AUTHORITY ACT  
(COMMENCEMENT) ORDER.**Commencement  
of Act 47 of  
1999.

2. In exercise of the powers conferred upon me by section 1(2) of the Belize Agricultural Health Authority Act (No. 47 of 1999), and all other powers thereunto me enabling, **I, DANIEL SILVA**, Minister responsible for Agriculture, do hereby appoint the 1<sup>st</sup> day of April, 2000, as the day on which the said Act shall come into force.

**MADE** this 27<sup>th</sup> day of March, 2000.**(DANIEL SILVA)**

Minister Responsible for Agriculture

**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(PREVENTION OF PLANT AND ANIMAL**  
**DISEASES THROUGH FUMIGATION)**  
**REGULATIONS**

66/2000.

**ARRANGEMENT OF SECTIONS**

1. Short title.
2. Interpretation.
3. Fumigation services.
4. Charges for fumigation services.
5. Repeal.
6. Commencement.

**CHAPTER 211**

66/2000.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(PREVENTION OF PLANT AND ANIMAL  
DISEASES THROUGH FUMIGATION)  
REGULATIONS***[22<sup>nd</sup> July, 2000.]*

**WHEREAS**, Belize is a member of the International Regional Organization for Health in Agriculture (OIRSA);

**AND WHEREAS**, the objectives of OIRSA are to support member countries in the development of their animal and plant health systems by assessing the execution of services in the control against plant and animal diseases, pests and plagues that affect agricultural patrimony;

**AND WHEREAS**, the Government of Belize, with a view to preventing the entrance into Belize of plant or animal diseases, and other harmful pests and plagues, has arranged with OIRSA to fumigate all aircraft, vehicles and ships entering Belize from abroad;

**NOW THEREFORE**, to formalise the fumigation arrangements, the following Regulations are hereby made:-

Short title. 1. These Regulations may be cited as the

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(PREVENTION OF PLANT AND ANIMAL DISEASES  
THROUGH FUMIGATION) REGULATIONS.**



2. In these Regulations, unless the context otherwise requires: Interpretation.
- (a) “OIRSA” means the International Regional Organization for Health in Agriculture;
- (b) a word or phrase not specifically defined shall have the meaning assigned to it in the Belize Agricultural Health Authority Act. No. 47 of 1999.
3. OIRSA shall be and is hereby authorized, for and on behalf of the Government of Belize, to fumigate every aircraft, vehicle or ship listed in Regulation 4 below, upon its initial entry into Belize, and again on exit from Belize if its stay in Belize exceeds twelve hours, thereafter after a period of every twelve hours until its departure from Belize. Fumigation services.
4. Every owner of an aircraft, vehicle or ship fumigated by OIRSA under Regulation 3 above, or his authorized agent, shall pay to OIRSA, for and on behalf of the Government of Belize, the following charges for each fumigation service: - Charges for fumigation services.

Type of Aircraft, Vehicle or Ship	Charge BZ\$
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**AIRCRAFTS**

- (a) Large aircraft (International flights)..... 30.00
- (b) Local aircraft which cross borders ..... 20.00

**VEHICLES**

- (c) Buses (Belize - Mexico Border) ..... 11.00
- (d) Buses (Belize -Guatemala Border) ..... 10.00

(e) Taxi/car (Belize - Mexico Border) .....	3.00
(f) Taxi/car (Belize - Guatemala Border) .....	8.50
(g) Pickup trucks (Belize - Mexico Border).....	8.50
(h) Pickup trucks (Belize - Guatemala Border) .....	3.00
(i) Trailers (for each trailer) (Belize - Mexico Border) .....	13.00
(j) Trailers (for each trailer) (Belize - Guatemala Border) .....	10.00
(k) Trucks (Belize - Mexico Border) .....	11.00
(l) Trucks (Belize - Guatemala Border) .....	8.00
(m) Containers (20 ft.) (Belize - Mexico Border) .....	13.00
(n) Containers (20ft.) (Belize - Guatemala Border) .....	8.00
(o) Containers (40ft.) (Belize - Mexico Border) .....	13.00
(p) Containers (40ft.) (Belize - Guatemala Border) .....	10.00
(q) Containers (20ft.) (Seaports) .....	8.00
(r) Containers (40ft.) (Seaports) .....	10.00

### SHIPS

(s) Large ships (commercial) .....	30.00
(t) Small ships .....	20.00
(u) Boats (30-40 persons) .....	4.00
(v) Boats (less than 30 persons) .....	3.00

Repeal of S.I.  
No. 107 of 1996.  
No. 4 of 1997.

5. On the coming into force of these Regulations the Plant Protection (Prevention of Plant and Animal Diseases through Fumigation) Regulations, 1996, as amended by the Plant Protection (Prevention of Plant and Animal Diseases through Fumigation) (Amendment) Regulations, 1997, shall stand repealed.

Commencement.

6. These Regulations shall come into force on the 18th day of July, 2000.

**MADE** by the Minister of Agriculture, Fisheries and Cooperatives this  
18th day of July, 2000.

**(DANIEL SILVA)**  
Minister of Agriculture, Fisheries  
and Cooperatives

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**CHAPTER 211**

23/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(ANIMALS)(ANTE MORTEM)(INSPECTION)**  
**REGULATIONS****ARRANGEMENT OF SECTIONS**

1. Short title.
2. Interpretation.
3. Prohibition from slaughtering animal before inspection.
4. Examination Lair.
5. Condemned animals.
6. Condemned animals not to be slaughtered in slaughterhouse.
7. Slaughter of condemned animals.
8. Suspect animals.
9. Isolation of suspect animals.
10. Re-examination of suspect animals.
11. Parturition.
12. Offence and penalty.
13. Repeals.
14. Commencement.

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**SCHEDULE**

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**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(ANIMALS) (ANTE MORTEM) (INSPECTION)  
REGULATIONS**

23/2001.

*[17th February, 2001.]*

1. These Regulations may be cited as the Short title.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(ANIMALS)(ANTE MORTEM) (INSPECTION)  
REGULATIONS.**

2. In these Regulations, unless the context otherwise requires:- Interpretation.

“Act” means the Belize Agricultural Health Authority Act; CAP. 211.

“animal” has the meaning assigned to it in section 2 of the Act;

“Authority” means the Belize Agricultural Health Authority established under section 3 of the Act;

“Inspector” means a designated officer of the Authority with powers to inspect animals before slaughter appointed pursuant to the Act;

“slaughterhouse” means any premises in any area to which the provisions of the Slaughter of Animals Act applies used for slaughtering animals, the flesh of which is intended for sale for human consumption, and includes any place available in connection therewith for the confinement of animals while awaiting slaughter there or for keeping, or subjecting to any treatment or process, products CAP. 154

of the slaughtering of animals there and includes any place available in connection with a slaughterhouse and used for the manufacture of bacon, ham, sausages, meat pies or other manufactured meat products or for the storage of meat used in such manufacture.

Prohibition from slaughtering animal before inspection. Schedule.

3. (1) Subject to the provisions of subregulation (2), no person shall slaughter or cause to be slaughtered any animal unless such animal has been examined by an inspector in accordance with the provisions of the Schedule to these Regulations on the day prior to and on the day of slaughter and has been passed for slaughter on both such days.

(2) The provisions of subregulation (1) does not apply where for humane reasons it is necessary to slaughter an animal before the services of an inspector can be acquired.

Examination Lair.

4. No animal shall be examined other than in an examination lair which shall be separate and apart from the holding lair.

Condemned animals.

5. (1) Any animal which has been classified as condemned shall be so identified by or under the supervision of an inspector.

(2) Any animal classified as condemned shall be marked by the fixture of a serially numbered metal ear tag bearing the term "condemned".

(3) No person shall remove from any animal any tag showing that it has been classified as condemned:

Schedule.

Provided that in the case of any animal classified as condemned which, under the provisions of paragraph 8 of the Schedule to these Regulations, has been set aside and held for treatment, any tag showing that the animal has been classified as condemned may be removed by an inspector following the treatment if the animal is found free from disease.

6. No animal which has been classified as condemned shall be slaughtered in a slaughterhouse. Condemned animals not to be slaughtered in slaughterhouse.
7. Any animal which has been classified as condemned shall be slaughtered under the supervision of an inspector at such place as the inspector shall direct and, after such slaughter, shall be disposed of in such manner as the inspector shall direct. Slaughter of condemned animals.
8. (1) Any animal which has been classified as “suspect” shall be so identified by or under the supervision of an inspector. Suspect animals.
- (2) Any animal classified as suspect shall be marked by the fixture of a serially numbered metal ear tag bearing the term “Suspect” and, in the case of any swine or other animal which is to pass through any dehairing equipment, in addition by a marking of the term “Suspect” by tattoo.
- (3) In the case of any animal classified as suspect, an inspector shall record on a form, to be prescribed by the Minister, the serial number of the animal and of the disease or condition in respect of which the animal was classified as suspect, including the temperature, if in the opinion of the inspector the temperature might be relevant to the matter of the disposition of the carcass on *post mortem* inspection.
- (4) No person shall remove from any animal any tag or other mark showing that it has been classified as suspect.
- (5) Any animal which has been classified as suspect when presented for slaughter shall be accompanied by the prescribed form relating to that animal.
9. Any animal which has been classified as suspect shall be put into an isolation lair after identification. Isolation of suspect animals.

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| Re-examination of suspect animals.                           | 10. Any animal which has been classified as suspect shall be re-examined after such period as the inspector thinks fit, and, if passed for slaughter, shall be slaughtered in an isolation slaughter-house.  |
| Parturition.   | 11. No animal showing signs of the onset of parturition shall be slaughtered until after parturition and the passage of the placenta and it has been passed for slaughter in accordance with the provisions of Regulation 3 of these Regulations.  |
| Offence and penalty.   | 12. If any person contravenes or fails to comply with any of the provisions of these Regulations or to comply with any directions given thereunder, such person commits an offence and shall be liable on summary conviction to a fine not exceeding two thousand dollars or to imprisonment for a period not exceeding one year, or to both such fine and period of imprisonment. |
| Repeals<br>Sub. Leg. 1991.<br>Edn. Vol. V.<br>CAP. 219, p.2. | 13. Upon the commencement of these Regulations, the Animals (Ante Mortem) Regulations, shall stand repealed.   |
| Commencement   | 14. These Regulations shall come into force on the 12 <sup>th</sup> day of February, 2001.   |

**MADE** by the Minister responsible for Agriculture and Fisheries this 12th day of February, 2001.

**(DANIEL SILVA)**  
Minister responsible for  
Agriculture and Fisheries



**SCHEDULE**

**[Regulation 3]**

The examination shall be carried out by inspectors as follows:

1. Animals shall be examined in order to determine whether they shall be classified as:
  - (a) healthy and fit for slaughter; or
  - (b) suspect; or
  - (c) condemned.
2. Each animal shall be examined closely and separately on arrival.
3. Recumbent animals shall be made to rise upon examination. If an animal is unable to rise or is crippled, its pulse, temperature and respiration shall be examined and, in the absence of any other indications that it should be classified as condemned, it shall be classified as suspect.
4. Any animal that is limping or salivating shall have its feet and tongue examined.
5. Swine with a temperature of 106°F or more and any other animal with a temperature of 105°F or more shall be classified as condemned unless there is doubt as to the cause, in which case such animal may be classified as suspect and isolated for further examination.
6. Any animal suffering from milk fever or travel sickness shall be classified as condemned unless in the opinion of the inspector it may respond to treatment when such animal may be classified as suspect and isolated for further examination.

7. Any animal which plainly shows the presence of any of the following diseases or conditions shall be condemned.

- (a) Anthrax;
- (b) Anasarca or generalised oedema;
- (c) Listeriosis;
- (d) Foot and mouth disease;
- (e) Leptospirosis;
- (f) Scrapie;
- (g) Pseudorabies;
- (h) Rabbits
- (i) Sheep Pox;
- (j) Sheep Scab;
- (k) Swine Fever;
- (l) Tuberculosis, generalised or with cachexia;
- (m) Tetanus;
- (n) Acute swine erysipelas;
- (o) Actinomycosis, generalised;
- (p) Actinobacillosis, generalised;
- (q) Bacillary haemoglobinuria;
- (r) Blackleg;
- (s) Bluetongue in sheep;
- (t) Haemorrhagic septicemia;
- (u) Icterohematuria in sheep;
- (v) Infectious bovine rhinotracheitis;
- (w) Malignant espizootic catarrh;
- (x) Acute Influenza;
- (y) Acute Inflammatory Lameness;
- (z) Neoplasm, generalized;
- (aa) Epithelioma of the eye-advanced or accompanied by cachexia;
- (bb) Pigmentary conditions, Melanosis, Xanthosis, Ochronosis and other like conditions, when generalized;
- (cc) Brucellosis;

- (dd)* Goats showing a positive reaction to the test for Brucellosis;
- (ee)* Caseous lymphadenitis;
- (ff)* Icterus;
- (gg)* Sexual odour of Swine;
- (hh)* Emaciation;
- (ii)* Anemia;
- (jj)* Foreign or urine odour;
- (kk)* Unborn or stillborn animals;
- (ll)* Dead or dying animals

8. Any animal which plainly shows the presence of any of the following diseases or conditions shall be condemned, but may be set aside and held for treatment in the discretion of an inspector and if, at the end of the treatment period, it is found to be free from disease, it may be classified fit for slaughter and released -

- (a)* Ketosis;
- (b)* Swine erysipelas;
- (c)* Vesicular disease;
- (d)* Grass Tetany;
- (e)* Transport Tetany;
- (f)* Parturient paresis;
- (g)* Anaplasmosis;
- (h)* Babesiosis;
- (i)* Inflammatory conditions, including pneumonia, enteritis and peritonitis;
- (j)* any animal in a comatose or semi-comatose state;
- (k)* any animal affected with any condition not otherwise mentioned in these paragraphs which would preclude the release of the animal for slaughter.

9. Any animal which does not clearly show the presence of but is suspected of being affected with any of the diseases or conditions specified in paragraph 7 of this Schedule or with any disease or condition which may cause condemnation or partial condemnation of the carcass on *post mortem* examination shall be classified as suspect.

10. Any animal in the following categories shall be classified as suspect -

- (a) animals which have reacted to a test for leptospirosis or anaplasmosis but which show no symptoms of the disease;
- (b) animals which are known to have reacted to the tuberculin test.

11. Any animal suspected of having been treated with or exposed to any substance in a manner that may impart a biological residue that may make the edible tissues of the animal unwholesome or unfit for human consumption shall be classified as suspect and shall not be slaughtered until it can be expected that metabolic processes have reduced the residue sufficiently to make the tissues fit for human consumption.

12. (1) No animal in a lot in which anthrax is found shall be slaughtered and presented for *post mortem* inspection until it has been determined by a careful *ante mortem* inspection that no anthrax infected animal remains in the lot.

(2) Notwithstanding anything contained in subparagraph (1) no animal in such a lot or in a lot in which any animal has been treated with anthrax biologicals shall be slaughtered until at least 21 days after the last such treatment or the last death from anthrax.

(3) No animal shall be treated with anthrax vaccines in any part

of a slaughterhouse.

(4) Any animal which has been treated within forty-two days before *ante mortem* inspection with anthrax, vaccines or which shows reaction to having been treated with such vaccines shall not be slaughtered until the expiry of such period or the disappearance of such reaction, whichever is the longer.

13. Where any animal has been found to be suffering from anthrax, all straw, litter and manure in all exposed parts of the slaughterhouse shall be removed and burnt and all such parts including gates, fences, ground and exposed materials shall be soaked with a 5% solution of sodium hydroxide or commercial lye.

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**CHAPTER 211**

24/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(FOOD PROCESSING PLANTS) (PORTABLE WATER)**  
**(MINIMUM STANDARDS) REGULATIONS****ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Interpretation.
  3. Minimum standards to be observed by food processing enterprises.
  4. Exceptions.
  5. Commencement.
-

**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(FOOD PROCESSING PLANTS) (PORTABLE WATER)  
(MINIMUM STANDARDS) REGULATIONS**

24/2001.

*[17<sup>th</sup> February, 2001.]*

1. These Regulations may be cited as the

Short title.

**BELIZE AGRICULTURAL HEALTH AUTHORITY (FOOD  
PROCESSING PLANTS) (POTABLE WATER) (MINIMUM  
STANDARDS) REGULATIONS.**

2. In these Regulations, unless the context otherwise requires:-

Interpretation.

“cleaning” means the removal of dirt or grease;

“disinfectant” means the reduction of micro-organisms to a safe level;

“food processing enterprises” means any company, partnership or other business entity which undertakes a single or a series of actions to control or change the properties of food through processing, but does not include street vendors of food, caterers and restaurants;

“potable water” means water satisfactory for human consumption which meets all health requirements;

“sanitation” means the removal of dirt or grease, and the reduction of micro-organisms to a safe level.

Minimum standards to be observed by food processing enterprises.

3. (1) A food processing enterprise shall ensure that water used in its processing operations:-

- (a) as an ingredient or processing aid in contact with any food product; or
- (b) for rinsing or cleaning utensils and equipment; or
- (c) for cleaning, sanitation or disinfection purposes; or
- (d) for rinsing or cleaning the floors or walls of its processing plant; or
- (e) for handwashing by its staff involved in food-handling operations; or
- (f) as drinking water,

when tested using the testing standards specified in subregulation (2), do not contain the bacteria and other matter specified in subregulation (3).

(2) The testing standards referred to in subregulation (1) are:-

- (a) testing using standards recommended by the American Public Health Association;
- (b) testing using standards recommended by the American Water Works Association;
- (c) testing using standards recommended by the Water Environment Federation;
- (d) testing using standards recommended by the United



States Environment Protection Agency.

(3) The bacteria and other matter referred to in subregulation (1) are:-

- (a) coliform bacteria;
- (b) faecal coliform bacteria;
- (c) more than 100 total aerobic bacteria per millilitre, 27C for 72 hours;
- (d) more than 20 total aerobic bacteria per millilitre, 37C for 24 hours;
- (e) salmonella and shigella;
- (f) faecal streptococci;
- (g) vibro cholerae and v. parahaemolyticus;
- (h) less than 0.5 parts per million or more than 5 parts per million of free chlorine.

4. Regulation 3 shall not apply to:-

Exceptions.

- (a) chlorinated water used to disinfect equipment at the end of the production day, which shall have a free chlorine content of not less than 50 parts per million and not greater than 300 parts per million;
- (b) enterprises where non-chlorine based chemicals or other alternative methods are used to disinfect water,

in which case the enterprise shall be required to provide adequate assurance of food safety.

Commencement. 5. These Regulations shall come into force on the 12<sup>th</sup> day of February, 2001.

**MADE** by the Minister responsible for Agriculture and Fisheries this 12<sup>th</sup> day of February, 2001.

**(DANIEL SILVA)**  
Minister Responsible for  
Agriculture and Fisheries

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**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(FOOD SAFETY) REGULATIONS**

25/2001.

**ARRANGEMENT OF REGULATIONS**

1. Short title.
2. Interpretation.
3. Designation of the Authority as the competent Authority.
4. Food exporting enterprises to register with the Authority.
5. Consequences of non-compliance.
6. Recalling of hazardous food products.
7. Compensation.
8. Food testing laboratory.
9. Fees.
10. Sanitary certificate for fishery products exported from Belize.
11. Commencement.

FIRST SCHEDULE

SECOND SCHEDULE

THIRD SCHEDULE

FOURTH SCHEDULE

**CHAPTER 211**

25/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(FOOD SAFETY) REGULATIONS***[17<sup>th</sup> February, 2001.]*

Short title.

1. These Regulations may be cited as the

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(FOOD SAFETY) REGULATIONS.**

Interpretation.

2. (1) In these Regulations, unless the context otherwise requires:-

CAP. 211.

“Act” or “the Act” means the Belize Agricultural Health Authority Act;

“audit” means a systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives;

“Authority” means the Belize Agricultural Health Authority established under section 3 of the Act;

“certification” means the procedure under which official certificates are issued under the seal or with the approval, of the Authority, certifying that any food or food control system complies with the requirements of the Act and these Regulations;

“designated officer” means a person designated by the Authority to perform any function or discharge any duty under these Regulations, and includes an

officer of the Authority;

“enterprise” means any company, partnership or entity operated as a business or commercial venture which is involved in the rearing, handling, conveyance, storage, processing, and packaging of raw or primary agricultural or marine food products, and includes farm operations registered for the exportation of raw or primary products or for the distribution of such products locally, nationally or internationally and factory or freezer vessels and all fishing vessels used to fish or process fish for export;

“food” means any article used as food or drink for human consumption, other than drugs, water or tobacco substances, and includes:-

- (a) any substance which is intended for use in the composition or preparation of food;
- (b) any flavouring matter or condiment; and
- (c) any colouring matter intended for use in food;

“food safety system” means systematic programmes employed to ensure food safety in processed or preprocessed animals, fish or plant products, and includes any system employed in the production of food from the farm or sea or other source of the food to the table for human consumption;

“Hazard Analysis and Critical Control Point System” or “HACCP” means a system which identifies, evaluates and controls hazards which are significant for food safety, using the guidelines, practices and procedures set out in the First, Second and Third Schedules to these Regulations;

First Schedule.  
Second Schedule.  
Third Schedule.

“health hazard”, in relation to food, means any indicator of a food safety system that may lead to a deterioration of human or animal health, and include

microbiological, physical, irradiation, or chemical indicators.

(2) A word or phrase used but not defined in these Regulations which is defined in the Act shall have the corresponding meaning assigned to it in the Act.

(3) The Schedules form part of these Regulations and shall be read and construed as one with these Regulations.

Designation of  
the Authority as  
the competent  
Authority

3. (1) It is hereby declared that the Authority shall be the Competent Authority in Belize with responsibility for monitoring, inspecting, approving and controlling food safety systems in respect of all enterprises (including all land-based processing enterprises and all sea-based processing enterprises) that produce or process food for export from Belize or for consumption within Belize.

(2) In performing its functions and discharging its duties as specified in subregulation (1), the Authority shall consult with an Advisory Committee consisting of members appointed by the Managing Director of the Authority.

(3) The Managing Director of the Authority shall appoint one of the members of the Advisory Committee to be the Chairman of the Committee.

Food exporting  
enterprises to  
register with the  
Authority.

4. (1) All food exporting enterprises shall be and are hereby required to register with the Authority.

First Schedule.  
Second Schedule.  
Third Schedule.

(2) All food exporting enterprises shall be and are hereby required to comply with the HACCP guidelines set out in the First, Second and Third Schedules to these Regulations.

(3) Every enterprise registered pursuant to this Regulation shall have the duty of affording designated officers all facilities to enable them to

monitor, inspect, audit and control all aspects of food production, processing, delivery and exportation which ensures food safety to the ultimate consumers.

(4) Any person or enterprise which contravenes subregulation (3) commits an offence and is liable upon summary conviction to a fine not exceeding two thousand dollars.

(5) Every enterprise registered under these Regulations shall implement a system of inventory and tracking of any batches or lots.

(6) Every enterprise registered under these Regulations shall prominently display at all times, in a conspicuous place at its office or principal place of business, the certificate of food safety issued to it by the Authority.

5. (1) If any enterprise involved in the exportation of food from Belize fails to comply with any of the provisions of these Regulations, the Authority may:-

Consequences of non-compliance.

- (a) grant a grace period to the enterprise, within which it must comply with the Regulations in accordance with any system of monitoring and inspections carried out by designated officers;
- (b) if the contravention continues after the grace period, refuse to issue to the enterprise, after the expiration of the grace period, any food safety certificate;
- (c) if the contravention continues after the expiration of the grace period, revoke any certificates previously issued to the enterprise pursuant to the Act and these Regulations.

(2) Where the Authority revokes or suspends any certificate under

sub-regulation (1), such revocation or suspension shall not prevent any enterprise the certificate of which has been revoked or suspended from reapplying upon complying with the requirements of these Regulations.

(3) The Authority shall, before suspending or revoking the certificate of any enterprise pursuant to these Regulations:-

- (a) furnish the enterprise with all documents and information specifying the reasons why the certificate of the enterprise is being revoked or suspended;
- (b) afford the enterprise to make written or oral representations concerning the matter.

Recalling of hazardous food products.

6. (1) Where a food product which is produced, processed, manufactured, delivered or exported by an enterprise registered pursuant to these Regulations is found to be a health hazard, it shall be lawful for the Authority:-

- (a) to recall the food product for analysis or destruction if the food product has not yet been exported;
- (b) to liaise with the competent authorities of any country which imports the food product from Belize and to ensure that the food product is:-
  - (i) not released for sale upon arrival in that country; or
  - (ii) if it has already arrived in that country and released for sale, that it is recalled for analysis or destruction by the competent authority of that country.



(2) The enterprise which produces any hazardous food products referred to in subregulation (1) shall be responsible for the expenses of:-

- (a) calling back the food product;
- (b) analysing the food product; or
- (c) destroying the food product.

7. The provisions of section 50 of the Act applies to any act or omission done *bona fide* by the Authority or a designated officer pursuant to Regulation 6. Compensation.

8. (1) The Central Investigation Laboratory in Belize City is hereby designated as the food testing laboratory for the purposes of these Regulations. Food testing laboratory.

(2) Notwithstanding subregulation (1), the Authority may, after consulting with the competent authorities of any country importing any food products from Belize, or after consulting with any enterprise, designate under the hand of the Managing Director and the Seal of the Authority, any other laboratory to be a food testing laboratory for the purposes of these Regulations.

(3) Any food testing conducted at a food testing laboratory pursuant to subregulation (2) shall be at the expense of the enterprise whose food is being tested.

9. (1) The Authority may charge and collect fees for any services performed for an enterprise pursuant to these Regulations. Fees.

(2) All fees collected by the Authority shall be credited to the account of the Authority.

Sanitary  
certificate for  
fishery products  
exported from  
Belize.  
Fourth Schedule.

10. The Authority shall issue, in respect of fish and fishery products exported from Belize by any enterprise registered under these Regulations, a Sanitary Certificate which shall be in the form specified in the Fourth Schedule.

Commencement.

11. These Regulations shall come into force on the 12<sup>th</sup> day of February, 2001.

**MADE** by the Minister responsible for Agricultural and Fisheries this 12<sup>th</sup> day of February, 2001.

**(DANIEL SILVA)**

Minister Responsible for Agriculture and Fisheries.

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**FIRST SCHEDULE**

[Regulations 2 and 4]

**HAZARD ANALYSIS AND CRITICAL CONTROL POINT  
SYSTEM (HACCP) GUIDELINES****Preliminary**

Belize's role in international food trade and as a destination for tourists is increasing, bringing about important positive socio-economic benefits, but unfortunately also increasing the risk of spreading food borne diseases from unmonitored and uncontrolled food products, which can lead to significant losses in foreign currency earnings, reduction in export trade in the food products sector, reduction in tourism, erosion of consumer confidence and increased litigation costs.

Effective hygiene control for food products, therefore, is a condition *sine qua non* to avoid adverse human health problems, and the resultant economic consequences caused by foodborne illnesses, foodborne injuries and food spoilage.

Additionally, the World Trade Organisation (WTO) regime, the European Economic Community (EEC) regime, and the regimes of most, if not all, of Belize's most important food products trading allies are increasingly calling for Belize to adopt sanitary and phytosanitary certification measures ensuring the health safety of food products from Belize. In this respect, the Codex Alimentarius standards developed by the World Health Organisation are the benchmark standard on which these HACCP guidelines are built.

The general principles of the Codex Alimentarius basically recommended a Hazard Analysis and Critical Control Points (HACCP) – based approach to enhancing a scientifically proven food security system. The application of the HACCP system consists of a logical sequence of twelve

(12) steps encompassing seven (7) basic principles. The key system of a HACCP based food safety system is its preventative nature, with an emphasis on exercising better control at critical steps along the manufacturing process. These critical steps are called “**critical control points**”.

By adopting the critical control points of the HACCP system, defects which would impact on food safety are readily detected and corrected at specific points during the manufacturing process, instead of just relying on end-product inspection and testing. HACCP therefore ensures an even greater and consistent food safety product assurance for consumers.

The purpose of this Schedule is to provide a simplified manual for enterprises on the operations of the HACCP system.

## **REGISTRATION PROCEDURES**

### **Application for Registration**

Each enterprise shall apply to be registered with the Authority using FORM 1, set out in the Annex. Such enterprise must have written prerequisite programmes and HACCP plan(s) for a working HACCP system. The Authority will evaluate the premises and processes of the enterprise for compliance with the Regulations and the Act and with requirements specified by the importing country through inspections, testing, reviews and audits.

## **NOTIFICATION PROCEDURE**

On receipt of an application to register as an enterprise employing a HACCP system, the Authority will communicate with the enterprise by telephone or fax and by mailing a letter of notification (See Appendix on Notification Procedure). This letter will inform the manager of the enterprise of a date for submission of its document package (see Document Submission below).



### Prerequisite programmes

HACCP systems must be built upon a firm foundation of compliance with current Good Manufacturing Practices (GMPs) and acceptable Sanitation Standard Operating Procedures (SSOPs). The institution and maintenance of these prerequisite programmes are important steps that must be done prior to the development of product/process specific HACCP plans. The operator must have a complete written and fully documented programme for all prerequisite programmes, and their sub-elements, which will enable the Authority to audit these programmes. The programmes must conform to the specifications and principles laid out in regulations published by the importing country.

### HACCP Plan

For exporting, it is the enterprise's responsibility to develop, implement and maintain HACCP systems. The plans must conform to the specifications and principles articulated by regulations published by the importing country. In general, the regulations require that every processor perform a hazard analysis. At minimum the HACCP plan shall:-

- (a) list the food-safety hazards that are reasonably likely to occur;
- (b) list the Critical Control Points (CCPs);
- (c) list the critical limits;
- (d) list the monitoring procedures;
- (e) list pre-determined corrective action plans;
- (f) list the verification measures including:-
  - (i) timely reassessment of HACCP plan;
  - (ii) scheduled calibration of equipment;
- (g) provide for a system of monitoring records.

Even without HACCP, the level of plant sanitation and GMPs must comply with Belize's domestic laws.

### **Signing and dating the documents**

The HACCP plan and prerequisite documents shall be signed and dated by the most responsible individual or a higher level official at the enterprise. The HACCP plan shall be signed and dated upon initial acceptance, upon any modification, and at least annually. This signature shall signify that the HACCP plan has been accepted for implementation by the enterprise.

### **Submission**

A complete, comprehensive documentation package will facilitate the efficient review of the HACCP system by the Authority. The enterprise is responsible for the submission of this complete documentation package that details the prerequisite programmes and HACCP plans and also confirms management's commitment to HACCP.

This package should be sent as registered mail or hand delivered to:

Belize Agricultural Health Authority  
Food Safety Service  
P.O. Box 181  
Central Investigation Laboratory  
Belize City, Belize

If hand delivered, a logbook that asks for date, time and name of person delivering and person receiving package will be signed.

**Documents required:****a. The Prerequisite programmes and HACCP plans**

The prerequisite programmes and HACCP plans must be fully developed, validated and documented by the enterprise. The HACCP system must be in operation with staff appropriately trained, and with records and other necessary data for audit of the system. An entire copy of these documents must then be included in the package submitted under 4.5.

**b. Letter of endorsement from senior management**

A letter of endorsement signed and dated by senior management must be included in the documentation package. It is necessary that it indicates:-

- (i) the accuracy of the information;
- (ii) the guidelines used in preparing the documents;
- (iii) the full support and commitment of senior management to the activities, procedures, and resources as outlined in the documentation package; and
- (iv) the HACCP coordinator or contact member of HACCP team, with the training received by this person regarding HACCP.

Initial acceptance of these written manuals by the Authority should not be taken as approval of such a system.

**EVALUATION OF DOCUMENTS**

On receipt of the package, the Authority will fill out the Enterprise



Tracking Form, using Form 2 set out in the Annex.

The form will serve a number of purposes, namely:-

- (a) the Authority will be able to know the status of the enterprise at all times with regard to HACCP recognition phase;
- (b) the stage the plant may be at with each section of the evaluation process;
- (c) when the situation arises in which there is funding available for training, a choice can be made of which enterprise and personnel to receive such training.

All sections of the form are to be filled out by the Authority and kept as confidential in the file held for the enterprise until the review is completed. A copy of the form will be forwarded to the Managing Director of the Authority and to the enterprise that submitted the documents.

### **Checking the Document package**

The document package will be checked for the required contents. Each item or information present will be checked as submitted and initialled in the appropriate box in Section 1 of the Tracking Form. The document evaluation is then conducted in two steps:-

- (i) review of HACCP plan(s); and
- (ii) on-site evaluation of HACCP plans.

## THE REVIEW

The Authority will review the documents, compare them to the applicable guidelines or regulations, and note any disparity. In general, during the recognition phase, the Authority shall use the guidelines given in the Third Schedule to these Regulations or the WHO manual. In cases in which the enterprise has stated the use of the guidelines other than those mentioned above, the reviewer will use the appropriate references.

The review will be done in two parts:-

- PART I** - The Authority will use the applicable Document Checklists, set out as Forms 3A and 3B in the Annex, to look for elements expected to be common to all prerequisite manuals and HACCP plans.
- PART II** - Details elements of specific prerequisite programmes and HACCP plans and will be used to review all submitted plans.

Where the written documents is found to be deficient, the relevant incomplete box will be checked off and deficiencies will be described in the Corrective Action Request Form, set out as Form 5 in the Annex, along with the appropriate reference(s). A copy of this form will be sent to the HACCP coordinator for him to ensure the deficiencies are corrected. When notified, the Authority will verify that all deficiencies have been corrected, the “complete” box will be checked, dated and initialled by the member checking the documents. Written documents must be assessed as complete before the on-site evaluation can begin.

This concludes the in-office review of the documents. A date will then be set to perform an on-site evaluation of the documents. This evaluation is only to determine the conformity to actual enterprise setting and processing.

## NOTIFICATION PROCEDURE

On the basis that the complete document package has been submitted by an enterprise, the date set for on-site evaluation of the submitted documents will be communicated to the manager of the enterprise by telephone or fax. If this date is agreed upon, it will be entered in the Enterprise Tracking Form. As a confirmation, the date will be submitted in a letter (see specimen letter captioned “Notification Procedure” in the Annex).

### On-site evaluation of the documents

The on-site confirmation of implementation of the stated HACCP system consists of review of records and on-site verification. This is done by the designated officers to gather evidence needed to assess whether the registered enterprise’s written prerequisites and HACCP plan(s) are implemented as described and are effective (i.e. whether they conform or do not conform to the written HACCP plan).

Beside each question on the On-site Evaluation checklist, set out as Form 4 in the Annex, a column is provided for noting the implementation status of record keeping and a separate column for noting implementation if confirmed by observation and/or interviews.

When non-conformity is found, the “No” column is marked. If the evidence gathered shows conformity, then the “Yes” column is marked. In the case of a major non-conformity, the enterprise will be issued with a *Corrective Action Request (CAR)* (FORM 5) so as to develop and initiate an action plan to correct the situation to amend the problem. Repetitive minor non-conformities, if possible, will be cumulated into a major non-conformity and also result in the issuance of a Corrective Action Request Form.

All major non-conformities must be corrected and CAR’s closed before proceeding to HACCP audit.

If singly minor non-conformities are found, a CAR is issued to the enterprise which must develop and initiate an action plan to correct the situation. Minor non-conformities will be followed up in a subsequent audit to confirm that the corrective action is adhered to and effective.

### **QUALITY ASSURANCE SYSTEM AUDIT**

The Authority's audit programme will only apply to HACCP recognized and registered enterprises that have implemented prerequisite programmes and HACCP plans which have been reviewed and found to correlate to the importing countries regulations. The successful implementation of prerequisite programmes and HACCP plans by an enterprise will lead to a system audit protocol. The audit approach is to verify that the prerequisite programmes and HACCP plans are in fact being implemented as planned on a continuous basis.

The Authority will be verifying the HACCP plan by determining that critical hazards have been properly identified and that the enterprise is consistently controlling these hazards. This has been started already, in part, by reviewing the HACCP plan and checking its correlation to in-plant processing.

The inspector will accomplish this by first surveying the enterprise (plant), which could also include checks on suppliers and transport vehicles or vessels.

The audit programme under the Authority will have both a full and a partial audit component, each with its own frequency.

### **FULL AUDIT**

The full audit will consist of an evaluation of HACCP plans and prerequisite programmes to determine if the documented procedures are up

to date, properly implemented, and measure the effectiveness of the quality assurance system. This is a planned and announced audit performed by an audit team with the appropriate management personnel, and with the HACCP coordinator of the enterprise in attendance.

The intent of the audit will be threefold, namely:-

- (a) to confirm that the documented procedures (prerequisite programmes and HACCP plans) are up-to-date;
- (b) to review the HACCP system for its conformity with the documented procedures;
- (c) to measure the effectiveness of the HACCP system in meeting the objectives set out in the documented procedures.

Performing the full audit will involve the following procedures, namely:-

- (a) audit plan preparation, as specified in paragraph 6.1.1;
- (b) notification procedure, as specified in paragraph 6.1.2;
- (c) audit checklist preparation, as specified in paragraph 6.1.3;
- (d) opening meeting, as specified in paragraph 6.1.4;
- (e) audit proper, as specified in paragraph 6.1.5;
- (f) closing meeting, as specified in paragraph 6.1.6;
- (g) audit report, as specified in paragraph 6.1.7.

### 6.1.1 Audit Plan preparation

The auditing group will initially designate an audit leader, review the previous audit reports (full and partial) if applicable, and then prepare an audit plan. Preparation of this plan will include the following, using Form 6 set out in the Annex:-

- (a) date of the audit;
- (b) audit scope, which establishes the boundaries and identifies item groups and activities to be examined, for instance, process audit or system audit, which will include all HACCP plans and prerequisite programmes but may be influenced by such factors as results of partial audits (if performed before), plant profile, health and safety, consumer complaints and other information, for example, the audit will examine the activities related to the frozen shrimp tails production from May 15<sup>th</sup> until present date;
- (c) the purpose, namely, what is to be achieved by the audit. This should be unique to each audit. For example, it should state “the purpose of this audit is to evaluate the adequacy and implementation of internal HACCP controls in meeting food manufacturing safety requirements.”;
- (d) identification of the members of the audit team;
- (e) identification of reference documents required, e.g. records sheet;
- (f) expected duration of the audit; and

(g) schedule of meetings to be held with plant personnel.

The audit plan preparation will include the review of previous audit reports (full and partial) and development of a technical understanding of the processes to be audited.

### **6.1.2 Notification Procedure**

At the conclusion of the plan, since this is an announced audit; notification of the scheduled date for a full audit will be done not less than four weeks in advance. The communication of the date set will initially be by telephone or fax. If agreed upon, this fixed date shall be entered on the Enterprise Tracking Form. This will then be followed up by a letter with a copy of the Audit plan attached.

### **6.1.3 Systems Audit Checklist Preparation**

To obtain a Systems Audit checklist for an enterprise, the generic checklist given in Form 7 in the Annex will be customized and questions added. The main function of the checklist is to gather data and facts. To do this efficiently, each question should address one piece of information and request a YES or NO answer.

### **6.1.4 Opening meeting**

The opening meeting will be used to introduce the members of the audit team to the management of the enterprise and to review the key areas of the planned audit. This brief meeting will be between the entire audit team and the persons involved from the enterprise. The written schedule sent will be reconfirmed.

The audit team will find out what HACCP plans are operating. All HACCP plans and all prerequisite programmes will be audited during a full

system audit.

The opening meeting will also:

- (a) set up the official communication links between the audit team and the enterprise (e.g. with HACCP Coordinator);
- (b) establish the purpose and scope of the audit;
- (c) confirm that the resources, documents (records) and facilities needed are available;
- (d) confirm the time and date of closing meeting and any necessary interim meetings;
- (e) include presentation of checklist to the auditee;
- (f) discuss previous audit reports (full and partial) and action plans, if applicable;
- (g) recognize any changes to the HACCP system;
- (h) set the working conditions (meeting rooms, telephone access, computer access, safety considerations, hours of operation and lunch room facilities).

### **6.1.5 Audit Proper**

This phase of the audit is based on gathering five types of data:

- (a) physical property;



- (b) sensory evaluation;
- (c) documents and records;
- (d) interviews;
- (e) patterns.

Throughout this phase, the team will hold 30-minute meetings prior to the end of the day. The purpose of each meeting will be to:-

- (a) share facts, tentative conclusions and problems;
- (b) replan next day's activities;
- (c) develop a draft of the report.

The audit team will attempt to hold daily meetings (approximately 15 minutes) with the auditee, if possible.

#### **6.1.6 Closing meeting**

At the end of the full audit, prior to concluding the audit report, the audit team will meet with enterprise management (including HACCP Coordinator) to present the audit observations and the Corrective Action Request Form (FORM 5) (if required), and to ensure the results of the audit are clearly understood. Copies of corrective action request forms will be left with management to be completed and returned to the office of the Authority.

Conclusions as to the effectiveness of the prerequisite programmes and HACCP plans to ensure that food safety objectives are met, will be presented and discussed at the closing meeting.

### **6.1.7 Audit Reports and Grading of Enterprise**

The audit report is the final product. This report will be submitted not later than a week after the closing meeting.

The audit report will contain the following items, as applicable:-

- (a) the scope and objectives of the audit (e.g. HACCP plan(s) audited) which will be from the audit plan form;
- (b) the identification of the reference documents against which the audit was conducted (e.g. documentation package, and associated documented procedures such as sanitation programme records);
- (c) non-conformities found (if applicable);
- (d) the corrective action request forms (if applicable);
- (e) audit team judgment of the extent of the conformity with the applicable documentation package and other related documentation (e.g. sanitation program records);
- (f) audit result, current number of passes, resultant category, and partial audit frequency (see below) as a result of the audit.

Using the results of the audits, the Authority will group enterprises into categories as shown below:-

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CATEGORY	STATUS*	FREQUENCY OF AUDIT	NUMBER OF PASSES FOR CATEGORY ADVANCE
A	Excellent	Every 6 months	—
B	Very Good	Every 2 months	4
C	Good	Once a month	3
D	Pass	Every 2 weeks	3
E	Inadequate	Continuous	5

All establishments will enter as Category D (pass status) until audits prove otherwise.

### **PARTIAL AUDITS**

Partial audits will consist of smaller scale audits to provide for an indication of continued conformity to and the effectiveness of prerequisite programmes and HACCP plans. They will have a similar intent as the full audit, but will only cover part of the HACCP system. Partial audit activities will be unannounced. However, notice may be given up to 24 hours as a means to confirm operation of the enterprise and availability of appropriate attending personnel. How often partial audits will be done on a particular enterprise is dependent on the category of that enterprise. Only category enterprises A, B and C will be subject to partial audits.

### **APPEALS**

In case of objections by an enterprise to a failing grade or report, the enterprise may appeal within twenty-one days of receiving the report or grade against such grade or report to the Managing Director of the Authority.

## ANNEX

FORM 1  
REGISTRATION FORM

Establishment/Enterprise	Type of Establishment/Enterprise	
Address:  Tel:                      Fax: E-mail:	Products: 1. 2. 3.	4. 5. 6.
	Exporting to Countries: 1. 2. 3.	4. 5. 6.
The Management of this establishment/enterprise hereby applies to be registered with BAHA, being the Competent Authority in regulating HACCP systems in Belize.		
General Manager's Signature:		
General's Manager's Name: (Please print)		
DATE:		

**FORM 2****ENTERPRISE TRACKING FORM**

*Name of copy of this form to be sent to the Managing Director, BAHA,  
to indicate the HACCP recognition status of the establishment*

Establishment/Enterprise:	DATE:		
Plant Manager:			
Contact person:	Position:		
Name of Reviewer:	Signature:		
<b>SECTION 1: Documentation Package</b>	<b>INCLUDED (Circle)</b>		<b>Initials</b>
1. Management's endorsement letter	NO	YES	
2. Prerequisite programs included	NO	YES	
3. HACCP Plan(s) included	NO	YES	
4. Designated HACCP Coordinator: Name:	NO	YES	
5. Designated HACCP Team members (if applicable)	NO	YES	

**SECTION 2: The Review**

	Date Received:	Date Review started:	Date completed
6. Prerequisites			
7. HACCP Plans			
8. Prerequisites are complete & conform to guidelines (see FORM 3A)	NO	YES	
9. HACCP Plan(s) complete & conform to guidelines (see FORM 3B)			
Note of Deficiencies and plan for correction (if applicable):			

## FORM 2 (Cont'd)

SECTION 3: Visits HACCP plan(s) on-site evaluation DATE:				
Number of HACCP plans necessary to cover all processes/products				
Deficiencies or non-correlation between plan and Processes:  1. 2. 3. 4. 5. 6. Other (attach)		Recommended corrections:  1. 2. 3. 4. 5. 6. Other (attach)		
Appeal of result of review process?	YES	No	Date:	Ref No.
Exit interview with Company	YES	No	Date:	Ref No.
Full Audit:	YES	No	Date:	Ref No.
Letter of certification and Grade dispatched	YES	No	Date:	GRADE Ref No
Appeal of result of Audit?	YES	No	Date:	
Appeal results:				
Initial frequency of partial audits - No. Per year:                    24        11        6        2 Starting on date: _____				



## FORM 3A

## SSOP DOCUMENT CHECKLIST

Establishment	Complete	Incomplete	Initials
<b>Composite Item</b>			
<b>1. Safety of processing Water and Ice</b>			
Recording Procedure			
Corrective Action			
<b>2. Condition and Cleanliness of Food Contact Surfaces including Utensils, Gloves, and Outer Garments</b>			
Recording Procedure			
Corrective Action			
<b>3. Prevention of Cross-Contamination</b>			
Recording Procedure			
Corrective Action			
<b>4. Hand Washing/Sanitizing, and Toilet Facilities</b>			
Recording Procedure			
Corrective Action			
<b>5. Protection of Food, Food Packaging Material, and Food-Contact Surfaces from Adulteration</b>			
Recording Procedure			
Corrective Action			
<b>6. Labelling, Storage, and Use of Toxic Compounds</b>			
Recording Procedure			
Corrective Action			
<b>7. Employee Health</b>			
Recording Procedure			
Corrective Action			
<b>8. Exclusion of Pests</b>			
Recording Procedure			
Corrective Action			
Are all written Prerequisite programmes in conformity?			
Checked by:			
Post:			
Date:			



**FORM 3B**  
**HACCP PLAN CHECKLIST**

Enterprise	Complete	Incomplete	Initials
Required Item			
Cover Sheet			
*Contents Page			
Organizational Chart			
*Organizational Chart Narrative			
*Product Description and End Use			
*For each similar Product Group:			
-Process Flow Chart			
*For each Critical Point			
i. Location			
ii. Hazard(s) to be controlled			
iii. Preventive Measure			
iv. Critical Limits			
v. Monitoring Procedures			
vi. Corrective Action(s)			
vii. Record Names			
* Record Keeping Procedure			
* Verification Procedure			
Recall Procedures			
* Consumer Complaint Procedures			
* Labels/Specifications			
Is the common name included in the product specifications?			
Does the plan cover all hazards as given by the relevant food product Hazard and control guides?			
The HACCP plan includes a description on how the product is to be used.			

MAINTENANCE OF THE HACCP SYSTEM			
A review of the HACCP system(s) by the plant must be scheduled and in place in order to identify any necessary changes in the HACCP system.			
All ingredients, incoming materials and processing aids coming in contact with the product(s) or used in the preparation of the product(s) are listed.			
The HACCP plan indicates where the product(s) is to be sold, e.g. restaurant, retail, institution, etc..			
Hazards identified for each incoming material are specific (e.g. Salmonella, antibiotics, metallic versus non-metallic) and includes a full description for each (e.g) microbial growth versus microbial contamination should be kept separate.			
The HACCP plan includes a description on how the product is to be used, e.g. ready to eat/ready to cook. This is consistent with the information on the label.			
Critical Control Points are properly identified. The HACCP plan should highlight how the CCPs have been determined.			
Critical limits are determined for each identified CCP.			
Critical limits must at least meet relevant regulatory and procedural requirements.			
Corrective actions are effective to deal with the non-compliant product.			
The HACCP plan includes a description of any special controls required during shipping and storage, e.g. temperature and humidity requirements, if applicable.			
Verification procedures include a review of operations to determine if the HACCP system is working properly. An assessment is made to ensure that critical limits, monitoring procedures, and deviation procedures are appropriate to ensure food safety. (E.g. On-line product sampling, finished product sampling and/or in-laboratory challenge testing.			
Checked by:			
Post:			
Date:			

**FORM 4****ON-SITE EVALUATION CHECKLIST**

<b>PROCESS FLOW DIAGRAM</b> On-site verification validates Flow diagram for accuracy and completeness. The process flow diagram is complete and indicates all pertinent processing steps and where ingredients enter at the various steps.	YES	NO
<b>HACCP COORDINATOR AND TEAM</b> The HACCP Coordinator and a responsible HACCP team member identified and are on site.		
HACCP Coordinator has adequate knowledge of Codex HACCP principles.		
HACCP team has been appointed based on position and appropriate expertise.		
<b>THE PRODUCT</b> The product description is consistent with the information on the label.		
All types of packaging used for the product line(s) are identified. It is accurate and complete for all products listed in the HACCP plan.		
The anticipated shelf life of the product(s) listed under normal marketing conditions at given temperatures and/or humidity levels as identified if applicable.		
If the shelf life exceeds industry practices, data or studies supporting the chosen shelf life used by the company should substantiate the shelf life and be readily available. Validation of the shelf life should be highlighted in the company's policy.		
No additional ingredients are used in the preparation of the product.		
Ingredient specification sheets are to be documented and be made available upon request.		
The label for each product is available and consistent with what is identified on the HACCP plan.		
The product characteristics listed are accurate, complete and are similar for all products covered by this HACCP plan.		
"Labelling" should be cross-referenced to ensure consistency with "Shelf Life", "Special Distribution Control", Important Product Characteristics" and "How It Is To Be Used".		
Ingredient specification sheets are to be documented and be made available upon request		

<b>CRITICAL LIMITS</b>		
Data used to establish critical limits should be readily available to be reviewed by BAHA.		
Procedures have been developed to validate that the established critical limits are appropriate (e.g. sampling plan, laboratory procedures).		
All monitoring activities are recorded and signed by the person doing the monitoring on a timely basis.		
Individuals are interviewed and should be able to demonstrate that they have received sufficient training to have understanding of the critical limits, monitoring CCPs and their related monitoring procedures.		
Individuals are interviewed and should be able to demonstrate that they have received sufficient training to monitor CCPs and their related deviation procedures.		
Verification actions are recorded, dated and initiated. Individuals are interviewed and should be able to demonstrate that they have received sufficient training to monitor CCPs and their related verification procedures.		
<b>RECORD KEEPING</b>		
In-plant records of monitoring, deviation, and verification procedures are kept with appropriate sign-off and review. they must be maintained in the plant.		
Document control is important. Are the correct documents being used at the proper CCP?		
Are they up to date, and complete for each CCP?		
Records should be retained at the establishment for a minimum of one (1) year or at least for the extent of the shelf life of the product if it exceeds one (1) year and are available upon request.		
<b>PREREQUISITE PROGRAMMES</b>		
Building facility not located in close proximity to any environmental contaminants and is free of debris and refuse.		
Roadways properly graded, compacted, dust proofed, and drained.		
Sanitation Standard Operating Procedures (SSOP) in effect (see SSOP document checklist).		



Auditor:			
Date:			
Corrective Action to be implemented (to be completed by HACCP Coordinator of the Establishment):			
Implemented by date:		Signature:	
		Date:	
Verified by: (Auditor)		Signature:	
		Date:	
Circulated to:			

**FORM 6**

**AUDIT PLAN**

Establishment:	Audit Date:		
	Audit Scope:		
	Audit Purpose:		
	Audit team members:		
	EXPECTED DURATION OF AUDIT:		
ELN NO.			
Schedule of meetings	Topic	Date	Time

- 1.
- 2.
- 3.

Reference documents required:

- 1.
- 2.
- 3.

Distribution

**FORM 7****GENERIC SYSTEMS AUDIT CHECKLISTS**

Generic checklists for the Full Audit of Prerequisite Programs

References:

1. US FDA, Office of Seafood, Fish & Fishery products Hazard & Control Guides, 1<sup>st</sup> Edition, September, 1996.
2. Guidance on the Regulatory Assessment of HACCP, Report of a joint FAO/WHO consultation on the role of Government Agencies in Assessing HACCP. FAO/WHO, June 1998.
3. EU Council Directive 91/493/EEC “laying down the Health Conditions for the production and placing on the Market of fishery products”.
4. Codex Alimentarius and the FAO/WHO Food Standards Programme – Basic text on Food Hygiene.
5. Sanitation Control Procedures for Processing Fish and Fishery Products. Seafood HACCP Alliance Course, 1<sup>st</sup> Edition 2000.



**NOTIFICATION PROCEDURE:**

**SAMPLE**

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**ADDRESS OF AUTHORITY**

**DATE**

Enterprise's Name  
Address

Dear Sir/Madam,

The Belize Agricultural Health Authority ("the Authority") hereby acknowledges your application for registration with this body in order to become certified as having a functional HACCP system. With this application your establishment agrees to go through the Establishment Evaluation process as laid out in the Operations manual of the Authority.

The Authority will start this by reviewing your documents on the (specify appropriate date).

Yours sincerely,

\_\_\_\_\_  
(signature and designation).

**ADDRESS OF AUTHORITY****DATE**

Enterprise's Name  
Address

Dear Sir/Madam,

The Belize Agricultural Health Authority has reviewed your document package, and as the documents have been corrected or have been corrected or have all the required components, (specify date) has been set as the start date for on-site evaluation.

During this phase, an attempt will be made to confirm that the systems laid out in the documents in applied to actual plant setting and processing.

Yours sincerely,

\_\_\_\_\_  
(signature and designation)

SAMPLE

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**ADDRESS OF THE AUTHORITY**

**DATE**

Manager's Name  
Enterprise's Name  
Address

Dear Sir/Madam,

The Belize Agricultural Health Authority has reviewed your document package and, as a result of the on-site review, is satisfied that the systems outlined in these documents are fully implemented in your establishment. The next step in the evaluation process is the performing of a Full System Audit. It has been agreed that this audit will commence on (specify date).

Please find attached the audit plan.

Yours sincerely,

\_\_\_\_\_  
(signature and designation).

**SECOND SCHEDULE****[Regulations 2 and 4]****GENERAL PRINCIPLES OF FOOD HYGIENE****APPLICATION**

1. This Schedule follows the food chain from primary production to the final consumer, setting out the necessary hygiene conditions for producing food which is safe and suitable for human consumption, and the provisions of this Schedule shall be observed by all enterprises.

**DEFINITIONS**

2. For the purpose of this Schedule, the following definitions shall apply:-

“cleaning” means the removal of soil, food residue, dirt, grease or other objectionable matter;

“contaminant” means any biological or chemical agent, foreign matter, or other substance not intentionally added to food which may compromise food safety or suitability;

“contamination” means the introduction or occurrence of a contaminant in food or food environment;

“disinfection” means the reduction, by means of chemical agents and/or physical methods, of the number of micro-organisms in the environment, to a level that does not compromise food safety or suitability;

“establishment” means any building or area and the surroundings in which food is handled under the control of the same management;

“food safety” means the assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use;

“food handler” means any person who directly handles packaged or unpackaged food, food equipment and utensils, or food contact surfaces and is therefore expected to comply with food hygiene requirements;

“food hygiene” means all conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain;

“food suitability” means the assurance that food is acceptable for human consumption according to its intended use;

“hazard” means a biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect;

“primary suitability” means the assurance that food is acceptable for human consumption according to its intended use.

**3. PRIMARY PRODUCTION**

**3.1 ENVIRONMENTAL HYGIENE**

3.1.1 Potential sources of contamination from the environment shall be considered. In particular, primary food production shall not be carried on in areas where the presence of potentially harmful substances are likely to lead to an unacceptable level of such substances in food.

**3.2 HYGIENE PRODUCTION OF FOOD SOURCES**

3.2.1 The potential effects of primary production activities on the safety and suitability of food shall be considered at all times.

In particular, this includes identifying any specific points in such activities where a high probability of contamination may exist and taking specific measures to minimize that probability. The HACCP-based approach may assist in the taking of such measures.

3.2.2 Producers shall as far as practicable implement measures to:-

- (a) control contamination from air, soil, water, feedstuffs, fertilizers (including natural fertilizers), pesticides, veterinary drugs or any other agent used in primary production;
- (b) control plant and animal health so that it does not pose a threat to human health through food consumption, or adversely affect the suitability of the product; and
- (c) protect food sources from faecal and other contamination.

3.2.3 In particular, care should be taken to manage wastes, and store harmful substances appropriately. On-farm programmes which achieve specific food safety goals are becoming an important part of primary production and should be encouraged.

### **3.3 HANDLING, STORAGE AND TRANSPORT**

3.3.1 Procedures shall be in place to:

- (a) sort food and food ingredients to segregate

material which is evidently unfit for human consumption;

(b) dispose of any rejected material in a hygienic manner; and

(c) protect food and food ingredients from contamination by pests, or by chemical, physical or microbiological contaminants or other objectionable substances during handling, storage and transport.

3.3.2 Care shall be taken to prevent, so far as reasonably practicable, deterioration and spoilage through appropriate measures which may include controlling temperature, humidity, and/or other controls.

**3.4 CLEANING, MAINTENANCE AND PERSONNEL  
HYGIENE AT PRIMARY PRODUCTION**

3.4.1 Appropriate facilities and procedures shall be in place to ensure that:

(a) any necessary cleaning and maintenance is carried out effectively; and

(b) an appropriate degree of personal hygiene is maintained.

#### 4. ESTABLISHMENT: DESIGN AND FACILITIES

##### 4.1 LOCATION

##### 4.1.1 ESTABLISHMENTS

4.1.1.1 Potential sources of contamination need to be considered when deciding where to locate food establishments, as well as the effectiveness of any reasonable measures that may be taken to protect food. Establishments shall not be located anywhere where, after considering such protective measures, it is clear that there will remain a threat to food safety or suitability. In particular, establishments shall normally be located away from:

- (a) environmentally polluted areas and industrial activities which pose a serious threat of contaminating food;
- (b) areas subject to flooding unless sufficient safeguards are provided;
- (c) areas prone to infestations of pests;
- (d) areas where wastes, either solid or liquid, cannot be removed effectively.

##### 4.1.2 EQUIPMENT

4.1.2.1 Equipment shall be located so that it:-

- (a) permits adequate maintenance and cleaning;



- (b) functions in accordance with its intended use;  
and
- (c) facilitates good hygiene practices, including monitoring.

**4.2 PREMISES AND ROOMS**

**4.2.1 DESIGN AND LAYOUT**

4.2.1.1 Where appropriate, the internal design and layout of food establishments shall permit good food hygiene practices, including protection against cross-contamination between and during operations by foodstuffs.

**4.2.2 INTERNAL STRUCTURES AND FITTINGS**

4.2.2.1 Structures within food establishments shall be soundly built of durable materials and be easy to maintain, clean and where appropriate, able to be disinfected. In particular, the following specific condition shall be satisfied, where necessary, to protect the safety and suitability of food:

- (a) the surfaces of walls, partitions and floors shall be made of impervious materials, cleanable with no toxic effect in intended use;
- (b) walls and partitions shall have a smooth surface up to a height appropriate to the operation;
- (c) floors shall be constructed to allow adequate

- drainage and cleaning, running towards draining points;
- (d) ceilings and overhead fixtures shall be constructed and finished to minimize the build up of dirt and condensation, and the shedding of particulars;
- (e) windows shall be easy to clean, be constructed to minimize the build up of dirt and where necessary, to be fitted with removable and cleanable insect-proof screens. Where necessary, windows of safe solid material such as plastic, coated glass or perspex shall be installed to prevent opening;
- (f) doors shall have smooth, non-absorbent surfaces, and be easy to clean and, where necessary, disinfect;
- (g) working surfaces that come into direct contact with food shall be in sound condition, durable, easy to clean, maintain and disinfect. They shall be made of smooth, non-absorbent materials, and inert to the food, detergents and disinfectants under normal operating conditions.

**4.3 EQUIPMENT**

**4.3.1 GENERAL**

4.3.1.1 Equipment and containers (other than once-only containers and packaging) coming into contact with food, shall be designed and constructed to ensure that, where necessary, they can be adequately cleaned, disinfected and maintained to avoid the contamination of food. Equipment and containers shall be made of materials with no toxic effect in intended use. Where necessary, equipment shall be durable and movable or capable of being disassembled to allow for maintenance, cleaning, disinfection, monitoring and, for example, to facilitate inspection for pests.

4.3.1.2 Containers and equipment used for food or coming in contact with food shall not be used for handling or storing waste or inedible substances.

**4.3.2 FOOD CONTROL AND MONITORING EQUIPMENT**

4.3.2.1 In addition to the general requirements in paragraph 4.3.1, equipment used to cook, heat, treat, cool, store or freeze food shall be designed to achieve the required food temperatures as rapidly as necessary in the interests of food safety and suitability, and maintain them effectively. Such equipment shall also be designed to allow temperatures to be monitored and controlled. Where necessary, such equipment shall have effective means of controlling and monitoring humidity, air-flow and any other characteristics likely to have a detrimental effect on the safety or suitability of food. These requirements are intended to ensure that:-

- (a) harmful or undesirable micro-organisms or their toxins are eliminated or reduced to safe levels or their survival and growth are effectively controlled;
- (b) where appropriate, critical limits established in HACCP-based plans are monitored; and
- (c) temperatures and other conditions necessary to food safety and suitability can be rapidly achieved and maintained.

#### 4.3.3 CONTAINERS FOR WASTE AND INEDIBLE SUBSTANCES

4.3.3.1 Containers for waste, by-products and inedible or dangerous substances, shall be specifically identifiable, suitably constructed and, where appropriate, made of impervious material. Containers used to hold dangerous substances shall be identified and, where appropriate, be lockable to prevent malicious or accidental contamination of food.

4.3.3.2 Containers previously used for waste or inedible substances shall not be used for handling or storing food products or ingredients.

### 4.4 FACILITIES

#### 4.4.1 WATER SUPPLY

4.4.1.1 An adequate supply of potable water with appropriate facilities for its storage, distribution and temperature control,

shall be available whenever possible to ensure the safety and suitability of food.

- 4.4.1.2 Potable water shall be as specified in the latest edition of WHO Guidelines for Drinking Water Quality or water of a higher standard. Non-potable water (for use in, for example, fire control, steam production, refrigeration and other similar purposes where it would not contaminate food), shall have a separate system. Non-potable water system shall be identified and shall not connect with, or allow reflux into, potable water systems.

4.4.2 **DRAINAGE AND WASTE DISPOSAL**

- 4.4.2.1 Adequate drainage and waste disposal systems facilities shall be provided. They shall be designed and constructed so that the risk of contaminating food or the potable water supply is avoided.

4.4.3 **CLEANING**

- 4.4.3.1 Adequate facilities, suitably designated, shall be provided for cleaning food, utensils and equipment. Such facilities shall have an adequate supply of hot and cold potable water where appropriate.

4.4.4 **PERSONNEL HYGIENE FACILITIES AND TOILETS**

- 4.4.4.1 Personnel hygiene facilities shall be available to ensure that an appropriate degree of personal hygiene can be maintained and to avoid contaminating food. When appropriate, facilities shall include:-

- (a) adequate means of hygienically washing and drying hands, including wash basins and a supply of hot and cold (or suitably temperature controlled) water;
- (b) lavatories of appropriate hygienic design; and
- (c) adequate changing facilities for personnel.

4.4.4.2 Such facilities shall be suitably located and designated so that they do not open directly into food production areas. Rooms containing lavatories shall have self closing doors and notices requesting hand washing.

#### 4.4.5 **TEMPERATURE CONTROL**

4.4.5.1 Depending on the nature of the food operations undertaken, adequate facilities shall be available for heating, cooling, cooking, refrigerating and freezing food, for storing refrigerated or frozen foods, monitoring food temperatures, and when necessary, controlling ambient temperatures to ensure the safety and suitability of food.

#### 4.4.6 **AIR QUALITY AND VENTILATION**

4.4.6.1 Adequate means of natural or mechanical ventilation shall be provided, in particular to:-

- (a) minimize air-borne contamination of food, for example, from aerosols and condensation droplets;

- (b) control ambient temperatures;
- (c) control odours which might affect the suitability of food; and
- (d) control humidity, where necessary, to ensure the safety and suitability of food.

4.4.6.2 Ventilation systems shall be designed and constructed so that air does not flow from contaminated areas to clean areas and, where necessary, they can be adequately maintained and cleaned.

#### 4.4.7 LIGHTING

4.4.7.1 Adequate natural or artificial lighting shall be provided to enable the enterprise to operate in a hygienic manner. Where necessary, lighting shall not be such that the resulting colour is misleading. The intensity shall be adequate to the nature of the operation. Lighting fixtures shall, where appropriate, be protected to ensure that food is not contaminated by breakages.

#### 4.4.8 STORAGE

4.4.8.1 Where necessary, adequate facilities for the storage of food, ingredients and non-food chemicals (e.g. cleaning materials, lubricants, fuels) shall be provided.

4.4.8.2 Where appropriate, food storage facilities shall be designed and contracted to:-

- (a) permit adequate maintenance and cleaning;

- (b) avoid pest access and habourage;
- (c) enable food to be effectively protected from contamination during storage; and
- (d) where necessary, provide an environment which minimizes the deterioration of food (e.g. by temperature and humidity control).

4.4.8.3 The type of storage facilities required will depend on the nature of the food. Where necessary, separate, secure storage facilities for cleaning materials and hazardous substances shall be provided.

## 5

### **CONTROL OF OPERATION**

#### **5.1**

### **CONTROL OF FOOD HAZARDS**

Food business operators shall control food hazards through the use of systems such as HACCP. They shall:-

- (a) identify any steps in their operations which are critical to the safety of food;
- (b) implement effective control procedures at those steps;
- (c) monitor control procedures to ensure their continuing effectiveness; and
- (d) review control procedures periodically, and whenever the operations change.



**5.2 KEYASPECTS OFHYGIENE CONTROL SYSTEMS**

**5.2.1 TIME AND TEMPERATURE CONTROL**

Inadequate food temperature control is one of the most common causes of food-borne illness or food spoilage. Such controls include time and temperature of cooking, cooling, processing and storage. Systems shall be in place to ensure that temperature is controlled effectively where it is critical to the safety and suitability of food.

Temperature control systems shall take into account:

- (a) the nature of the food, e.g. its water activity, pH, and likely initial level and types of micro-organisms;
- (b) the intended shelf-life of the product;
- (c) the method of packaging and processing; and
- (d) how the product is intended to be used, e.g. further cooking/processing or ready-to-eat.

Such systems shall also specify tolerance limits for time temperature variations.

Temperature recording devices shall be checked at regular intervals and tested for accuracy.

### 5.2.2 **SPECIFIC PROCESS STEPS**

Other steps which contribute to food hygiene may include, for example:-

- (a) chilling;
- (b) thermal processing;
- (c) irradiation;
- (d) drying;
- (e) chemical preservation;
- (f) vacuum or modified atmospheric packaging.

### 5.2.3 **MICROBIOLOGICAL AND OTHER SPECIFICATIONS**

Management systems described in paragraph 5.1 offer an effective way of ensuring the safety and suitability of food. Where microbiological, chemical or physical specifications are used in any food control system, such specifications shall be based on sound scientific principles and state, where appropriate, monitoring procedures, analytical methods and action limits.

### 5.2.4 **MICROBIOLOGICAL CROSS-CONTAMINATION**

Pathogens can be transferred from one food to another,

either by direct contact with food handlers, contact surfaces or the air. Raw, unprocessed food shall be effectively separated, either physically or by time, from ready-to-eat food, with effective intermediate cleaning and where appropriate disinfection.

Access to processing areas may be restricted or controlled. Where risks are particularly high, access to processing areas shall be only via a changing facility. Personnel may need to be required to put on clean protective clothing, including footwear, and wash their hands before entering.

Surfaces, utensils, equipment, fixtures and fitting shall be thoroughly cleaned and where necessary disinfected after raw food, particularly meat and poultry, has been handled or processed.

**5.2.5 PHYSICAL AND CHEMICAL CONTAMINATION**

Systems shall be in place to prevent contamination of food by foreign bodies such as glass or metal shards from machinery, dust, harmful fumes and unwanted chemicals. In manufacturing and processing, suitable detection or screening devices shall be used where necessary.

**5.3 INCOMING MATERIAL REQUIREMENTS**

No raw material or ingredients shall be accepted by an establishment if it is known to contain parasites, undesirable micro-organisms, pesticides, veterinary drugs or toxic, decomposed or extraneous substances which would not be reduced to an acceptable level by normal sorting and/or processing. Where appropriate, specifications for raw

materials shall be identified and applied.

#### 5.4

#### PACKAGING

Packaging design and materials shall provide adequate protection for products to minimize contamination, prevent damage, and accommodate proper labelling. Packaging materials or gases where used must be non-toxic and not pose a threat to the safety and suitability of food under the specified conditions of storage and use. Where appropriate, reusable packaging shall be suitably durable, easy to clean and, where necessary, disinfect.

Packaging shall be stored in a clean and sanitary manner.

#### 5.5

#### WATER

##### 5.5.1

#### IN CONTACT WITH FOOD

Only potable water shall be used in food handling and processing with the following exceptions:

- (a) for steam production, fire control and other similar purposes not connected with food; and
- (b) in certain food process, e.g. chilling, and in food handling areas, provided this does not constitute a hazard to the safety and suitability of food (e.g. the use of clean sea water).

Water recirculated for reuse shall be treated and maintained in such a condition that no risk to the safety and suitability of food results from its use. The treatment process shall be effectively monitored. Recirculated water which has received no further treatment in the process of food processing by evaporation or drying may be used, provided its use does not constitute a risk to the safety and suitability of food.

**5.5.2 AS AN INGREDIENT**

Potable water shall be used wherever necessary to avoid food contamination.

**5.5.3 ICE AND STEAM**

Ice shall be made from water that complies with section 4.4.1. Ice and steam shall be produced, handled and stored to protect them from contamination.

**5.6 MANAGEMENT AND SUPERVISION**

The type of control and supervision needed will depend on the size of the business, the nature of its activities and the types of food involved. Managers and supervisors shall have enough knowledge of food hygiene principles and practices to be able to judge potential risks, take appropriate preventive and creative action, and ensure that effective monitoring and supervision takes place.

**5.7 DOCUMENTATION AND RECORDS**

Where necessary, appropriate records of processing, production and distribution shall be kept and retained for a period that

exceeds the self-life of the product. Documentation can enhance the credibility and effectiveness of the food safety control system.

## **5.8**

### **RECALL PROCEDURES**

Managers shall ensure that effective procedures are in place to deal with any food safety hazard and to enable the complete, rapid recall of any implicated lot of the finished food from the market. Where a product has been withdrawn because of an immediate health hazard, other products which are produced under similar conditions, and which may present a similar hazard to public health, shall be evaluated for safety and may need to be withdrawn. The need for public warnings shall be considered.

Recalled products shall be held under supervision until they are destroyed, used for purposes other than human consumption, determined to be safe for human consumption, or reprocessed in a suitable manner to ensure their safety.

## **6.**

### **ESTABLISHMENT: MAINTENANCE AND SANITATION**

## **6.1**

### **MAINTENANCE AND CLEANING**

### **6.1.1**

#### **GENERAL**

Establishments and equipment shall be kept in an appropriate state of repair and condition to:

- (a) facilitate all sanitation procedures;

- (b) function as intended, particularly at critical steps (see paragraph 5.1);
- (c) prevent contamination of food, e.g. from metal shards, flaking plaster, debris and chemicals.

Cleaning shall remove food residues and dirt which may be a source of contamination. The necessary cleaning methods and materials will depend on the nature of the food business. Disinfection may be necessary after cleaning.

Cleaning chemicals shall be handled and used carefully and in accordance with manufacturer's instructions and stored, where necessary, separated from food, in clearly identified containers to avoid the risk of contaminating.

#### 6.1.2 **CLEANING PROCEDURES AND METHODS**

Cleaning can be carried out by the separate or the combined use of physical methods, such as heat, scrubbing, turbulent flow, vacuum cleaning or other methods that avoid the use of water, and chemical methods using detergents, alkalis or acids.

Cleaning procedures will involve, where appropriate:-

- (a) removing gross debris from surfaces;
- (b) applying a detergent solution to loosen soil and bacterial film and hold them in solution or suspension;

- (c) ringing with water which complies with paragraph 4, to remove loosened soil and residues of detergent;
- (d) dry cleaning or other appropriate methods for removing and collecting residues and debris; and
- (e) where necessary, disinfection.

## 6.2

### CLEANING PROGRAMMES

Cleaning and disinfection programmes shall ensure that all parts of the establishment are appropriately clean, and shall include the cleaning of cleaning equipment.

Where written cleaning programmes are used, they shall specify:

- (a) areas, items of equipment and utensils to be cleaned;
- (b) responsibility for particular tasks;
- (c) method and frequency of cleaning; and
- (d) monitoring arrangements.

Where appropriate, programmes shall be drawn up in consultation with relevant specialist expert advisors.



**6.3 PEST CONTROL SYSTEMS**

**6.3.1 GENERAL**

Pests pose a major threat to the safety and suitability of food. Pest infestations can occur where there are breeding sites and a supply of food. Good hygiene practices shall be employed to avoid creating an environment conducive to pests. Good sanitation, inspection of incoming materials and good monitoring can minimize the likelihood of infestation and thereby limit the need for pesticides.

**6.3.2 PREVENTING ACCESS**

Buildings shall be kept in good repair and condition to prevent pest access and to eliminate potential breeding sites. Holes, drains and other places where pests are likely to gain access shall be kept sealed. Wire mesh screens, for example on open windows, doors and ventilators, will reduce the problem of pest entry. Animals shall, wherever possible, be excluded from the grounds of factories and food processing plants.

**6.3.3 HARBOURAGE AND INFESTATION**

The availability of food and water encourages pest harbourage and infestation. Potential food sources shall be stored in pest-proof containers and/or stacked above the ground and away from wells. Areas both inside and outside food premises shall be kept clean. Where appropriate, refuse shall be stored in covered, pest-proof containers.

#### 6.3.4 **MONITORING AND DETECTION**

Establishment and surrounding areas shall be regularly examined for evidence of infestation.

#### 6.3.5 **ERADICATION**

Pest infestations shall be dealt with immediately and without adversely affecting food safety or suitability. Treatment with chemical, physical or biological agents shall be carried out without posing a threat to the safety or suitability of food.

### 6.4 **WASTE MANAGEMENT**

Suitable provision must be made for the removal and storage of waste. Waste must not be allowed to accumulate in food handling, food storage, and other working areas and the adjoining environment except so far as is unavoidable for the proper functioning of the business.

Waste stores must be kept appropriately clean, waste storage and collection areas must be cleanable and designed to prevent pests (e.g. lids for bins and containers and emptied regularly).

### 6.5. **MONITORING EFFECTIVENESS**

Sanitation systems shall be monitored for effectiveness, which are periodically verified by means such as audit pre-operational inspections or, where appropriate, microbiological sampling of environment and food contact surfaces and regularly reviewed and adapted to reflect changed circumstances.

**7. ESTABLISHMENT: PERSONAL HYGIENE**

**7.1 HEALTH STATUS**

People known, or suspected, to be suffering from, or to be a carrier of a disease or illness likely to be transmitted through food, shall not be allowed to enter any food handling area if there is a likelihood of their contaminating food. Any person so affected shall immediately report illness or symptoms of illness to the management.

Medical examination of a food handler shall be carried out by a certified medical practitioner.

**7.2 ILLNESS AND INJURIES**

Conditions which shall be reported to management so that any need for medical examination and/or possible exclusion from food handling can be considered, include:-

- (a) jaundice;
- (b) diarrhoea;
- (c) vomiting;
- (d) fever;
- (e) sore throat with fever;
- (f) visibly infected skin lesions (boils, cuts, etc.);

- (g) discharges from the ear, eye or nose.

### 7.3

#### PERSONAL CLEANLINESS

Food handlers shall maintain a high degree of personal cleanliness and, where appropriate, wear suitable protective clothing, head covering, and footwear shall be regularly replaced, laundered or cleaned, and not worn outside of the food production premises. Cuts and wounds, where personnel are permitted to continue working, shall be covered by suitable water proof dressings which shall be of a colour easily visible if contaminating the food product or equipment.

Personnel shall always wash their hands when personal cleanliness may affect food safety, for example:-

- (a) at the start of food handling activities;
- (b) immediately after using the toilet; and
- (c) after handling raw food or any contaminated material, where this could result in contamination of other food items; they shall avoid handling ready-to-eat food, where appropriate.

### 7.4

#### PERSONAL BEHAVIOUR

People engaged in food handling activities shall refrain from behaviour which could result in contamination of food, for example:

- (a) smoking;
- (b) spitting;
- (c) chewing or eating;
- (d) sneezing or coughing over unprotected food.

Personal effects such as jewellery, watches, pins or other items shall not be worn or brought into food handling areas if they pose a threat to the safety and suitability of food.

**7.5 VISITORS**

Visitors to food manufacturing, processing or handling areas shall, where appropriate, wear protective clothing and adhere to the other personal hygiene provisions in this section.

**8. TRANSPORTATION**

**8.1 GENERAL**

Food must be adequately protected during transport. The type of conveyances or containers required depends on the nature of the food and the conditions under which it has to be transported.

**8.2 REQUIREMENTS**

Where necessary, conveyances and bulk containers shall be designed and constructed so that they:

- (a) do not contaminate food or packaging;
- (b) can be effectively cleaned and, where necessary, disinfected;
- (c) permit effective protection from contamination, including dust and fumes;
- (d) can effectively maintain the temperature, humidity, atmosphere and other conditions necessary to protect food from harmful or undesirable microbial growth and deterioration likely to render it unsuitable for consumption; and
- (e) allow any necessary temperature, humidity and other conditions to be checked.

### 8.3

#### USE AND MAINTENANCE

Conveyances and containers for transporting food shall be kept in an appropriate state of cleanliness, repair and condition. Where the same conveyance or container is used for transporting different foods, or non-foods, effective cleaning and, where necessary, disinfection shall take place between loads.

Where appropriate, particularly in bulk transport, containers and conveyances shall be designated and marked for food use only and be used only for that purpose.

**9. PRODUCT INFORMATION AND CONSUMER AWARENESS**

**9.1 LOT IDENTIFICATION**

Lot identification is essential in product recall and also helps effective stock rotation. Each container of food shall be permanently marked to identify the producers and the lot. Belize National Standard Specification for the Labelling of Prepackaged Foods (BZS1: Part 3:1998) applies.

**9.2 PRODUCT INFORMATION**

All food products shall be accompanied by or bear adequate information to enable the next person in the food chain to handle, display, store and prepare and use the product safely and correctly.

**9.3 LABELLING**

Prepackaged foods shall be labelled with clear instructions to enable the next person in the food chain to handle, display, store and use the product safely. Belize National Standard Specification for the Labelling of Prepackaged Foods (BZS1: Part:1998) applies.

S.I. 118/1999.

**9.4 CONSUMER EDUCATION**

Health education programmes shall cover general food hygiene. Such programmes shall enable consumers to understand the importance of any product information and to follow any instructions accompanying products, and make informed choices. In particular consumers shall be informed

of the relationship between time/temperature control and food-borne illness.

**10.****TRAINING****10.1****AWARENESS AND RESPONSIBILITIES**

Food hygiene training is fundamentally important. All personnel shall be aware of their role and responsibility in protecting food from contamination or deterioration. Food handlers shall have the necessary knowledge and skills to enable them to handle food hygienically. Those who handle strong cleaning chemicals or other potentially hazardous chemicals shall be instructed in safe handling techniques.

**10.2****TRAINING PROGRAMMES**

Factors to take into account in assessing the level of training required include:

- (a) the nature of the food, in particular its ability to sustain growth of pathogenic or spoilage micro-organisms;
- (b) the manner in which the food is handled and packed, including the probability of contamination;
- (c) the extent and nature of processing or further preparation before final consumption;
- (d) the conditions under which the food will



be stored; and

- (e) the expected length of time before consumption.

### **10.3 INSTRUCTION AND SUPERVISION**

Periodic assessments of the effectiveness of training and instruction programmes shall be made, as well as routine supervision and checks to ensure that procedures are being carried out effectively.

Managers and supervisors of food processes shall have the necessary knowledge of food hygiene principles and practice to be able to judge potential risks and take the necessary action to remedy deficiencies.

### **10.4 REFRESHER TRAINING**

Training programmes shall be routinely reviewed and updated where necessary. Systems shall be in place to ensure that food handlers remain aware of all procedures necessary to maintain the safety and suitability of food.

\_\_\_\_\_...\_\_\_\_\_

**THIRD SCHEDULE****[Regulations 2 and 4]****APPLICATION OF THE HACCP SYSTEM****1. APPLICATION**

This Schedule specifies the application of the HACCP system.

**DEFINITIONS****2. In this Schedule, unless the context otherwise requires:-**

“control”, when used as a verb, means to take all necessary actions to ensure and maintain compliance with criteria established in the HACCP plan;

“control”, when used as a noun, means the state wherein correct procedures are being followed and criteria are being met;

“control measure” means any action and activity that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level;

“corrective action” means any action to be taken when the results of monitoring at the CCP indicate a loss of control;

“Critical Control Point” or “(CCP)” means a step at which control can be applied and is essential to prevent or eliminate food safety hazard or reduce it to an acceptable level;

“critical limit” means a criterion which separates acceptability from unacceptability;

“deviation” means failure to meet a critical limit;

“flow diagram” means a systematic representation of the sequence of steps or operations used in the production or manufacture of a particular food item;

“HACCP” means a system which identifies, evaluates, and controls hazards which are significant for food safety;

“HACCP plan” means a document prepared in accordance with the principles of HACCP to ensure control of hazards which are significant for food safety in the segment of the food chain under consideration;

“hazard” means a biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect;

“hazard analysis” means the process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety and therefore should be addressed in the HACCP plan;

“monitor” means the act of conducting a planned sequence of observations or measurements of control parameters to assess whether a CCP is under control;

“step” means a point, procedure, operation or stage in the food chain, including raw materials, from primary production to final consumption;

“validation” means obtaining evidence that the elements of the HACCP plan are effective;

“verification” means the application of methods, procedures, tests and other evaluations, in addition to monitoring, to determine compliance with the HACCP plan.

### 3. **PRINCIPLES OF THE HACCP SYSTEM**

**3.1** The HACCP system consists of the following seven principles:-

- (a) **Principle 1**  
Conduct a hazard analysis.
- (b) **Principle 2**  
Determine the Critical Control Points (CCPs).
- (c) **Principle 3**  
Establish critical limit(s).
- (d) **Principle 4**  
Establish a system to monitor control of the CCP.
- (e) **Principle 5**  
Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control.
- (f) **Principle 6**  
Establish procedures for verification to confirm that the HACCP system is working effectively.
- (g) **Principle 7**  
Establish documentation concerning all procedures and records appropriate to these principles and their application.

**4. GUIDELINES FOR THE APPLICATION OF THE  
HACCP SYSTEM**

- 4.1 Prior to application of HACCP to any sector of the food chain, there should be operation according to the Codex General Principles of Food Hygiene, the appropriate Codex Codes of Practice, and appropriate food safety legislation. Management commitment is necessary for implementation of an effective HACCP system. During hazard identification, evaluation, and subsequent operations in designing and applying HACCP systems, consideration must be given to the impact of raw materials, ingredients, food manufacturing practices, role of manufacturing processes to control hazards, likely end-use of the product, categories of consumers of concern, and epidemiological evidence relative to food safety.
- 4.2 The intent of the HACCP system is to focus control at CCPs. Redesign of the operation should be considered if a hazard which must be controlled is identified but no CCPs are found.
- 4.3 HACCP should be applied to each specific operation separately. CCPs identified in any given example in any Codex Code of Hygienic Practice might not be the only ones identified for a specific application or might be of a different nature.
- 4.4 The HACCP application should be reviewed and necessary changes made when any modification is made in the product, process, or any step.
- 4.5 It is important when applying HACCP to be flexible where appropriate, given the context of the application taking into account the nature and the size of the operation.

## 4.6

**APPLICATION**

The application of HACCP principles consists of the following tasks as identified in the Logic Sequence for Application of HACCP (Diagram 1).

## 4.6.1

**ASSEMBLE HACCP TEAM**

- 4.6.1.1 The food operation should assure that the appropriate product specific knowledge and expertise is available for the development of an effective HACCP plan. Optimally, this may be accomplished by assembling a multi-disciplinary team. Where such expertise is not available on site, expert advice should be obtained from other sources. The scope of the HACCP plan should be identified. The scope should describe which segment of the food chain is involved and the general classes of hazards to be addressed (e.g. does it cover all classes of hazards or only selected classes).

## 4.6.2

**DESCRIBE PRODUCT**

- 4.6.2.1 A full description of the product should be drawn up, including relevant safety information such as: composition, physical/chemical structure (including  $A_w$ , pH, etc.), microcidal/static treatments (heat-treatment, freezing, brining, smoking, etc.), packaging, durability and storage conditions and method of distribution.

## 4.6.3.

**IDENTIFY INTENDED USE**

- 4.6.3.1 The intended use should be based on the expected uses of the product by the end user or consumer. In specific

cases, vulnerable groups of the population, e.g. institutional feeding, may have to be considered.

**4.6.4 CONSTRUCT FLOW DIAGRAM**

4.6.4.1 The flow diagram should be constructed by the HACCP team. The flow diagram should cover all steps in the operation. When applying HACCP to a given operation, consideration should be given to steps preceding and following the specified operation.

**4.6.5 ON-SITE CONFIRMATION OF FLOW DIAGRAM**

4.6.5.1 The HACCP team should confirm the processing operation against the flow diagram during all stages and hours of operation and amend the flow diagram where appropriate.

**4.6.6 LIST ALL POTENTIAL HAZARDS ASSOCIATED WITH EACH STEP, CONDUCT A HAZARD ANALYSIS, AND CONSIDER ANY MEASURES TO CONTROL IDENTIFIED HAZARDS.  
(SEE PRINCIPLE 1)**

4.6.6.1 The HACCP team should list all of the hazards that may be reasonably expected to occur at each step from primary production, processing, manufacture, and distribution until the point of consumption.

4.6.6.2 The HACCP team should next conduct a hazard analysis to identify (for the HACCP plan) which hazards are of such a nature that their elimination or reduction to acceptable levels is essential to the production of safe food.

4.6.6.3 In conducting the hazard analysis, wherever possible the following should be included:-

- (a) the likely occurrence of hazards and severity of their adverse health effects;
- (b) the qualitative and/or quantitative evaluation of the presence of hazards;
- (c) survival or multiplication of micro-organisms of concern;
- (d) production or persistence in foods of toxins, chemicals or physical agents; and
- (e) conditions leading to the above.

4.6.6.4 The HACCP team must then consider what control measures, if any, exist which can be applied for each hazard.

4.6.6.5 More than one control measure may be required to control a specific hazard(s) and more than one hazard may be controlled by a specified control measure.

4.6.7 **DETERMINE CRITICAL CONTROL POINTS  
(SEE PRINCIPLE 2)<sup>1</sup>**

4.6.7.1 There may be more than one CCP at which control is applied to address the same hazard. The determination

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<sup>1</sup> Since the publication of the decision tree by Codex, its use has been implemented many times for training purposes. In many instances, while this tree has been useful to explain the logic and depth of understanding needed to determine CCPs, it is not specific to all food operations, e.g. slaughter, and therefore it should be used in conjunction with professional judgment, and modified in some cases.



of a CCP in the HACCP system can be facilitated by the application of a decision tree (e.g. Diagram 2), which indicates a logic reasoning approach. Application of a decision tree should be flexible, given whether the operation is for production, slaughter, processing, storage, distribution or other. It should be used for guidance when determining CCPs. This example of a decision tree may not be applicable to all situations. Other approaches may be used. Training in the application of the decision tree is recommended.

#### **4.6.8 ESTABLISH CRITICAL LIMITS FOR EACH CCP (SEE PRINCIPLE 3)**

4.6.8.1 Critical limits must be specified and validated if possible for each Critical Control Point. In some cases more than one critical limit will be elaborated at a particular step. Criteria often used include measurements of temperature, time, moisture level, pH,  $A_w$ , available chlorine, and sensory parameters such as visual appearance and texture.

#### **4.6.9 ESTABLISH A MONITORING SYSTEM FOR EACH CCP (SEE PRINCIPLE 4)**

4.6.9.1 Monitoring is the scheduled measurement or observation of a CCP relative to its critical limits. The monitoring procedures must be able to detect loss of control at the CCP. Further, monitoring should ideally provide this information in time to make adjustments to ensure control of the process to prevent violating the critical limits. Where possible, process adjustments should be made when monitoring results indicate a trend towards loss of control

at a CCP. The adjustments should be taken before a deviation occurs. Data derived from monitoring must be evaluated by a designated person with knowledge and authority to carry out corrective actions when indicated. If monitoring is not continuous, then the amount or frequency of monitoring must be sufficient to guarantee the CCP is in control. Most monitoring procedures for CCPs will need to be done rapidly because they relate to on-line processes and there will not be time for lengthy analytical testing. Physical and chemical measurements are often preferred to microbiological testing because they may be done rapidly and often indicate the microbiological control of the product. All records and documents associated with monitoring CCPs must be signed by the person(s) doing the monitoring and by a responsible reviewing official(s) of the company.

**4.6.10 ESTABLISH CORRECTIVE ACTIONS  
(SEE PRINCIPLE 5)**

4.6.10.1 Specific corrective actions must be developed for each CCP in the HACCP system in order to deal with deviations when they occur.

4.6.10.2 The actions must ensure that the CCP has been brought under control. Actions taken must also include proper disposition of the affected product. Deviation and product disposition procedures must be documented in the HACCP record keeping.

**4.6.11 ESTABLISH VERIFICATION PROCEDURES  
(SEE PRINCIPLE 6)**

4.6.11.1 Establish procedures for verification. Verification and

auditing methods, procedures and tests, including random sampling and analysis, can be used to determine if the HACCP system is working correctly. The frequency of verification should be sufficient to confirm that the HACCP system is working effectively.

Examples of verification activities include:-

- (a) review of HACCP system and its records;
- (b) review of deviations and product dispositions;
- (c) confirmation that CCPs are kept under control.

4.6.11.2 Where possible, validation activities should include actions to confirm the efficacy of all elements of the HACCP plan.

**4.6.12 ESTABLISH DOCUMENTATION AND RECORD KEEPING  
(SEE PRINCIPLE 7)**

4.6.12.1 Efficient and accurate record keeping is essential to the application of a HACCP system. HACCP procedures should be documented. Documentation and record keeping should be appropriate to the nature and size of the operation.

Documentation examples are:

- (a) hazard analysis;

- (b) CCP determination;
- (c) critical limit determination.

Record examples are:

- (a) CCP monitoring activities;
- (b) deviations and associated corrective actions;
- (c) modifications to the HACCP system.

An example of a HACCP worksheet is attached as Diagram 3.

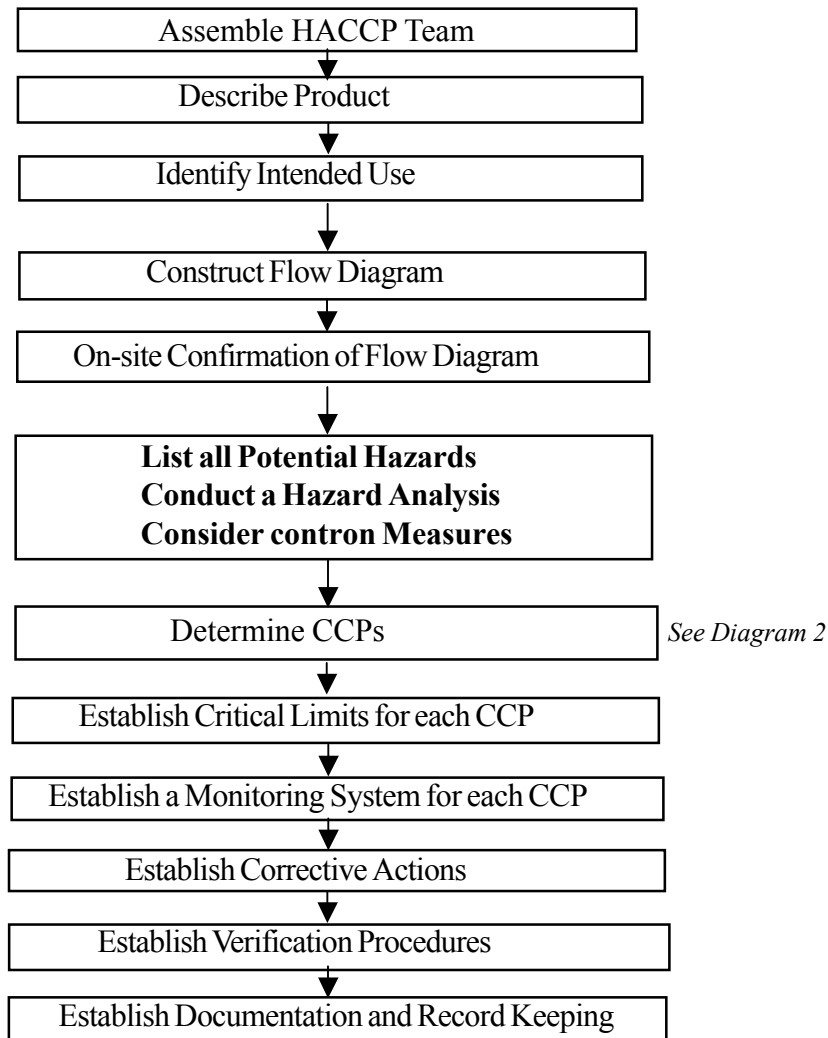
## 5.

### TRAINING

- 5.1 Training of personnel in industry, government and academia in HACCP principles and applications, and increasing awareness of consumers are essential elements for the effective implementation of HACCP. As an aid in developing specific training to support a HACCP plan, working instructions and procedures should be developed which define the tasks of the operating personnel to be stationed at each Critical Control Point.
- 5.2 Cooperation between primary producer, industry, trade groups, consumer organizations, and responsible authorities is of vital importance. Opportunities should be provided for the joint training of industry and control authorities to encourage and maintain a continuous dialogue and create a climate of understanding in the practical application of HACCP.

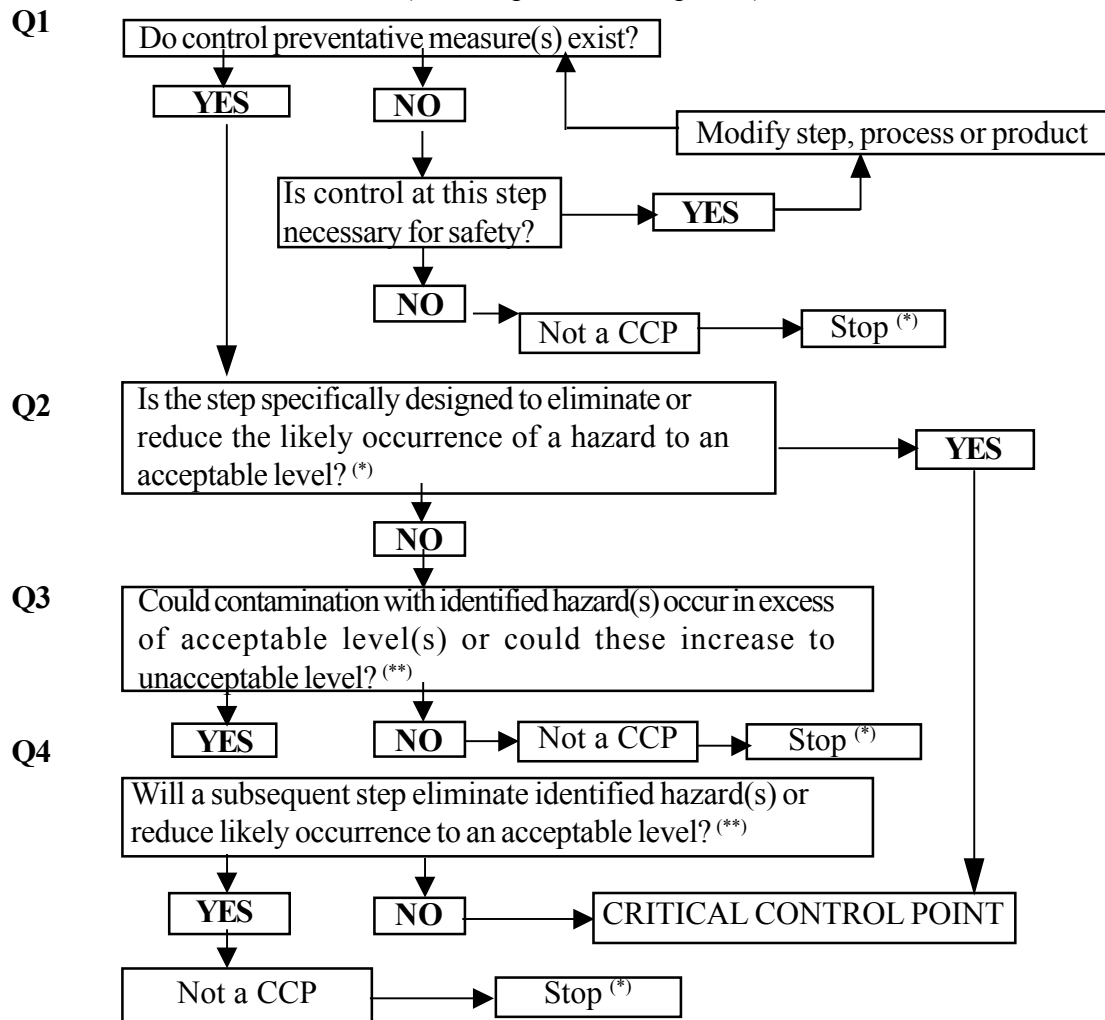
**DIAGRAM 1**

**LOGIC SEQUENCE FOR APPLICATION OF HACCP**



**DIAGRAM 2**  
**EXAMPLE OF DECISION TREE TO IDENTIFY CCPs**

(answer question in sequence)



(\*) Proceed to the next identified hazard in the described process.

(\*\*) Acceptable and unacceptable levels need to be defined within the overall objectives in identifying the CCP of HACCP Plan

**DIAGRAM 3**

**EXAMPLE OF A HACCP WORKSHEET**

Describe Product

Diagram Process Flow

LIST							
Step	Hazard(s)	Control Measure(s)	CCPs	Critical Limit(s)	Monitoring Procedure(s)	Corrective Action(s)	Record(s)

*Verification*

**FOURTH SCHEDULE**  
**[Regulation 10]**  
**SANITARY CERTIFICATE OF BELIZE**  
**FOR FISH AND FISHERY PRODUCTS**

**Reference number: BAHA 00-11-fp-001**

Country of dispatch: <b>Belize</b>
Competent Authority: <b>Belize Agricultural Health Authority</b>
Inspection body: <b>Belize Agricultural Health Authority</b>
Address:
Telephone/Fax: <b>Tel: 501-2-44794 Fax: 501-2-45230</b>
E-mail: <b>baha@btl.net</b>

**I. Details identifying the fishery products**

Description - Species (scientific name):	Approval no. of Establishment	State or type of processing:	Type of packaging:	Lot identifier/date coding	Number of packages:	Net weight
Sum:						

Temperature required during storage and transport: \_\_\_\_\_ °C

**II. Origin of the fishery**

Name and address of consignor: \_\_\_\_\_

\_\_\_\_\_



### III. Destination of the fishery products

The fishery products are to be dispatched from: \_\_\_\_\_  
to: \_\_\_\_\_ by the  
following means of transport: \_\_\_\_\_

Name of consignee and address at place of destination: \_\_\_\_\_  
\_\_\_\_\_

### IV. Attestation

The undersigned official inspector hereby certifies that at the time of inspection: the products described above originate from an approved establishment; and have been handled, prepared or processed, identified, stored and transported under a competent HACCP and sanitary programme consistently implemented and in accordance with the requirements laid down in the Belize Agricultural Health Authority (Food Safety) Regulations, 2001.

Done at \_\_\_\_\_ on \_\_\_\_\_ 200\_\_\_\_\_

\_\_\_\_\_  
(Signature of official inspector)

\_\_\_\_\_  
(PRINT Name and Official position in capitals)

**CHAPTER 211**

38/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(FOOT AND MOUTH DISEASE AND BOVINE  
SPONGIFORM ENCEPHALOPHATHY) (PROHIBITION  
FROM IMPORTATION OF DISEASED ANIMALS)  
REGULATIONS****ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Prohibition of importation of diseased animals.
  3. Regulations to have effect over similar Regulations made under the Animals (Diseases and Importation) Act.
  4. Commencement.
-

**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(FOOT AND MOUTH DISEASE AND BOVINE  
SPONGIFORM ENCEPHALOPATHY) (PROHIBITION  
FROM IMPORTATION OF DISEASED ANIMALS)  
REGULATIONS**

38/2001.

*[17<sup>th</sup> March, 2001.]*

1. These Regulations may be cited as the

Short title.

**BELIZE AGRICULTURAL HEALTH AUTHORITY (FOOT AND MOUTH DISEASE AND BOVINE SPONGIFORM ENCEPHALOPATHY) (PROHIBITION FROM IMPORTATION OF DISEASED ANIMALS) REGULATIONS.**

2. Due to the outbreak of foot and mouth disease and bovine spongiform encephalopathy in the United Kingdom of Great Britain and Northern Ireland and other countries of the European Union and South America, it is hereby declared that the importation of animals and animal products from affected countries shall be and is hereby prohibited until the affected countries are confirmed by the relevant authorities to be free from such diseases.

Prohibition of importation of diseased animals.

3. These Regulations shall, where there is any inconsistency between Regulations 2 and any other Regulations made under the animals (Diseases and Importation) Act, have force and effect over such Regulations to the extent of the inconsistency.

Regulations to have effect over similar Regulations made under the Animals (Diseases and Importation Act).

Commencement. 4. These Regulations shall come into force on the 15<sup>th</sup> day of March, 2001.

**MADE** by the Minister of Agriculture, Fisheries and Cooperatives this 15<sup>th</sup> day of March, 2001.

**( DANIEL SILVA )**  
**MINISTER OF AGRICULTURE, FISHERIES**  
**AND COOPERATIVES**

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**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(QUARANTINE INSPECTION AND**  
**CERTIFICATION FEES) REGULATIONS**

62/2001.

**ARRANGEMENT OF REGULATIONS**

1. Short title.
2. Interpretation.
3. Export certification.
4. Boarding, etc., of vessels.
5. Boarding, etc., of aircraft.
6. Inspection of imported commodities, etc..
7. Intransit commodities, etc..
8. Out of port inspections.
9. Offences and penalties.
10. Receipt.
11. Commencement.

**SCHEDULE**

**CHAPTER 211**

62/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(QUARANTINE INSPECTION AND  
CERTIFICATION FEES) REGULATIONS***[21<sup>st</sup> April, 2001.]*

Short title.

1. These Regulations may be cited as the

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(QUARANTINE INSPECTION AND CERTIFICATION  
FEES) REGULATIONS.**

Interpretation.

2. In these regulations, unless the context otherwise requires-

“Authority” means the Belize Agricultural Health Authority established under section 3 of the Act;

“Quarantine Officer” means an officer authorized by the Authority to carry out quarantine inspections.

Export  
certification.

3. (1) Every exporter of a commercial cargo, or his authorized agent, shall pay to the Authority a fee of BZ\$20 per hour of quarantine inspection of such cargo plus the transportation costs of the Quarantine Inspector.

(2) Every exporter of a commercial cargo, or his authorized agent, shall pay to the Authority, the following fees for the issuance of a Phytosanitary Certificate for such cargo-

Type of Cargo	Fee	BZ\$
(a) non-commercial commodities or products (either for samples, personal use or in small quantities for research) .....		10.00;
(b) commercial commodities or products amounting to less than a truck or 20 feet container load .....		20.00;
(c) commercial commodities or products amounting to more than a truck or 20 feet container load .....		100.00.

(3) The fees prescribed by subregulations (1) and (2) (c) shall be paid after the quarantine inspection but before the issuance of the Phytosanitary Certificate.

(4) The fees prescribed by subregulation (2) (a) and (b) shall be paid before the quarantine inspection.

4. (1) Every owner of a vessel, or his authorized agent, shall pay to the Authority, the following fees for boarding and quarantine inspection of his vessel- Boarding, etc., of vessels.

Type of Vessels	Fee	BZ\$
(a) cruise ships and cargo vessels .....		60.00;
(b) large yachts .....		50.00;
(c) small yachts .....		20.00;
(d) water taxis (arriving from international ports) .....		20.00.

(2) The owner of a vessel with a Belize based agent shall make payments to the nearest office of the Authority on a bi-weekly basis.

(3) The owner or a captain of a vessel without a Belize based agent shall make payments directly to the Quarantine Inspector conducting the quarantine inspection.

(4) The owner of a vessel, his authorized agent or the captain of the vessel shall also pay the transportation costs of the Quarantine Inspector, in the case of payments made under subregulation (1) (a), (b) or (c).

Boarding, etc., of aircraft.

5. (1) Every owner of an aircraft, or his authorized agent, shall pay to the Authority, the following fees for boarding and quarantine inspection of his aircraft-



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Type of Aircraft	Fee	BZ\$
(a) cargo aircraft (international flight) .....		100.00;
(b) passenger aircraft (international flight) with a capacity of over fifty (50) passengers .....		50.00;
(c) passenger aircraft (international flight) with a capacity of less than fifty (50) passengers .....		30.00;
(d) small private and domestic aircraft arriving in Belize from international airports .....		10.00.

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(2) The owner of an aircraft with a Belize based agent shall make payments to the nearest office of the Authority on a bi-weekly basis.

(3) The owner or pilot of an aircraft without a Belize based agent shall make payments directly to the Quarantine Inspector conducting the quarantine inspection.

6. (1) Every imported commodity or product listed in the Schedule shall be inspected by a Quarantine Inspector to determine if a Landing Permit shall be issued for the commodity or product.

Inspection of imported commodities, etc.. Schedule.

(2) The importer of a commodity or product referred to in subregulation (1), or his authorized agent, shall pay to the Authority the following fees for the quarantine inspection-

Weight or Classification of Commodity or Product	Fee	BZ\$
(a) commodities or products with an approximate weight of one hundred (100) pounds but not exceeding one thousand (1,000) pounds .....		10.00;
(b) non-regulated (low risk) commodities or products with a weight exceeding one thousand (1,000) pounds .....		50.00;
(c) regulated (high risk) commodities or products with a weight exceeding one thousand (1,000) pounds .....		100.00.

(3) Where a Landing Permit is not issued for a commodity or product under subregulation (1), such commodity or product shall be confiscated, destroyed, or returned to the country of origin at the owner's expense, by the Authority.

(4) A non-governmental organization or statutory body importing a commodity or product referred to in subregulation (1) for non-commercial

purposes may appeal to the Managing Director for a waiver of the fees prescribed in subregulation (2).

(5) For the purposes of this regulation, the expression “non-commercial purposes” means the importation of commodities or products for purposes other than for sale to the general public.

7. (1) Every owner of a commodity or product listed in the Schedule and which is in transit through Belize, or his authorized agent, shall pay to the Authority, the following fees for the quarantine inspection of such commodity or product-

Intransit commodities, etc.. Schedule.

Classification of Commodity or Product	Fee	BZ\$
(a) low risk commodity or product .....		50.00 per container or vessel
(b) high risk commodity or product .....		100.00 per container or vessel.

(2) The fees prescribed by subregulation (1) shall be paid to the Authority.

(3) Every owner referred to in subregulation (1), or his authorized agent, shall also pay the other expenses of the Quarantine Officer.

(4) The expression “other expenses” referred to in subregulation (3) includes transportation, overtime, subsistence and accommodation expenses

incurred by the Quarantine Inspector during the process of travelling from the point of entry to the point of departure in Belize of the commodity or product (including the free zones).

Out of port inspections.  
Schedule.

8. (1) Every container or vessel, carrying any commodity or product listed in the Schedule, which needs quarantine inspection at a private warehouse or storage facility and for which Customs entry forms have been stamped "VISUAL INSPECTION REQUIRED", shall not be allowed to leave any air or sea port unless accompanied by a container application from the Authority and a Quarantine Inspector.

Schedule.

(2) The importer of a commodity or product listed in the Schedule, or his authorized agent, shall pay to the Authority a fee of BZ\$20 per hour for the inspection of such commodity or product, plus the transportation costs of the Quarantine Inspector.

(3) The fee prescribed by sub-regulation (2) shall be paid to the Authority.

Offences and penalties.

9. (1) Any passenger who makes a false declaration on a Customs Declaration Form, pertaining to the importation of plants, animals and their products and by-products, commits an offence and shall be liable to a spot fine of fifty dollars (BZ\$50).

(2) Any person who-

- (a) is found in illegal possession of any plant, plant product, plant by-product, animal, animal product, animal by-product, carcass, feed, litter, dung, biologicals or similar things;
- (b) breaks a quarantine seal;
- (c) boards any commodity or product listed in

the Schedule in a carrier without the presence of a Quarantine Inspector; Schedule.

(d) imports into Belize any commodity or product listed in the Schedule and to which Parts VI and X of the Act does not apply, otherwise than under an import permit granted by the Authority; Schedule.

(e) contravenes or fails to comply with any of the provisions of any import permit referred to in paragraph (d),

commits an offence.

(3) Every person who commits an offence under sub-regulation (2), shall be liable on summary conviction to a fine not exceeding five thousand dollars or to a period of imprisonment not exceeding two years, or to both such fine and period of imprisonment.

10. An official receipt of the Authority shall be issued for any payment made under these Regulations. Receipt.

11. These Regulations shall come into force on the 30<sup>th</sup> day of April, 2001. Commencement.

**MADE** by the Minister of Agriculture, Fisheries and Cooperatives this 10<sup>th</sup> day of April, 2001.

**(DANIEL SILVA)**  
Minister of Agriculture, Fisheries  
and Cooperatives

SCHEDULE  
Regulations 6, 7, 8 and 9  
COMMODITIES OR PRODUCTS OF QUARANTINE  
IMPORTANCE  
PART I

<b>PLANT AND PLANT PRODUCTS</b>		
CATEGORY	COMMODITIES OR PRODUCTS	MEASURE
PH-01	VEGETABLES • Fresh	Needs import permit from the Authority Phytosanitary Certificate Certificate of Origin Inspection
PH-02	FRUITS • Fresh	Needs import permit from the Authority Phytosanitary Certificate Certificate of Origin Inspection
PH-03	FRUITS AND VEGETABLES PROCESSED • Bottled • Dried • Canned	Sanitary Certificate Inspection
PH-04	Lumber • Raw • Timber	Debarked Import licence signed by Chief Forest Officer C.I.T.E.S. Permit where applicable Needs import permit from the Authority Phytosanitary Certificate Certificate of Origin Certificate of Treatment Inspection by Quarantine
PH-05	Plywood and other processed lumber	Needs import permit from the Authority Phytosanitary Certificate if IN TRANSIT Certificate of Origin Certificate of Treatment for container Inspection

<b>PLANT AND PLANT PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
PH-06	Pottery & Wooden ornaments	Inspection
PH-07	Wooden pallets	Needs import permit from the Authority Phytosanitary Certificate Certificate of Treatment Inspection by Quarantine
PH-08	Wooden Furniture	Visual inspection at port of entry Certificate of Treatment Certificate of Origin
PH-09	ORNAMENTALS (cut flowers) • Living • Dried	Needs import permit from the Authority Visual inspection at port of entry Phytosanitary Certificate Certificate of Treatment Certificate of Origin Inspection
PH-10	HERBS & MEDICINAL PLANTS (whole) • Dried • Fresh	Needs import permit from the Authority Phytosanitary Certificate Inspection
PH-11	POPCORN • Planting	Needs import permit from the Authority Phytosanitary Certificate Certificate of Origin Inspection by Quarantine
PH-12	POPCORN • Microwave • for consumption	Inspection by Quarantine

<b>PLANT AND PLANT PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
PH-13	Seeds • for sowing	Needs import permit from the Authority Phytosanitary Certificate Certificate of Treatment Certificate of Origin Original invoice (or copy) Inspection
PH-14	Grains • wheat • malt	Needs import permit from the Authority Phytosanitary Certificate Sanitary Certificate Certificate of Treatment Certificate of Origin Invoice (original or copy) Inspection by Quarantine
PH-15	Grains • rice • beans • sorghum • soya beans • corn	Needs import permit from the Authority Phytosanitary Certificate Certificate of Origin Invoice (original or copy) Inspection
PH-16	Cereals • corn flakes • oats • granola • corn meal • etc.	Inspection by Quarantine Sanitary Certificate where possible Statement from Supplier attesting to Pest Free Status of product.



<b>PLANT AND PLANT PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
PH-17	<b>CHIPS</b> <ul style="list-style-type: none"> <li>• potato</li> <li>• corn</li> <li>• etc.</li> </ul>	Inspection Sanitary Certificate where applicable
PH-18	<b>SPICES - whole</b> <ul style="list-style-type: none"> <li>• oregano</li> <li>• thyme</li> <li>• black pepper</li> <li>• cumin</li> <li>• cinnamon</li> <li>• etc.</li> </ul>	Needs import permit from the Authority Phytosanitary Certificate Certificate of Origin Original invoice (or copy) Inspection
PH-19	<b>SPICES - ground</b> <ul style="list-style-type: none"> <li>• oregano</li> <li>• thyme</li> <li>• black pepper</li> <li>• cumin</li> <li>• cinnamon</li> <li>• etc.</li> </ul>	Needs import permit from the Authority Inspection
PH-20	<b>PROPAGATION MEDIA</b> <ul style="list-style-type: none"> <li>• peat moss</li> <li>• sand</li> <li>• gravel</li> <li>• sphagnum</li> <li>• soils</li> <li>• other soil substitutes</li> </ul>	Needs import permit from the Authority Certificate of Sterilization/Treatment Certificate of Origin Inspection

<b>PLANT AND PLANT PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
PH-21	TOBACCO • cured leaves	Import permit from the Authority Inspection
PH-22	GRASSES • sod • lawn grasses • pasture grass	Import permit from the Authority Phytosanitary Certificate Certificate of Treatment Inspection
PH-23	RATTAN • baskets • other plaited planting material	Import permit from the Authority Phytosanitary Certificate Inspection
PH-24	OILS • vegetable oil • corn oil • soy oil	Inspection by Quarantine Treatment of Container
PH-25	FLOUR • corn • wheat • soya • etc.	Need import permit from the Authority Sanitary Certificate Phytosanitary Certificate Certificate of Origin Original invoice (or copy) Inspection
PH-26	PASTA PRODUCTS • noodles • macaroni • spaghetti • etc.	Need import permit from the Authority Sanitary Certificate Certificate of Origin Inspection

<b>PLANT AND PLANT PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
PH-27	MARGARINE <ul style="list-style-type: none"> <li>• pure vegetable origin</li> <li>• pure vegetable shortening</li> </ul>	Needs import permit from the Authority Sanitary Certificate Inspection by Quarantine
PH-28	FRUIT JUICES	Needs import permit from the Authority Sanitary Certificate Inspection
PH-29	JAMS AND JELLIES	Sanitary Certificate Inspection
PH-30	CONFECTIONARIES	Sanitary Certificate Inspection
PH-31	PRODUCTS OF SOYA ORIGIN	Inspection
<b>Fertilizers</b>		
<b>CATEGORY</b>	<b>PRODUCTS</b>	<b>MEASURE</b>
F-01	FERTILIZERS <ul style="list-style-type: none"> <li>• organic</li> <li>• inorganic</li> <li>• soil enhancers</li> </ul>	Dossier from Company Import permit from the Authority Certificate of Origin Inspection

## PART II

<b>ANIMAL AND ANIMAL PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
AH-01	LIVE ANIMALS Day old poultry	Needs import permit from the Authority Veterinary Certificate Inspection Sampling Testing
AH-02	LIVE ANIMALS Dogs and cats	Needs import permit from the Authority Veterinary Certificate Valid Rabies Vaccination Certificate Inspection (for wounds, maggots, etc.) May require Post Entry Quarantine
AH-03	LIVE ANIMALS Exotic, Zoo, Circus	Needs import permit from the Authority International Veterinary Certificate Inspection by Veterinarian Post Entry Quarantine
AH-04	LIVE ANIMALS Large animals	Needs import permit from the Authority Veterinary Certificate Inspection by Veterinarian Post Entry Quarantine
AH-05	LIVE ANIMALS Pet birds	Needs import permit from the Authority Veterinary Certificate Inspection

<b>ANIMAL AND ANIMAL PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
AH-06	SEMEN • all species	Needs import permit from the Authority Sanitary Certificate Inspection
AH-07	FEED Animal Feed • bags • bulk	Needs import permit from the Authority Sanitary Certificate Certificate of Origin Inspection
AH-08	FEED Poultry concentrate • bags • bulk	Needs import permit from the Authority Sanitary Certificate Certificate of Origin Inspection
AH-09	FEED Pet Food • bags • canned	Needs import permit from the Authority Sanitary Certificate Certificate of Origin Inspection
AH-10	HAY	Needs import permit from the Authority Inspection
AH-11	MEATS All Species • canned	Needs import permit from the Authority Sanitary Certificate Inspection (for expiry date, etc.)

<b>ANIMAL AND ANIMAL PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
AH-12	MEATS Cold cuts • chilled	Needs import permit from the Authority Sanitary Certificate Inspection
AH-13	MEATS Beef • chilled • frozen	Needs import permit from the Authority Sanitary Certificate Inspection
AH-14	MEATS Cow foot • chilled	Needs import permit from the Authority Sanitary Certificate Inspection
AH-15	MEATS Pork • chilled • frozen	Needs import permit from the Authority Sanitary Certificate Inspection
AH-16	MEATS Ham, picnic • smoked	Needs import permit from the Authority Sanitary Certificate Certificate of Origin Inspection
AH-17	LEATHER & LEATHER PRODUCTS	Needs import permit from the Authority Sanitary Certificate Certificate of Origin Inspection
AH-18	HIDES	Needs import permit from the Authority Sanitary Certificate Certificate of Origin Inspection

<b>ANIMAL AND ANIMAL PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
AH-19	ANIMAL TROPHIES	Needs import permit from the Authority Sanitary Certificate Inspection
AH-20	MEATS Poultry <ul style="list-style-type: none"> <li>• chilled</li> <li>• frozen</li> </ul>	Needs import permit from the Authority Sanitary Certificate Inspection
AH-21	Eggs, table	Needs import permit from the Authority Health Certificate Inspection, Sampling and Testing
AH-22	Eggs, hatching	Needs import permit from the Authority Health Certificate Inspection Sampling Testing
AH-23	DAIRY Milk <ul style="list-style-type: none"> <li>• powder</li> </ul>	Needs import permit from the Authority Sanitary Certificate Inspection
AH-24	DAIRY Cheese <ul style="list-style-type: none"> <li>• processed</li> </ul>	Needs import permit from the Authority Sanitary Certificate Inspection
AH-25	DAIRY All products <ul style="list-style-type: none"> <li>• canned</li> </ul>	Needs import permit from the Authority Sanitary Certificate Inspection
AH-26	DAIRY <ul style="list-style-type: none"> <li>• yogurt</li> </ul>	Needs import permit from the Authority Sanitary Certificate Inspection

## PART III

<b>VETERINARY DRUGS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
VD-01	BIOLOGICALS vaccines - all species	Needs import permit from the Authority Sanitary Certificate Inspection
VD-02	DRUGS Antibiotics: all - animal use	Needs import permit from the Authority Sanitary Certificate Inspection Sampling Check for expiry dates
VD-03	DRUGS Liquid Disinfectants	Needs import permit from the Authority Sanitary Certificate Inspection
VD-04	DRUGS Ectoparasites • liquid • powder	Needs import permit from the Authority Sanitary Certificate Inspection
VD-05	Miscellaneous Vet DRUGS • liquid • powder	Needs import permit from the Authority Sanitary Certificate Inspection
VD-06	DRUGS Vitamins	Needs import permit from the Authority Sanitary Certificate Inspection



## PART IV

<b>FISH AND FISHERY PRODUCTS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
FS-01	Fish, Shrimp larvae • live	Needs import permit from the Authority International Veterinary Certificate International Sanitary Certificate Certificate of Origin Inspection by Food Safety Personnel
FS-02	FISH • fresh • dried	Needs import permit from the Authority Sanitary Certificate Inspection
FS-03	FISH • canned	Needs import permit from the Authority Sanitary Certificate Inspection
FS-04	FISH PRODUCTS & BYPRODUCTS • Processed • otherwise	Needs import permit from the Authority Sanitary Certificate Inspection
FS-05	MARINE PRODUCTS • fresh • processed	Needs import permit from the Authority Sanitary Certificate Inspection
FS-06	FEED Fish Food • live • bags • packaged	Needs import permit from the Authority Sanitary Certificate Certificate of Origin Inspection

## PART V

<b>MISCELLANEOUS</b>		
<b>CATEGORY</b>	<b>COMMODITIES OR PRODUCTS</b>	<b>MEASURE</b>
M-01	GRAVEL • for construction	Certificate of Fumigation Inspection by Quarantine Inspectors
M-02	MACHINERY AND EQUIPMENT • used in construction	Certificate of Fumigation Inspection by Quarantine Inspectors
M-03	VESSELS • ships • aircrafts • containers • vehicles (new & used)	Inspection Fumigation
M-04	CLOTHING	Inspection by Quarantine Inspectors
M-05	ANIMAL BEDDING MATERIAL	Inspection by Quarantine Inspectors
M-06	PACKING MATERIAL	Inspection by Quarantine Inspectors
<b>NOTES TO THE SCHEDULE</b>		
<p><b>(1) The measures listed in the third column shall be applied to the commodities or products listed in the second column.</b></p> <p><b>(2) The absence of any commodity or product on this list does not indicate that Quarantine Inspectors do not reserve the right to inspect such product.</b></p> <p><b>(3) Any commodity or product which could harbour, carry or transmit agents of pests and disease shall be inspected by Quarantine Inspectors at the port of entry.</b></p> <p><b>(4) Commodities or products of quarantine importance are goods which could pose a threat to animal, plant or human health.</b></p>		

**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(FISH AND FISHERIES PRODUCTS INSPECTION)  
REGULATIONS**

173/2001.

**ARRANGEMENT OF REGULATIONS**

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**SCHEDULE I**

**SCHEDULE II**

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**SCHEDULE IV**

**SCHEDULE V**

**SCHEDULE VI**

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**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(FISH AND FISHERY PRODUCTS INSPECTION)  
REGULATIONS**

173/2001.

[22nd December, 2001.]

**PART I  
PRELIMINARY**

- 1. These Regulations may be cited as the Short title.

**BELIZE AGRICULTURAL HEALTH AUTHORITY (FISH AND FISHERY PRODUCTS INSPECTION) REGULATIONS.**

- 2. In these Regulations, unless the context otherwise requires- Interpretation.

“Act” means the Belize Agricultural Health Authority Act. CAP. 211.

“additive” means a food additive specified by the Codex Alimentarius Commission;

“aquaculture products” means all fishery products born and raised in controlled conditions until placed on the market as a foodstuff;

“Authority” means the Belize Agricultural Health Authority established under section 3 of the Act;

“brine” means a solution of common salt (sodium chloride) and fresh water, or seawater with or without the addition of salt;

“can” means any hermetically sealed container;

“canned” fish” means any fish or fishery product that is sealed in a can and is sterilized;

“certificate of registration” means a certificate issued in accordance with regulation 26 (6);

“conveyance” means any vessel, aircraft, motor vehicle, cargo container, trailer or other means of transportation of fish, fishery products or containers of fish or fishery products;

“corrective action” means the procedure that is to be followed whenever a deviation from a critical limit in a Hazard Analysis Critical Control Point Plan occurs or whenever the results of monitoring procedures in respect of a prerequisite program plan, or a food safety program for the importing or exporting of fish or fishery products show that there is non-compliance with these Regulations;

“critical control point” means a point in a process operation at which control is to be applied in order to prevent or eliminate a hazard or reduce it to an acceptable level;

“critical limit” means the maximum or minimum value to which a hazard must be controlled at a critical control point;

“crustaceans” means all species of the class Crustacea;

“decomposed”, with respect to fish or fishery products, means fish or fishery product that have an offensive or

objectionable odour, flavour, colour, texture or substance associated with spoilage;



“drained weight” means the weight of the edible contents of a container of fish or fishery products after the liquid has been drained by a method approved by the Managing Director, in consultation with the Minister;

“fillets” means-

- (a) slices of fish flesh of irregular size and shape that have been removed from the carcass of a fish by cuts made parallel to the backbone; or
- (b) slices of fish flesh described in paragraph (a) that have been cut into sections and from which all internal organs, head, fins, bones, except intramuscular or lateral bones, and all discoloured flesh have been removed,

“finfish” means all species of the class Osteichthyes;

“fish” includes all or any of the varieties of marine or fresh water animals, by whatever description called;

“fish export licence” means a certificate of registration issued under regulation 27 (1) that authorizes the holder to-

- (a) export live or processed species of the class Crustacea;
- (b) export live or processed finfish that have been raised in an aquaculture operation; and
- (c) export live or processed finfish that have been harvested from the wild;

“fish import permit” means a permit issued in accordance with regulation 8 (1);

“fishery products” means all seawater or freshwater animals or parts of such animals, including their roes, excluding aquatic mammals;

“food safety program” as it relates to fish or fishery product, means a fish inspection and control system, that includes procedures, inspections and records, for the purpose of verifying and documenting the processing of fish and the safety and quality of fish processed in, exported from or imported into Belize;

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“HACCP Plan” means a Hazard Analysis Critical Control Point Plan that is prepared in accordance with the principles of hazard analysis critical control point inspection as specified in the Third Schedule of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, to ensure control of hazards during the processing of fish;

“hazard” means a biological, chemical or physical agent or factor that has the potential to cause illness or injury to humans in the absence of its control;

“Inspector” means an official authorized by the Authority to perform the duties of inspection in order to ensure food safety;

“lot” with respect to fish and fishery products, means a shipment or part of a shipment of fish or fishery product that is of the same species, is processed in the same manner by the same producer, is packaged in the same size of container and bears the same label;

“Managing Director” means the Managing Director appointed pursuant to section 8 (1) of the Act;

“Minister” means the Minister responsible for Agriculture;

“net weight”, with respect to unfrozen or frozen lobster meat, means the weight of the edible contents of a container after the liquid has been drained from the container by a method approved by the Managing Director, in consultation with the Minister, and, with respect to any other fish or fishery products, means the total weight of the edible contents of a container;

“prerequisite program plan” means a series of steps, measures or procedures that are to be applied to ensure compliance with the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, including- S.I. 25 of 2001.

- (a) establishment, construction and equipment;
- (b) establishment operation and sanitation;
- (c) the cleaning, sanitizing, lubricating and maintenance of establishment equipment and facilities, and insect and animal pest control;
- (d) fish and fishery products packaging, labelling or ingredient storage rooms or areas in the establishment; and
- (e) the system for tracing fish to its first destination;

“processing area” means an area of a registered establishment that is used for the processing or storage of fish or fishery products and any other area designated as a processing area in a food safety program;

“producer” means the last person who processed fish prior to its importation into, or exportation out of, Belize;

“product description” means a form on which are recorded the characteristics

of a particular fish product, including-

- (a) the product name,
- (b) the source of the raw material used in producing the product,
- (c) those characteristics that affect safety and may influence the growth of disease-causing pathogens,
- (d) the ingredients that are added to the product,
- (e) the packaging of the product,
- (f) if applicable, directions to the consumer as to the preparation required for consumption or whether the product is ready-to-eat,
- (g) the product's shelf life,
- (h) where the product is intended to be sold, and
- (i) labeling instructions as may be applicable for safe product distribution and storage,

“ready-to-eat fish” means any fish, other than canned fish and live shellfish that does not require preparation except thawing or reheating before consumption;

“registered establishment” means a freezer-factory vessel, barge, onshore

plant, building or premise where fish or fishery product are processed or stored for export or local sale and that is registered pursuant to regulation 26 (6);

“registration certificate” means a certificate issued by the Authority to a facility that certifies that the establishment meets the conditions of registration;

“sanitation program” means a written program developed in respect of a registered establishment or in respect of the establishment, conveyance or equipment of a holder of a fish export licence, to ensure that the employees of the establishment or the users of the conveyance or equipment, as the case may be, use proper sanitation and hygiene practices, and that the establishment, grounds or conveyance under the control of the operator or the equipment and conveyances of the holder are maintained in a clean and sanitary condition and free from serious contamination and insect and animal pests;

“serious contamination” means any condition or deficiency that results, or is likely to result, in an unacceptable risk to the consumer or in tainted, decomposed or unwholesome fish or fishery products;

“shellfish” means all species of bivalve molluscs of the class Bivalvia and all marine, carnivorous species of the class Gastropoda, either shucked or in the shell, in whole or in part, excluding the adductor muscles of scallops and the meat of geoducks;

“shrimp cocktail” means shrimp meat packed with sauce, spices, seasonings or flavourings or any combination thereof;

“support area” means an area of a registered establishment that is not a processing area and any other area designated as a support area in a food safety program, or an area that is used for-

- (a) the storage of materials and ingredients used in fish processing;

- (b) the maintenance of records for a food safety program;
- (c) employee sanitation, personal hygiene or a change room;

“tainted”, with respect to fish or fishery product, means fish or fishery product that is rancid or has an abnormal odour or flavour;

“unwholesome”, with respect to fish or fishery product means fish or fishery product that has in or upon it bacteria of public health significance or substances toxic or aesthetically offensive to man.

Application.

3. (1) Subject to subregulation (2), these Regulations apply only in respect of fish, fishery products and containers intended for domestic consumption, export or import.

(2) Subject to regulation 6 (7), these Regulations do not apply to fish or fishery products that is imported or exported for personal consumption or use.

## PART II IMPORT AND EXPORT

Inspection.

4. All fish and fishery products are subject to inspection and an Inspector may take samples of fish or fishery products free of charge for the purpose of inspection or laboratory analysis.

Cooperation  
with Inspector.

5. The owner of fish, fishery products or a person acting on his behalf shall make readily accessible to an Inspector, any fish, fishery product, documents or containers for which inspection or re-inspection is required under these Regulations.

6. (1) No person shall import, export or process for export or domestic consumption or attempt to import, export or process for export or domestic consumption - Prohibitions.

- (a) any fish or fishery product that is tainted, decomposed or unwholesome or otherwise fails to meet the requirements of these Regulations; or
- (b) live oysters, clams, mussels or other molluscs or raw products derived from live oysters, clams, mussels or other molluscs or raw products, whether frozen or unfrozen, unless the Managing Director, in consultation with the Minister, is satisfied on the basis of information submitted to the Authority that the waters from which such shellfish are taken and the premises in which they are handled and processed are of such a nature as will ensure that the shellfish are wholesome.

(2) No person shall import into Belize or attempt to import into Belize any fish unless-

- (a) the identity of the establishment at which the fish or fishery product is packed and the day, month and year of packing are legibly marked on one end of the carton or case in which the containers of fish or fishery products are shipped;
- (b) in the case of high-risk products, a list indicating the establishment and the number

of containers for each production code is provided to an Inspector on request;

- (c) each container has a label on which the name of the country of origin is clearly identified; and
- (d) that person is the holder of a valid import permit; and
- (e) written notification of each shipment of fish or fishery product to be imported or that is imported is provided to an Inspector either prior to the importation or within 48 hours following the importation.

(3) The notification referred to in subregulation (2)(e) shall set out, in respect of each shipment of fish or fishery product imported or to be imported into Belize and each type of fish or fishery product contained in that shipment-

- (a) the quantity;
- (b) the producer;
- (c) the country of origin;
- (d) the place where the fish or fishery product shall be held or stored on its entry into Belize; and
- (e) the name, address and telephone number of the importer importing the fish or fishery



product into Belize as declared to Belize Customs, the import permit number of the importer and if applicable, of the agent providing the notification.

(4) Subject to subregulation (5), no person shall move or attempt to move fish or fishery product that has been imported into Belize from the place indicated in the notification referred to in subregulation (2)(e) unless -

- (a) unless an Inspector determines the fish or fishery product meets the requirements of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, and these Regulations; or
- (b) the person is notified by an Inspector that the fish or fishery product does not need to be inspected.

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(5) A person may, with the permission of an Inspector, move fish or fishery product that has been imported into Belize from the place indicated in the notification referred to in sub-regulation (2)(e) to a place specified by the Inspector.

(6) No person shall import into Belize or attempt to import into Belize any canned fish unless the cans are embossed or otherwise permanently marked in a code that identifies the name of the establishment and day, month and year of processing.

(7) No person shall import, process or export from Belize any of the following species-

- (a) poisonous fish of the following families-

- (i) Tetraodontidae;
- (ii) Molidae;
- (iii) Diodontidae;
- (iv) Canthigasteridae; and

- (b) fishery products containing biotoxins such as ciguatera toxins or muscle-paralysing toxins.

Self-investigation. 7. (1) A person who has imported, exported or processed fish or fishery product for export or domestic consumption and who receives information that questions the safety of fish or fishery product shall investigate the information.

(2) If the results of the investigation indicate that the fish or fishery product constitutes a hazard to the public, the person shall notify the Authority within 24 hours.

(3) The Authority shall then cross-check such information and where it confirms such information shall apply the appropriate regulatory action with the aim of preventing the placing on the market of fish or fishery products considered as being a hazard to human health.

Fish Import Permit.

8. (1) The Managing Director, in consultation with the Minister, shall issue a fish import permit on receiving an application and the applicant paying a fee of \$10.00, or \$500.00 if a risk analysis and the elaboration of the specific conditions under which the importation is allowed is needed, unless the Managing Director, in consultation with the Minister, has reasonable grounds to believe that the applicant will not comply with the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these Regulations.

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(2) An import permit is not assignable and unless otherwise noted, expires 90 days after the date of issue indicated on the permit.

(3) An importer of fish or fishery product shall maintain, at an address in Belize and for not less than three years, a record in English of-

- (a) the name and address of the person to whom each shipment of fish or fishery product was shipped from the importer and the date on which the fish or fishery product was shipped;
- (b) the date and time of all information received that questions the safety of fish or fishery product imported by the holder of the permit;
- (c) if the information is validated on investigation-
  - (i) a description of the information;
  - (ii) the date and time it was received;
  - (iii) the name, address and telephone number of the informant;
  - (iv) the method of investigation and the results obtained;
  - (v) the corrective actions taken; and
  - (vi) the date and time the Authority was notified in accordance with regulation 7 (2);

- (d) with respect to canned fish or fishery product-
- (i) the name, address and telephone number of the process authority that developed the thermal process used;
  - (ii) the container type, size and specifications, style of pack, species packed and if the thermal process utilized has not been published or described in scientific literature recognized by the Authority, the sterilizing value (F0) of the thermal process;
  - (iii) a statement in writing signed by the representative of the process authority that attests that the thermal process results in the production of commercially sterile and safe fish products;
- (e) with respect to ready-to-eat fish or fishery product-
- (i) for a period of one year after the day of the coming into force of these Regulations, evidence of adequate processing; and
  - (ii) after the end of the period referred to in subparagraph(i)-

- (A) the name, address and telephone number of the person who developed the process used;
- (B) the container type and size, style of pack, the species packed, the type of process, the description of the process;
- (C) a statement in writing signed by the person who developed the process or that person's re-presentative that attests that the process results in the production of safe fish products; and
- (D) if the importer has instituted a food safety program recognized by the Authority-
  - (I) the name, business address, business telephone number and title of the person responsible for the food safety program for that importer;
  - (II) the location of all files and records for the

food safety program;

(III) a description of the standards, monitoring and inspection procedures, analyses and tests that are used in product evaluations, and the evidence acceptable to an Inspector that they meet or are equivalent to those in place in the Authority;

(IV) the frequency of monitoring importations of fish or fishery product and evidence that they meet or are equivalent to those in place in the Authority;

(V) samples of the forms that are used during evaluations

and of the forms that are used to record corrective actions;

- (VI) a description of the corrective action plans developed;
- (VII) for each importation of fish or fishery product –
  - (a) a description of the fish or fishery product by species, form of processing, producer, size and type of container and the label;
  - (b) all the evaluations conducted and whether or not the product was acceptable; and
  - (c) any corrective actions taken in respect of product rejections;
- (VIII) in respect of ingredients and additives-

- (a) all the ingredients and additives that are added to the fish or fishery product; and
- (b) the results of any tests done by or for the importer that verify that the ingredient or additive complies with those requirements;
- (IX) in respect of packaging materials-
  - (a) all the packaging materials used; and
  - (b) documentation that clearly establishes that the packaging materials meet all applicable requirements of any law or standard of Belize;
- (X) in respect of labels used on packaged fish, all the labels from products that



are imported, the means by which the importer reviews labels to ensure their compliance, and documentation that clearly establishes that the labels meet all applicable requirements of Belize national standard for labelling;

(XI) in respect of fish or fishery product shipped by an importer, a description of the system used to trace fish or fishery product to its first destination; and

(XII) in respect of any person responsible for any aspect of the food safety program for the importer, evidence of their training or qualifications in fish or food processing or quality control.

(4) Subregulation (3) (d) and (e) do not apply to fish imported from a country with which Belize has entered into an agreement regarding the import and export of fish or fishery product if the agreement contains provisions by which Belize-

- (a) recognizes that the fish or fishery product inspection and control systems in place in that country are equivalent to those required by these Regulations in respect of canned and ready to eat fish or fishery product; and
- (b) has access to all information and records that are equivalent to those required by subregulation (3) (d) and (e) and that are held by the fish or fishery product inspection authority in that country.

Suspension  
etc., of import  
permit, etc..

9. (1) The Managing Director, in consultation with the Minister, may suspend, revoke or refuse to issue an import permit or export licence where the Managing Director, in consultation with the Minister, believes on reasonable grounds that the holder of, or the applicant for the permit -

- (a) has provided false information to the Managing Director for the purpose of obtaining an import permit or export licence;
- (b) has failed to provide a written notification required pursuant to regulation 6 (2) (e);
- (c) has provided false information to an Inspector in a written notification required

pursuant to regulation 6 (2) (e);

(d) has failed to maintain a record in accordance with regulation 8 (3);

(e) has outstanding fees payable under these Regulations;

(f) has failed to comply with the requirements of regulation 7;

(g) is not operating a food safety system in accordance with the applicable requirements of the Belize Agricultural Health Authority (Food Safety) Regulations 2001; or

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(h) has otherwise failed to meet the applicable requirements of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these Regulations.

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(2) Where the Managing Director has suspended or revoked an import permit or export licence pursuant to subregulation (1), the importer or exporter may, within 60 days after that suspension or revocation, request in writing the Managing Director to determine whether the permit or export licence should be reinstated.

(3) The fee payable for each inspection that is carried out in the course of a determination pursuant to subregulation (2) is \$400.

(4) The determination referred to in sub-regulation (2) is final.

Inspection  
service fee.

10. (1) Subject to subregulation (2), a licensed importer who imports fish or fishery product into Belize shall pay in respect of the type of product set out in Column I of an item of the table to this regulation, an inspection service fee, per kilogram of declared weight of fish or fishery product imported, in the amount applicable to the level of permit held by the importer that is set out in Column II, of that item.

(2) The fee payable for an inspection service is \$50 for each shipment of fish-

(a) if the fish being imported is intended for further processing that will result in a substantial transformation of the fish; and

(b) the fish is being delivered to a registered establishment.

TABLE I

FEE PER KILOGRAM (BASED ON WEIGHT  
DECLARED TO BELIZE CUSTOMS)

Column I		Column II
Item	Type of Product	Fish Import Fee
1.	Ready-to-eat	0.15
2.	Canned	0.05
3.	Fresh	0.10
4.	Raw molluscan shellfish	0.10
5.	Other	0.10

11. (1) Subject to subregulations (2) to (4), any fish or fishery product imported by the holder of a fish import permit into Belize may be subjected on a random basis to an inspection, by an Inspector, of a type set out in Column I of an item of the table to this regulation.

Random inspection.

(2) Where a type of fish or fishery product produced by a producer fails to pass a type of inspection set out in the table to this regulation,

(a) the type of fish or fishery product, the name of the producer and the type of inspection shall be-

(i) recorded by the Inspector on a mandatory import alert list maintained by the Authority; or

(ii) reported within 5 days by the importer to an Inspector for the purpose of inclusion on a mandatory import alert list; and

(b) shipments or lots of that type of fish or fishery product that are produced by that producer and subsequently imported into Belize shall undergo the same type of inspection until four consecutive shipments or lots have passed that type of inspection.

(3) Where a type of fish or fishery product that is produced by a producer fails to pass a label evaluation inspection, lots of that type of fish or fishery product that are produced by that producer and subsequently imported or exported from Belize shall undergo a label evaluation inspection until one lot passes the inspection.

(4) Where a type of fish or fishery product that is produced by a producer is imported into Belize, and that type of fish produced by that producer has not been imported into Belize within the previous two years, that importation shall undergo every type of inspection applicable to that type of fish.

(5) A person who requests that the Authority carry out a type of inspection or testing set out in Column I of an item of the table to this regulation shall pay the applicable fee set out in Column III of that item.

TABLE II

Column I Item	Column II Type of Inspection*	Column III Fee (\$)
1.	Sensory evaluation	25.00
2.	Net content determination	10.00
3.	Label evaluation	10.00
	(1) Inner container	
	(2) Outer container	
	(3) Can coding	
4.	Container integrity evaluation**	
	(1) Cans	
	(2) Other container	
5.	Histamine	120.00
6.	E. coli	60.00
7.	Faecal coliforms	60.00

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Column I Item	Column II Type of Inspection*	Column III Fee (\$)
8.	Listeria monocytogenes	120.00
9.	Salmonella species	80.00
10.	Standard plate count	45.00
11.	Staph. Aureus	80.00
12.	Vibrio species	120.00
13.	Electrophoresis species identification**	
14.	Food additives**	
15.	Sodium and potassium**	
16.	Heavy metals, other than mercury**	
17.	Mercury**	
18.	Moisture content**	
19.	Pesticides and PCBs**	
20.	Salt content**	
21.	Marine toxins**	
22.	Drug residues**	

23.	Ph	10.00
24.	Water activity**	
25.	Sterility	45.00
26.	Quality indices	25.00

\*Sample size to be determined in accordance with Sampling Plan I in Sampling Plans for Prepackaged Foods (1969) issued by the Secretariat of the Joint FAO/WHO Food Standards Program, FAO, Rome.

\*\*Prices to be determined by the respective official laboratory designated by the Authority.

Recognition of laboratory.

12. No person who is the holder of a HACCP certificate for an establishment shall use a laboratory for the purpose of implementing and complying with their HACCP program unless it has been recognized by the Managing Director as being competent to conduct those services or has been accredited by the Belize Bureau of Standards.

Packing of fish, etc..

13. Unless otherwise permitted by the Managing Director, fish or fishery products shall be packed in new, clean, sound containers.

Attaching numbered tags.

14. (1) For the purpose of preserving the identity of any fish or fishery products, an Inspector may detain the fish or fishery products by attaching to any of the fish or fishery products or any container thereof a numbered tag upon which shall be clearly written -

(a) the word "held";

(b) an identification number;



- (c) a brief description of the lot detained;
- (d) the date; and
- (e) the signature of the Inspector.

(2) Where any fish or fishery products are detained pursuant to subregulation (1), the Inspector shall deliver or mail to the owner or his agent a duly completed notice of detention.

(3) Where any fish is detained pursuant to subregulation (1) on premises owned by a person who is not the owner of the fish or fishery products, a copy of the notice of detention shall be delivered or mailed to that person.

(4) No person shall alter, deface or remove a tag attached to any fish or fishery products or container thereof pursuant to subregulation (1) or move, export, sell or dispose of any such fish or fishery products or container thereof unless he has obtained a release from an Inspector.

(5) Notwithstanding subregulation (4), where it is necessary for any fish or fishery products or container thereof referred to in that subregulation to be moved from one warehouse to another, or the owner of the fish or fishery products or container or his agent has made a reasonable request for the fish or fishery products or container to be moved under detention, an Inspector may permit such fish or fishery products or container thereof to be moved accordingly.

(6) Where an Inspector is satisfied that any fish or fishery products detained pursuant to subregulation (1) meets the requirements of these Regulations, he shall prepare a notice of release and deliver or mail one copy thereof to the owner of the fish or his agent and one copy to the person, if any, on whose premises the fish or fishery products were found.

Requests for inspection certificate.

15. (1) Where a person requests an inspection certificate for fish or fishery products, a duly authorized Inspector of the Authority shall-

- (a) where the person operates the establishment in which the fish or fishery products was processed, inspect the processing record of the establishment to determine whether an inspection of the fish or fishery products is required and, if it is required, inspect the fish or fishery products, and
- (b) in any other case, inspect the fish or fishery products.

(2) An Inspector shall issue an inspection certificate for fish or fishery products where-

- (a) the Inspector determines that an inspection of the fish or fishery products is not required;
- (b) the Inspector determines, following an inspection of the fish or fishery products, that the fish or fishery products meet the requirements of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, and these Regulations; or
- (c) each consignment of fish or fishery products destined for export must meet the Belize Agricultural Health Authority (Food Safety)

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Regulations, 2001, and these Regulations. Such fish or fishery products must come from approved establishments, factory vessels or cold stores of the Authority's registered freezer vessels and be accompanied by a numbered original health certificate, duly completed, signed, dated and comprising a single sheet in accordance with the model in the Fourth Schedule (Regulation 10) of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or in the case of consignments destined for the European Union, the model specified in Schedule VI.

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Schedule VI.

(3) A person who requests an inspection certificate for fish or fishery products shall pay an inspection service fee of-

- (a) \$100, where an inspection of the fish is performed; and
- (b) \$25, where an inspection of the fish is not performed.

16. (1) Where a person interested in a decision of an Inspector in respect of any inspection, grading, marking or other matter under these Regulations is not satisfied with that decision, the person may, within 30 days after such decision, by notice in writing, appeal the decision to the Managing Director, who may, subject to regulation 18, order a re-inspection.

Appeal to Managing Director.

(2) Where a re-inspection is made pursuant to subregulation (1) and the Managing Director makes a decision as a result thereof, that decision shall be final.

- Fee for appeal. 17. A person who appeals a decision under regulation 16 (1) shall pay the applicable fee for any type of re-inspection that is ordered under that subregulation.
- Bars to re-inspection. 18. A re-inspection shall not be ordered pursuant to regulation 16 (1) where-
- (a) the identity of the fish or fishery products or containers of fish or fishery products in dispute has not been preserved;
  - (b) the request for re-inspection was not made within 30 days after the disputed inspection;
  - (c) the fish or fishery products or containers of fish or fishery products have in or upon them any poisonous or harmful substance; or
  - (d) the fish or fishery products or containers of fish or fishery products have been previously re-inspected.
- Re-inspection at Inspector's instance. 19. Where an Inspector has reasonable grounds to believe that fish or fishery products has deteriorated after the date on which it was inspected or that it otherwise fails to meet the requirements of these Regulations, he may again inspect such fish or fishery products.
- Removal of inspection marks, etc.. 20. (1) Where an inspection is made under regulation 19 and the fish or fishery products is found not to be of the grade marked on the container, any inspection marks and quality designations on the container shall be removed or obliterated and any inspection certificate that may have been issued for the fish or fishery products is void.

(2) No person shall use an inspection certificate if he knows that the certificate is void.

21. (1) No person shall export fish or fishery products, process fish or fishery products for export or store fish or fishery products for export unless the processing or storing of that fish or fishery products is carried out in a registered establishment.

Processing, etc., of fish, etc., for export.

(2) Subregulation (1) does not apply in respect of-

- (a) fish or fishery products imported into Belize by a holder of an import permit and that are intended for direct sale to consumers without further processing; or
- (b) final products produced in a registered establishment that, before being marketed, exported or made available to consumers, are temporarily stored in a cold-storage warehouse or other location that is not a registered establishment.

(3) For the purpose of subregulation (1), “processing” does not include any of the following:

- (a) the washing, icing or boxing of live, whole or dressed unfrozen fish other than-
  - (i) shellfish and echinoderms;
  - (ii) fish raised in an aquaculture operation; or

- (iii) crustaceans, excluding live lobster or live crab;
- (b) the freezing on board a vessel of whole or dressed fish that are destined for further processing in a registered establishment, other than shellfish, echinoderms or crustaceans excluding shrimp;
- (c) the shucking of scallops to remove adductor muscles with or without roe attached, if carried out on board a vessel;
- (d) the processing of whole or dressed unfrozen fish, or the salting or pickling of whole, split or dressed unfrozen fish by fisher packers other than shellfish, echinoderms or crustaceans;
- (e) actions taken by fishers or processors at the time or point of catching, unloading, handling, holding or transporting fish to preserve its quality and safety before delivery to a registered establishment for the purpose of processing, storage or inspection before export, if such actions are done in accordance with these Regulations.

(4) If the Managing Director, in writing, informs a fisher-packer who carries out an activity described in subregulation (3) (d) that there is serious contamination on board the vessel or onshore in the establishment where that activity is conducted:

- (a) no person shall process any fish on board that vessel or onshore in that establishment; and
  - (b) no person shall export or attempt to export any fish that has been processed in that vessel or establishment.
22. No person shall operate a registered establishment unless it meets the requirements of these Regulations. Registered establishments to comply with Regulations.
23. No person shall, unless they have job experience or qualifications that meets the applicable requirements set out by the appropriate competent body- Persons to be qualified.
- (a) perform or supervise a product preservation process; or
  - (b) supervise the development or implementation of a HACCP Program.
24. No person shall use a vessel for fishing or for transporting fish or fishery products unless the vessel meets the applicable requirements of Schedule III. Vessels must comply with requirements. Schedule III.
25. No person shall export live finfish raised in an aquaculture operation unless all preparation of the finfish is carried out in a registered establishment or by the holder of a fish export licence. Requirements for export of live finfish.
26. (1) An application for a certificate of registration for an establishment shall be made to the Managing Director, be accompanied by the applicable fees referred to in subregulations (3) and (4) and, subject to subregulation (2), shall contain- Application for certificate of registration.

- (a) the full business name, business address and business telephone number of the applicant and, if applicable, the full names of partners or Officers of the company;
- (b) a description of the types of process operations intended to be conducted;
- (c) the types of fish intended to be produced, stored or exported;
- (d) a product description of each type of fishery product intended to be produced, stored or exported;
- (e) a process flow diagram that identifies each step in the process operation for each type of fishery product; and
- (f) a detailed diagram of the establishment.

(2) The Managing Director may not require an applicant to provide the information referred to in subregulation (1)(c) to (f), if it has been previously submitted to the Authority and there has been no change to the information.

(3) The fee that is payable for the registration of an establishment with processing areas of a total size set out in column 1 of an item of Table III to this regulation is the amount set out in Column 2 of that item.

(4) In addition to the fee referred to in subregulation (3), the fee that is payable for the registration of an establishment with processing areas of a total size greater than 300 m<sup>2</sup> is the amount set out in Column 2 of an item



of Table III to this regulation for each process operation set out in Column I of that item that is intended to be conducted.

(5) Fees and charges referred to in subregulations (3) and (4) shall be paid in accordance with the process outlined in Part 3 of Schedule V.

(6) The Managing Director shall, in consultation with the Minister, issue a certificate of registration to an establishment if-

(a) the establishment and its processing and support areas meet the requirements set out in Schedules I and II;

Schedule I.  
Schedule II.

(b) the establishment is free from serious contamination;

(c) the applicant has a food safety program that consists of prerequisite Good Manufacturing Practices (GMPs), Sanitation Standard Operation Procedures Program (SSOP) and a HACCP Program that meets the requirements of subregulation (8) in respect of the processing, storing or exporting of fish or fishery products; and

(d) the Managing Director has no reasonable grounds to believe that the applicant will not comply with the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these Regulations.

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(7) Notwithstanding subregulation (6), the Managing Director shall, in consultation with the Minister, issue a certificate of registration to an

establishment that is a food processing facility if all of the following conditions are met:

- (a) it is registered in accordance with any Act in Belize;
- (b) the establishment has a food inspection and control program that is equivalent to a HACCP Program;
- (c) the requirements set out in subregulation (1) and subregulation (6)(a), (b) and (d) are met.

(8) A food safety program referred to in subregulation (6) (c) for use in an establishment shall-

- (a) comprise-
  - (i) a prerequisite program plan (GMPs, SSOPs);
  - (ii) a hazard analysis that identifies each hazard that is likely to occur for each type of fish or fishery product intended to be produced in each process operation;
  - (iii) if the hazard analysis has identified hazards, a HACCP Plan in which all critical control points, critical limits, monitoring procedures used at critical control points, frequencies of

monitoring procedures and corrective actions are specified; and

(iv) a sanitation program that includes requirements regarding the protective clothing to be worn by employees for the tasks they perform;

(b) meet the applicable requirements set out by the Fisheries Department.

(9) An operator of a registered establishment shall-

(a) comply with all the applicable provisions of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, and these Regulations;

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(b) implement and comply with the food safety program;

(c) adhere to all the conditions of the certificate of registration;

(d) ensure that the establishment's food safety program meets the applicable requirements;

(e) on request of an Inspector, make available in a readily accessible location a copy of the food safety program and all records of, and amendments to, the food safety program; and

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- (f) conduct a review of the food safety program each time it is found to be not in compliance with sub-regulation (8) and, in any case, at least once per year or as outlined in the First Schedule (Regulations 2 and 4) of the Belize Agricultural Health Authority (Food Safety) Regulations 2001.

(10) An operator of a registered establishment shall maintain, at an address in Belize and for not less than three years, a record in English comprising-

- (a) the name, business address, business telephone number and title of the person responsible for the food safety program at the establishment;
- (b) the location of all files and records in respect of the food safety program;
- (c) in respect of each critical control point specified in the HACCP Plan-
- (i) a description of the critical limits, monitoring procedures and verification procedures that are used;
- (ii) the frequency of the monitoring and verification procedures, samples of the forms that are used during inspections and of the forms that are used to record corrective actions;

- (iii) the corrective actions;
  - (v) the results of every inspection conducted in accordance with monitoring and verification procedures and any corrective actions taken;
  - (vi) the product preservation processes to be used and, for each process the expected results as specified in the food safety program; and
  - (vii) the results obtained by each product preservation process;
- (d) in respect of shellfish-
- (i) the common name of the shellfish;
  - (ii) the quantity by weight of the shellfish delivered to the establishment;
  - (iii) the location where the shellfish was harvested;
  - (iv) the date on which the shellfish was harvested;
  - (v) the name, address and telephone number of the person who harvested the shellfish;

- (vi) the method of transport and the date on which the shellfish was delivered to the establishment, including details of the method and conditions of storage before and after delivery;
  - (vii) the manner in which, and the date on which, the shellfish was processed in the establishment; and
  - (viii) the date on which the shellfish was shipped from the establishment and the name and address of the person to whom it was shipped;
- (e) in respect of every prerequisite program plan-
- (i) a description of the plans and monitoring procedures that are used;
  - (ii) the frequency of the monitoring procedures; and
  - (iii) the corrective actions taken;
- (f) a description of the system used to trace fish to their first shipping destination;
- (g) in respect of each shipment of fish or fishery product-
- (i) the name and address of the person

to whom each shipment was sent:

- (ii) the type of fish or fishery products:
- (iii) the quantity of fish or fishery products-
- (iv) the method of transportation, including manifest and container numbers or other information that is sufficient to identify or trace the location of the fish or fishery products;
- (v) the date on which the fish or fishery products was shipped. and
- (vi) the date on which the fish or fishery products was processed;
  
- (h) the date and time when the operator of the registered establishment received information questioning the safety of fish or fishery products processed or exported by the operator,
  
- (i) if the information referred to in paragraph (h) is validated on investigation, a description of the information, the date and time when it was received, the date and time the information was validated, the name, address and telephone number of the informant, the method of investigation and the results obtained, the corrective actions taken, and

the date and time when the Authority was notified under regulation 7 (2);

- (j) in respect of every person responsible for supervising the development or implementation of the food safety program or performing or supervising a product preservation process, documentary evidence of their training, qualifications or job experience in fish or food processing or quality control; and
- (k) a list of all amendments made to the food safety program.

### TABLE III

#### FEES FOR REGISTRATION OF ESTABLISHMENTS

Column I	Column 2	
Item	Total Size of Processing Areas in Establishment	Fee (\$)
1.	300 m <sup>2</sup> or less	750.00
2.	More than 300 m <sup>2</sup>	1,000.00
Conditions for issue of licence to non-operator.	27. (1)	The Managing Director, at a fee of \$500, shall, in consultation with the Minister, issue a fish or fishery products export license to any person who is not an operator of a registered establishment if-



- (a) an application is received that contains -
  - (i) the full business name, business address and business telephone number of the applicant and, if applicable, the full names of the partners or officers of the company;
  - (ii) a description of the operations that the applicant intends to conduct;
  - (iii) a product description for each product intended to be exported; and
  - (iv) if applicable, a detailed diagram of the establishment;
- (b) the applicant demonstrates that they are able to meet the applicable requirements set out by the Fisheries Department; and
- (c) the Managing Director has no reasonable grounds to believe that the applicant will not comply with the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these Regulations.

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(2) The Managing Director may not require an applicant to provide the information referred to in subregulation (1)(a) if it has been previously submitted to the Authority and there has been no change to the information.

(3) A holder of a fish or fishery products export licence shall-

- (a) meet the applicable requirements set out by the Fisheries Department;
- (b) adhere to any conditions attached to the license, and
- (c) make available to an Inspector in a readily available location the records set out in subregulation (4).

(4) A holder of a fish export license shall maintain, at an address in Belize and for not less than three years, a record in English of-

- (a) the name, business address, business telephone number and title of the person responsible for ensuring that all operations and fish or fishery products exported meet the applicable requirements of these Regulations;
- (b) a description of the system used to trace fish or fishery products to their first shipping destination;
- (c) in respect of each shipment of fish or fishery products-
  - (i) the name and address of the person to whom each shipment was sent;
  - (ii) the type of fish or fishery products;
  - (iii) the quantity of fish or fishery

products;

- (iv) the method of transportation including, manifest and container numbers or other information that is sufficient to identify or trace the location of the fish or fishery products;
  - (v) the date on which the fish was shipped; and
  - (vi) the date on which the fish or fishery products were removed from the aquaculture site;
- (d) the date and time when the holder of the fish or fishery products export licence received information that questions the safety of fish or fishery products stored or exported by the holder;
- (e) if the information referred to in paragraph (d) is validated on investigation, a description of the information, the date and time when it was received, the time and date the information is validated, the name, address and telephone number of the informant, the method of investigation and the results obtained, the corrective actions taken and the time and date on which the Authority was notified under regulation 7(2), and if applicable, in respect of every person responsible for supervising the development

or implementation of the food safety program or performing or supervising a product preservation process, documentary evidence of their training or qualifications in fish, fishery products or food processing or quality control.

Term of licence,  
etc..

28. A certificate of registration or a fish or fishery products export licence is not assignable and expires one year after the date of issuance indicated on it.

Amendment of  
Certificate, etc..

29. (1) The Managing Director may, on application by an operator of a registered establishment or the holder of a fish or fishery products export licence, amend a certificate of registration or a fish or fishery products export licence if every applicable requirement of these Regulations is met, including the payment of the applicable fees.

(2) The expiry date of an amended certificate of registration or fish or fishery products export licence is the date indicated on the original certificate or licence.

Inactivated  
certificate, etc..

30. (1) The Managing Director may, on application by an operator of a registered establishment, inactivate the certificate of registration, if all applicable fees have been paid in respect of it.

(2) The operator of a registered establishment in respect of which a certificate of registration has been inactivated shall not process any fish or fishery products for export.

(3) The Managing Director may, on application by the operator of a registered establishment, reactivate the certificate of registration if an Inspector has determined that the establishment meets the conditions of the certificate, the applicable requirements of the Belize Agricultural Health

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Authority (Food Safety) Regulations, 2001, and these Regulations.

31. A certificate of registration or a fish or fishery products export licence is void on the day that any of the following occur:

Invalidity of certificate, etc..

- (a) effective control or effective direction of the registered establishment or of the business of the holder of the fish or fishery products export licence is transferred to the control or direction of any other person, body corporate, partnership, cooperative, association, trustee, executor or legal representative;
- (b) the registered establishment or the establishment, equipment or conveyance of the holder of a fish or fishery products export licence is destroyed or damaged to an extent that the processing or the conduct of operations without a risk of serious contamination is determined by an Inspector not to be possible;
- (c) the operator of the registered establishment or the holder of a fish or fishery products export licence is subject to a receivership or makes an assignment in bankruptcy, or
- (d) the operator of the registered establishment or the holder of a fish or fishery products export licence ceases to operate the registered establishment of its business or surrenders the certificate of registration or

fish or fishery products export licence.

Temporary  
certificate.

32. (1) The Managing Director may, on application, issue a temporary certificate of registration in respect of an establishment the operator of which is subject to a receivership or has made an assignment in bankruptcy if all of the following conditions are met:

- (a) the applicant for the certificate is the authorized receiver or trustee in bankruptcy of the operator of the establishment;
- (b) the application contains the information required by regulation 26(1); and
- (c) the establishment meets the requirements of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, and these Regulations.

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(2) A temporary certificate of registration expires on the earlier of-

- (a) 240 days from its date of issue; or
- (b) the day stated on the temporary certificate or on any amendments made thereto.

Revocation of  
certificate.

33. The Managing Director may, in consultation with the Minister, revoke a certificate of registration or a fish or fishery products export licence if an Inspector, using all reasonable means, cannot contact the operator of the registered establishment or the holder of the licence for a period of 90 days.

Suspension, etc.,  
of certificate, etc..

34. (1) The Managing Director may, in consultation of with the

Minister, suspend, revoke or refuse to issue a certificate of registration or a fish or fishery products export licence if-

- (a) the Managing Director has reasonable grounds to believe that the operator of a registered establishment, the holder of the licence or the applicant has provided false information to the Managing Director for the purpose of obtaining a certificate or licence;
- (b) the registered establishment or the establishment, equipment or conveyances of the holder of the licence are not free from serious contamination;
- (c) the establishment is not operated in accordance with the food safety program;
- (d) the operator of the registered establishment or the holder of the licence has failed to comply with the requirements of regulation 7;
- (e) the operator of the registered establishment, the holder of the licence or the applicant otherwise fails to comply with these Regulations or a condition of the certificate or licence.

(2) If a certificate of registration has been suspended or revoked, the operator of the registered establishment may, within 30 days after the suspension or revocation, request in writing that the Managing Director determines whether the certificate should be reinstated.

(3) The fee payable for each inspection that is carried out for the purpose of determining whether a certificate of registration may be reinstated is \$1,000.

(4) A determination referred to in subregulation (2) is final.

Other  
inspection.  
Schedule I.

35. Any person who requests an inspection, other than an inspection referred to in regulation 34 (3), to determine whether his or her establishment meets the applicable requirements of Schedule I or a food safety program, shall pay a fee of \$400.

Issuing of special  
permit.

36. (1) Notwithstanding these Regulations and subject to subregulation (2), the Managing Director may, in consultation with the Minister, on receiving an application, issue a permit to allow, during the period stated in the permit -

(a) the production or marketing of experimental or test products;

(b) the reworking, reconditioning, processing, culling or salvaging of fish or fishery products at a registered establishment to enable the fish or fishery products to meet the applicable requirements of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these Regulations;

S.I. 25 of 2001.

(c) the construction or utilization of areas that do not comply with the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these Regulations;

S.I. 25 of 2001.

(d) equipment that is used in a vessel or an



- establishment constructed before the coming into force of these Regulations that does not comply with the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these Regulations to continue to be used or to operate; S.I. 25 of 2001.
- (e) the marketing, possession, use or disposal of tainted, decomposed or unwholesome fish or fishery products not intended for human consumption;
  - (f) the re-use of containers or the use of labels that do not meet the applicable requirements of these Regulations;
  - (g) the labelling of products to accommodate particular cultural communities in Belize or export markets;
  - (h) the importing, exporting or marketing of fish or fishery products for charitable purposes, international events or national festivities, if the lot size is less than 1000 kg;
  - (i) the production and supply of food in a national emergency or for international aid; or
  - (j) the exporting to another country of fish or fishery products or containers that do not meet the applicable requirements of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these S.I. 25 of 2001.

## Regulations.

(2) The Managing Director may, in consultation with the Minister, on reasonable grounds refuse to issue a permit if, in the Managing Director's opinion, the issuance of the permit-

- (a) would result in a risk to public health or safety or otherwise diminish consumer protection;
- (b) may result in the marketing to consumers of fish or fishery products that does not comply with regulation 6(1) or the requirements of other countries; or
- (c) may damage the reputation of Belize's fish or fishery products processing industry.

(3) The Managing Director may, in consultation with the Minister, revoke or refuse to issue a permit if -

- (a) the Managing Director has reasonable grounds to believe that the holder of the permit or the applicant has provided false information to the Managing Director for the purpose of obtaining the permit; or
- (b) the holder of the permit or the applicant has contravened a condition of the permit or a provision, of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, or these Regulations.

S.I. 25 of 2001.

37. The Managing Director may, from time to time, attach any conditions to a registration certificate, licence or permit issued under these Regulations if the Managing Director is satisfied that those conditions are necessary to ensure that the import or export of fish complies with these Regulations. Conditions attached to certificate, etc..
38. No person shall unload, handle, hold or transport for fresh fish or fishery products for processing unless the unloading, handling, holding or transportation meets the requirements of Schedule IV. Requirements for unloading, etc.. Schedule IV.
39. (1) No person shall export, process for export or attempt to process for export any fresh fish or fishery products unless the unloading, handling, holding and transportation has been conducted in accordance with Schedule IV. Requirements for export, etc.. Schedule IV.
- (2) No person shall export, process for export or attempt to process for export any fresh fish or fishery products unless the fish or fishery products have undergone a health check where necessary in accordance with Schedule V. Schedule V.
40. (1) Processed fish and fishery products shall be protected from contamination and the weather during loading, unloading and transportation. Protection, etc., of processed, fish etc..
- (2) Fresh fish, fishery products and semi-preserved, while under the control of a carrier, shall be kept properly chilled.
- (3) Frozen fish or fishery products, while under the control of a carrier, shall be kept refrigerated in such a manner that, when it is delivered to its destination, the temperature of such fish or fishery products will not have increased more than 5.5°C from the temperature at the time it was loaded.
41. No person shall - Conditions for processing, etc., molluscs.
- (a) process crabs, lobsters, clams, oysters,

mussels or whelks that are not alive; or

(b) pack, sell, export or import clams, oysters, mussels or whelks in any form, unless such molluscs are free from shellfish toxin when tested by a method approved by the Authority.

Exporting, etc.,  
cans of fish, etc..

42. No person shall export or import or attempt to export or import cans of fish or fishery products

(a) that have not been properly sealed;

(b) the tops or bottoms of which have been distorted outwards; or

(c) that is otherwise defective.

Records  
pertaining to  
exports of fish,  
etc..

43. Every person who exports fish or fishery products from an establishment shall keep a record of the name and address of the person to whom, and the date on which, the fish or fishery products are shipped from the establishment.

### PART III

#### LABELLING

Marking of can,  
etc., for canned  
fish.

44. (1) In the case of canned fish, every can of fish or fishery products or the wrapper or label thereon shall be correctly and legibly marked in English, in addition to any other language, to indicate-

(a) the common name of the fish or fishery products;

- (b) in the case of fish or fishery products other than shellfish and crustaceans, the net weight of the contents;
- (c) in the case of shellfish and crustaceans, the drained weight of the contents;
- (d) the name and address of the person by whom or for whom the fish or fishery products processed or by whom it is distributed; and
- (e) the ingredients in each can, where there is more than one ingredient therein-
  - (i) by listing them in descending order of their proportion in the can; or
  - (ii) by stating the proportion of each ingredient in the can.

(2) The information required pursuant to subregulation (1) shall be shown in such a manner that

- (a) the common name of the fish or fishery products and the stated weight thereof appear on the main body or face of the can or on the main panel of the label thereon;
- (b) the common name of the fish or fishery products is shown in letters of equal height and prominence and indicates whether the product has been prepared-

- (i) by mincing, flaking or other special process;
  - (ii) from selected parts of fish; or
  - (iii) for dietetic use; and
- (c) the printing used to indicate the weight of fish or fishery products is not less than 3.2 mm. in height.

(3) Where descriptive terms are used in addition to the wording required by subregulation (1), such terms shall be printed in letters not less than one-half the height of the letters used for the common name of the fish or fishery products.

Marking of  
container, etc.,  
for fish, etc..

45. (1) In the case of fish or fishery products, other than canned, every container or the label thereon shall be correctly and legibly marked in English, in addition to any other language, to indicate-

- (a) the common name of the fish or fishery products;
- (b) the net weight of the fish or fishery products unless-
  - (i) in the case of oyster and clam meats that are not frozen, the container or label is marked with a statement of net contents in terms of fluid measure or by count;
  - (ii) in the case of oysters that are

- marketed in the shell, the container or label is marked with a statement of the contents in terms of bushels or pecks or by count; or
- (iii) in any case not referred to in subparagraph (i) or (ii), the container or label states that the contents are to be weighed at the time of retail sale;
- (c) the grade, size, class, count and moisture content as follows:
- (i) in the case of pickled fish or fishery products, with the grade, class and size of the fish or fishery products;
- (ii) in the case of boneless or semi-boneless salted fish, with the grade of the fish;
- (iii) in the case of salted fish, other than boneless or semi-boneless salted fish, with the grade and class of the fish, the size or count of the fish and the designation for moisture content;
- (iv) in the case of Atlantic oysters in the shell, with the shape designation; and
- (v) in the case of dried squid, with the grade designation;

- (d) the name and address of the person by whom or for whom the fish or fishery products is processed or by whom it is distributed;
- (e) the ingredients in each container, where there is more than one ingredient therein-
  - (i) by listing them in descending order of their proportion in the container; or
  - (ii) by stating the proportion of each ingredient in the container; and
- (f) in the case of bivalve molluscs in the shell, the date of processing and the location from which the bivalve molluscs were harvested.

(2) The markings referred to in subregulation (1)(a) to (c) shall be shown on the main panel of every container containing 900 g or less of fish and shall be not less than 3.2 mm in height.

(3) Cartons and cases are exempt from subregulation (1)(b) to (e) where they contain containers of fish or fishery products in accordance with subregulations (1) and (2).

Misleading mark or label.

46. No person shall package any fish or fishery products or mark or label any container of fish or fishery products in a manner that is false, misleading or deceptive.

Marking, etc., without consent of Managing Director.

47. No person shall mark or label any fish or fishery products or container of fish or fishery products with the designation "Processed under Government



Supervision” or “Belize Agricultural Health Authority Inspected” or “Approved for further processing” without the consent of the Managing Director.

48. No person shall mark or label a container of fish or fishery products with a quality designation or sell a container of fish or fishery products that is so marked or labelled unless-

Conditions for marking, etc., with quality designation, etc..

(a) a standard for that quality has been specified in these Regulations; and

(b) the fish in that container meets that standard.

**PART IV**

**CODE MARKINGS**

49. (1) Every carton and case in which containers of fish or fishery products are packed at an establishment shall be legibly marked on one end in such a manner that the name of the establishment and the day month and year of processing can be determined by an Inspector.

Marking of cartons and case.

(2) Every container in which pickled, spiced or marinated fish or fishery products are packed at an establishment shall be legibly marked in such a manner that the name of the establishment and the day, month and year of processing can be determined by an Inspector.

50. Every can of fish or fishery products that is packed in a registered establishment shall be embossed or otherwise marked in a manner that is visible, permanent and legible with code markings that-

Visible, etc., code markings.

(a) identify the establishment;

(b) indicate the day, month and year of

processing; and

(c) identify the product contained therein.

Exemptions for permanently marked containers.

51. Notwithstanding regulation 50, any hermetically sealed glass container containing fish or fishery products is exempt from the embossing requirement referred to in that regulation, if such container or the label affixed thereto is otherwise permanently marked with the code markings required by that regulation.

#### PART V

#### QUALITY REQUIREMENTS PRODUCTION OF LOBSTER:

Processing of lobster, etc..

52. Any person who processes lobster or lobster products shall for that purpose:

(a) use lobster that are:

(i) legal size;

(ii) free of “black spots”;

(iii) free of broken or soft-shell;

(iv) free of missing swimmerets or telson;

(v) free of excess levels of sodium Bi-sulfite (< 100ppm);

(vi) free of bad odor (decomposition);

- (b) wash the lobster immediately after receiving with clean potable water and place in ice slush. If the product enters as tail, all intestines material shall be removed and the tail shall be flushed out;
- (c) after removing from ice slush, keep (before, during and after processing) at a temperature between 3°C - 7°C;
- (d) wrap each tail in cellophane, plastic bag or other acceptable material approved by the Authority and place tails in blast freezer within one hour after tails have been packed;
- (e) freeze every tail not lower than - 40°C but not higher than - 29°C;
- (f) store and maintain every frozen lobster tail at a temperature not lower than - 23°C but not higher than 18°C.

### Production of Dressed Fish

53. Any person who processes dressed fish shall for that purpose:

Processing dressed fish.

- (a) use fish having no detectable spoilage, the flesh of which shall be firm, free of puncture marks and foreign materials;
- (b) use fish which is free of any abnormal conditions, is not diseased and free of parasitoid tissue;

- (c) slit the abdomen and gut and place every dressed fish in potable running water;
- (d) keep every dressed fish at a temperature not exceeding 7°C;
- (e) wrap in cellophane or suitable material and place every dressed fish in the blast freezer within one hour after such fish has been processed;
- (f) freeze every fish at a temperature not higher than - 29°C;
- (g) store and maintain every dressed fish at a temperature not higher than - 23°C.

#### **Production of Fish Fillet or Fish Steaks**

Conditions for producing fillet, etc..

54. Any person who produces fillet or fish steaks shall for that purpose:

- (a) use fish which satisfies the requirements set forth by the regulations governing production of dressed fish;
- (b) ensure that the fillet shall not contain blemishes such as visible blood clots or pieces of skin or bone (except for skin-on fillet);
- (c) wash every fillet or fish steak in clean potable running water;

- (d) ensure that the fillet or fish steaks shall be free of napes or belly flaps and properly scaled;
- (e) keep every fillet or fish steaks at a temperature not exceeding 7°C during processing;
- (f) wrap in cellophane, plastic bags or other suitable material and freeze in blast freezer within one hour after such fillet or fish steak has been processed;
- (g) freeze every fillet or fish steak at a temperature not higher than - 29<sup>0</sup>C;
- (h) store and maintain every frozen fillet of fish steak at a temperature not higher than - 23<sup>0</sup> C.

**Production of “Market Clean” Conch**

55. Any person who produces conch or conch meat shall for that purpose:
- (a) use conch meat having no detectable spoilage, the flesh of which shall be free of disease or parasitoid tissue, be firm to the touch, free of gut lining and excessive slime and must be of legal size and weight;
  - (b) wash every “market clean” conch in potable running water;
- Conditions for producing conch, etc..

- (c) keep every “market clean” conch at a temperature not exceeding 7°C;
- (d) wrap in cellophane or other suitable material and place in blast freezer within one hour after such “market clean” conch has been processed;
- (e) freeze every “market clean” conch at a temperature not higher than - 29°C;
- (f) store and maintain every frozen “market clean” conch at a temperature not higher than - 23°C.

#### **Production of Whole or Headless Frozen Shrimp**

Conditions for producing frozen shrimp.

56. Any person who produces whole or headless frozen shrimp shall for the purpose:

- (a) use only healthy shrimps showing no detectable spoilage;
- (b) wash every whole or headless shrimp in potable running water;
- (c) keep every whole or headless shrimp at a temperature not exceeding 7°C;
- (d) wrap in plastic bags or other suitable material every whole or headless shrimp and place in blast freezer within one hour after

such whole or headless shrimp has been processed;

- (e) freeze every whole or headless shrimp at a temperature not higher than - 29<sup>0</sup>C; and
- (f) store and maintain every whole or headless shrimp at a temperature not higher than - 23<sup>0</sup> C.

**Production of Lobster Meat, Oysters, etc.**

57. Any person who produces lobster meat shall for that purpose:

Conditions for producing lobster meat.

- (a) use unfrozen lobster meat and frozen lobster meat that is free from the stomach, intestinal tract, gills, cartilage, shell particles, liver, roe and any other part that is not lobster flesh;
- (b) use containers, in which unfrozen lobster meat has been packed without the addition of pickle or brine, that are marked or labelled with the words “dry pack”;
- (c) use containers for frozen lobster meat that are marked or labelled with the words “Frozen Lobster Meat”;
- (d) where cooked lobster meat is processed for sale as unfrozen lobster meat, chill immediately, after being packed, to, and maintain at, a temperature between 0<sup>0</sup>C and 2<sup>0</sup>C;

- (e) where cooked lobster meat is processed for sale as frozen lobster meat, freeze immediately after it has been packed and store at a temperature of  $-26^{\circ}\text{C}$  or lower.

Conditions for producing oysters, etc..

58. Any person who produces oysters or oyster meat shall for that purpose:

- (a) use oysters in the shell that are live, individual, undamaged and free from mussels, limpets, stones, mud and other extraneous material;
- (b) use containers, in which Atlantic oysters in the shell have been packed, that are legibly marked in such a manner that the area from which the oysters were harvested can be determined to the satisfaction of an Inspector.

Containers for producing scallops, etc..

59. (1) Any person who produces scallops or scallop meat shall for that purpose:

- (a) where scallops are shucked on a fishing vessel, wash and pack the scallop meat in containers of a kind approved by the Managing Director;
- (b) pack, sell, export or import unfrozen scallop meat in containers of a kind approved by the Managing Director;
- (c) only pack, sell, export or import-



- (i) unfrozen scallop meat that is free from organoleptically detectable spoilage;
- (ii) frozen or breaded scallop meat that meets the requirements of these Regulations; or
- (iii) unfrozen, frozen or breaded scallop meat that is free from pieces of roe, gut, shell particles, sand or other extraneous material.

(2) Notwithstanding sub-regulation (1)(c), scallops taken from an area approved by the Managing Director may be packed, sold, exported or imported whole in the shell or with roe attached.

60. Any person who produces shrimp cocktail shall for that purpose:

Conditions for producing shrimp cocktail.

- (a) prepare the shrimp cocktail from sound, cooked, peeled shrimp meat.
- (b) only export or import a container of shrimp cocktail containing shrimp whose weight, either expressed as a percentage of the net weight of edible contents in the container or as a declaration of the total weight of shrimp in the container, is declared on the label.

**PART VI**

**PICKLED, SPICED AND MARINATED FISH**

61. No person shall cure fish or fishery products for export as pickled,

Conditions for curing fish, etc., as pickled, etc..

spiced or marinated fish or fishery products unless the fish or fishery products prior to curing-

- (a) are free from organoleptically detectable spoilage, bruises and other discolorations;
- (b) are clean, firm and properly prepared for the particular style of pack; and
- (c) are free from all damaging feed or stomach contents.

Conditions for exporting pickled, etc., fish, etc..

62. No person shall export pickled, spiced or marinated fish or fishery products unless

- (a) the containers in which they are packed do not leak;
- (b) the fish or fishery products are completely covered with the curing solution;
- (c) the fish or fishery products are properly cured;
- (d) the fish or fishery products contain a reasonable amount of fat;
- (e) the fish or fishery products are free from organoleptically detectable spoilage, bruises and other discolorations;
- (f) the fish or fishery products are properly headed, where required, and,

- (g) the ingredients used in the curing mixtures are of a type acceptable to the Managing Director.

**MADE** by the Minister of Agriculture, Fisheries and Cooperatives this 14th day of December, 2001.

**(HON. DANIEL SILVA)**  
Minister of Agriculture, Fisheries  
and Cooperatives

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**SCHEDULE I**  
**(Regulations 26 (6) (a) and 35)**

**ESTABLISHMENT CONSTRUCTION AND  
EQUIPMENT REQUIREMENTS**

1. (1) The definitions in this paragraph apply to this Schedule.

(2) In this Schedule, unless the context otherwise requires-

“cleaning” means the removal of soil, food, fish residues, blood, wastewater or any other dirt or debris from a processing area and processing equipment;

“disinfection” means the reduction of the amount of microorganisms to a level that will not cause serious contamination-,

“durable”, in respect of construction material, means resistant to decay, breakdown or other physical damage;

“impervious”, in respect of any material, means an inert material such as concrete through which water or any other substance will not pass;

“non-absorbent”, in respect of any material, means a material that is highly resistant to the passage, absorption or incorporation of water or any other substance;

“non-corrodible” means any metal or other material that does not readily rust, corrode or otherwise decay;

“non-toxic” means not injurious to health;

“refrigeration facilities” means freezers, cold storages, coolers, cool rooms and any other room inside an establishment where the ambient air temperature

is reduced by mechanical means in order to preserve the quality and safety of fish or fishery products;

“smooth” means a fairly regular or even surface without projections, indentations or roughness and that can be easily cleaned and disinfected;

“sound” means being in good repair or maintenance;

“washable” means being capable of being cleaned and disinfected with water, cleansers, disinfectants or liquids.

2. (1) The layout, design, construction and size of every establishment shall-

- (a) permit adequate cleaning and disinfection of all areas;
- (b) prevent the accumulation of dirt, fish or fishery products being in contact with toxic materials and floor surfaces, the shedding of foreign particles into fish or fishery products and the formation of condensation or mould on surfaces;
- (c) permit good production practices, including protection against contamination and cross-contamination by fish, equipment, water, air or personnel and any other sources of contamination, including insect and animal pests;
- (d) provide, if necessary, suitable temperature conditions that permit sanitary processing

and storage of fish or fishery products, and

- (e) provide for the orderly and rapid movement of raw material and finished product into and out of the establishment.

(2) Construction and packaging materials and non-food chemical products used in the construction and operation of establishments or in their equipment shall be those that are approved by the Authority for that purpose.

(3) Salt fish, squid, stockfish and other fishery products commonly dried, may be dried outside an establishment if it is dried in a location away from traffic on grounds under the control of the operator of the establishment, on dryer flakes or other equipment that is raised at least 1 metre above the ground or water and if the fish or fishery products is handled to prevent the risk of contamination.

3. Floors shall be constructed of smooth, impervious, non-absorbent and non-toxic materials, be sloped for drainage and be maintained in a sound condition for ease of cleaning and disinfection.

4. (1) Drains shall be of a type and size sufficient to carry off any process effluent and water from processing and cleaning operations, be equipped with non-corrodible covers or grates and be constructed in a manner that prevents the entry of insect and animal pests, sewer gases or any other deleterious substance.

(2) All drainage from an establishment shall be disposed of in a manner acceptable to the Managing Director or in accordance with relevant legislation.

5. Wall surfaces shall be constructed of smooth, non-absorbent, durable and non-toxic materials that are light-coloured and thoroughly washable, in

such a manner that all joints are sealed and floor and wall junctions are coved or rounded, and shall be maintained in a sound condition for ease of cleaning and disinfection.

6. Ceilings shall be constructed of smooth, non-absorbent, durable and non-toxic materials that are light-coloured, washable, of a height acceptable to the Managing Director and maintained in a sound condition for ease of cleaning and disinfection.

7. Heating units, water feed lines, piping, lighting, public address or radio systems or other overhead fixtures shall be designed, constructed, installed and finished to prevent the accumulation of dirt and to reduce condensation, the growth of moulds and the shedding of foreign particles into fish or fishery products being processed beneath and, if the purpose of each is not readily evident, shall be labelled in such a manner that this purpose is readily discernable by an Inspector.

8. Windows that are capable of being opened, and any other openings to the outside shall be constructed so as to prevent the accumulation of dirt and be fitted with non-corrodible insect-proof and animal-proof screens or other similar devices.

9. (1) Doors into and out of processing and support areas shall be constructed of smooth, non-absorbent and non-toxic materials that are washable, be properly fitted and hung and be maintained in a sound condition for ease of cleaning and disinfection.

(2) Doors in an establishment that is constructed after the coming into force of this Schedule-

(a) shall be located so that persons may not enter directly into a processing area, with the exception of holding rooms, from outside the

establishment; and

- (b) if the doors are emergency exits from a processing area, shall be clearly marked “Emergency Use Only” or with other similar wording and be equipped with emergency door opening devices, panic bars or similar devices that prevent entry from the exterior of the establishment.

10. Fish processing equipment and ice handling or conveying equipment, including all surfaces, frames and legs shall be constructed of smooth, non corrodible, non-absorbent and non-toxic materials that are washable, and shall be maintained in a sound condition for ease of cleaning and disinfection.

11. Cooler or cold storage racking systems on which pallets of fish are stored shall be constructed of metal or other material acceptable to the Managing Director and shall be maintained in a sound condition for ease of cleaning and disinfection.

12. (1) Packaging and labelling materials shall be stored in dry and sanitary storage rooms that are intended for that purpose away from the production area, that are constructed to provide protection from weather, dust, contamination and the entry of insect and animal pests and that, if appropriate, are equipped with adequate temperature-control devices.

(2) Packaging materials and products liable to come in contact with fish or fishery products-

- (a) must not be such as to impair the organoleptic characteristics of the fish or fishery products;



- (b) must not be capable of transmitting to the fish or fishery products substances harmful to human health;
- (c) must be strong enough to protect the fish or fishery products adequately; and
- (d) must not be reused, except containers made of impervious, smooth and corrosion-resistant material which are easy to clean and disinfect, which may be re-used after cleaning and disinfection;

13. (1) Ingredients and additives such as salt and vinegar used in the processing of fish shall be stored in sanitary storage rooms that are intended for that purpose, that are constructed to provide protection from weather, contamination and the entry of insect and animal pests and that, if appropriate, are equipped with adequate temperature control devices.

(2) Notwithstanding subparagraph (1), bulk storage of ingredients and additives in an enclosed area is permitted if the area meets the requirements of paragraphs 3 to 8 of this Schedule.

(3) Doors to areas referred to in subparagraph (2) shall be constructed of smooth, non-absorbent and nontoxic materials that are washable, properly fitted and hung, maintained in a sound condition for ease of cleaning and disinfection, and so located that ingredients or additives may be unloaded and delivered or conveyed to a processing area in a sanitary manner.

(4) Notwithstanding subparagraph (1), salt may be stored in bags outside of an establishment if the bags are sound, kept off the ground and are covered with clean, waterproof coverings that protect the salt from contamination, weather and insect and animal pests.

14. (1) Adequate supplies of water that meet one of the following requirements shall be provided in every establishment under a suitable operating pressure for fish or fishery products processing, establishment cleaning and disinfection, ice making, employee sanitation and personal hygiene and the operation of toilets:

- (a) the water meets the requirements of Belize Agricultural Health Authority (Food Processing Plants) (Potable Water) (Minimum Standards) Regulations, 2001. (S.I. No. 24 of 2001); or
- (b) the water is derived from a source approved by the Managing Director.

(2) For the purpose of providing a safe and sanitary supply of water to an establishment, an Inspector may require that water supply sources be chlorinated or otherwise treated.

(3) Notwithstanding subparagraph (2), the Managing Director may allow live shellfish to be held in an establishment in untreated water derived from a source approved by the Managing Director provided that -

- (a) the median or the geometric mean of the faecal coliform most probable number in the water does not exceed 10 per 100 milliliters and not more than 10% of the water samples exceed a faecal coliform most probable number of 50 per 100 milliliters, as determined by a method acceptable to the Managing Director; and
- (b) the use of the water poses no threat of

cross-contamination in the establishment.

(4) Steam-

- (a) directly in contact with fish or fishery products shall not contain any substance that is a hazard; and
- (b) shall be supplied in adequate quantities for retorting and any other purpose as specified in the establishment's food safety program.

(5) Ice making or ice storage facilities shall-

- (a) be operated in a manner that minimizes frost build-up;
- (b) be maintained in a sound condition for ease of cleaning and disinfection; and
- (c) if constructed after the coming into force of this Schedule, be built in accordance with paragraphs 3 to 8 of this Schedule.

(6) No ice making facility or ice storage facility constructed after the coming into force of this Schedule shall use wood on any surface that makes contact with ice.

(7) Ice that is for use in an establishment shall be handled and transported in a manner that prevents its contamination.

(8) No ice shall be used in an establishment unless it has been made from water that meets the requirements of this Schedule and is stored in a manner that prevents its contamination.

(9) An establishment may use water that does not meet the requirements of subparagraphs (1) to (3) for fire protection, boilers or auxiliary services if there is no connection between the other water systems providing water to the establishment and all feed lines and pipes are clearly labelled or coloured so that the purpose of each is readily discernable by an Inspector.

(10) Adequate supplies of hot water at a temperature of at least 43°C may be provided throughout processing areas for cleaning and disinfection and at all hand wash stations.

(11) Hoses and other water delivery devices in ready-to-eat fish and shellfish processing operations shall be equipped with backflow preventers or vacuum breakers.

(12) Each operator of an establishment constructed after the coming into force of this Schedule shall keep and make available to an Inspector, blueprints or other suitable drawings or sketches that show all water supply and water waste disposal systems, including sources of supply, intake locations, piping runs, treatment systems employed, location of water sampling valves for the taking of water samples before and after its treatment and the outfall or sewage hook-up locations.

15. (1) Receptacles for the effective disposal of fish or fishery products offal shall be provided, be clearly marked “For Offal Only” or with other similar wording or be colour coded, and be-

(a) equipped with tight-fitting covers as applicable;

(b) constructed of non-absorbent and non-corrodible materials and kept in a sound condition for ease of cleaning and disinfection; and

- (c) if stored outside the establishment, placed on a concrete pad sloped to a drain.

(2) Continuous offal handling systems that carry offal on conveyors or flumes to offal bins shall be constructed so that they pose no threat of contamination to the processing areas or to fish or fishery products being processed and must-

- (a) be equipped with tight-fitting covers;
- (b) If located inside the processing areas, be constructed of nonabsorbent and non-corrodible materials and kept in a sound condition for ease of cleaning and disinfection.
- (c) if located outside the processing areas, be kept in a sound condition for ease of cleaning and disinfection and may be Constructed of mild steel or other suitable non-absorbent metal; and
- (d) if delivering offal to the interior of the offal bin, be located over or surrounded by a concrete pad of suitable size sloped to a drain.

(3) Vessels, barges or conveyances may be used to store or transport offal to designated disposal grounds or fishmeal plants if they are operated in a clean and sanitary manner.

16. Natural or artificial lighting shall be provided at intensities adequate to ensure the effective delivery to the processing operation being conducted, and the light fixtures shall have appropriate covers and be installed for ease of

cleaning and disinfection.

17. Natural and mechanical ventilation systems shall provide clean air, inhibit condensation and maintain conditions that are free from smoke, steam or foul odours, and any openings for the ventilation of the processing or support areas shall be fitted with non-corrodible insect-proof and animal-proof screens or other similar devices.

18. (1) Refrigeration facilities shall be built in accordance with good engineering practices and with respect to freezing equipment shall-

(a) contact freeze a 25 mm-thick block of unpackaged fillets to  $-18^{\circ}\text{C}$  in two hours or less; or

(b) air blast freeze fish or fishery products at a rate that prevents deterioration of the fish or fishery products, until the thickest section of the fish or fishery products is at a temperature of  $-18^{\circ}\text{C}$ .

(2) Refrigeration facilities shall be operated in a manner that minimizes frost build-up.

(3) Cold storages shall be equipped with automatic temperature recording devices capable of recording the temperature at least once every 24 hours.

(4) In refrigeration facilities that are not equipped with automatic temperature recording devices, accurate thermometers must be installed and the temperature read and recorded at least once every 24 hours.

(5) An operator of a registered establishment shall keep a record

of each temperature recorded there for a period of three years.

19. All facilities and equipment shall be maintained in a sound condition so as to minimize the risk of contamination to fish or fishery products and facilitate cleaning and disinfection, and shall be installed in such a manner as to allow adequate cleaning of the surrounding area.

20. Flush toilets shall be-

- (a) present in adequate numbers for both sexes;
- (b) conveniently located adjacent to processing areas;
- (c) designed so that toilet areas do not lead directly into processing areas; and
- (d) equipped with floor drains that will prevent any overflow of water or sewage from entering or contaminating a processing area.

21. (1) Washbasins shall be equipped with non-hand-operated taps.

(2) Washbasins and other facilities or materials necessary for employee hygiene shall be-

- (a) provided in adequate quantities; and
- (b) conveniently located in or visible from processing areas.

22. Changing facilities for personnel and visitors shall be provided in every establishment that is constructed after this Schedule comes into force.

23. Utensils and cutting surfaces shall be constructed of non-corrodible, non-absorbent, smooth, impervious and washable material that is maintained in a sound condition for ease of cleaning and disinfection.

24. (1) Conveyors in contact with fish or fishery products shall be maintained in a sound condition for ease of cleaning and disinfection, be constructed of non-corrodible, non-absorbent, smooth, impervious, light coloured and non-toxic materials or non-corrodible, non-absorbent, impervious and non-toxic wire mesh or chain link and, if necessary, be equipped with effective spray washers and scrapers.

(2) Conveyors that are used for loading finished and packaged products into conveyances may be made of mild steel or other similar material and shall be maintained in a sound condition for ease of cleaning and disinfection.

25. Pallets used as equipment in a processing area, such as foot stands, stands for vats and pan racks, shall be constructed of non-corrodible, non-absorbent, smooth, non-toxic and washable materials, and be maintained in a sound condition for ease of cleaning and disinfection.

26. Vessels with enclosed processing areas shall have, in addition to meeting other applicable requirements of this Schedule-

- (a) a clean and sanitary system for conveying fish or fishery products from the reception area to the processing area;
- (b) storage areas for finished products that are large enough and designed so that they are easy to clean and, if a fishmeal plant operates onboard, a separate hold must be designated for the storage of fishmeal and other by-products;



- (c) adequate equipment for pumping or disposing of processing effluent, cleanup water, waste or fish or fishery products that are unfit for human consumption directly into the sea, or in accordance with any laws regarding sea dumping into a watertight tank reserved for that purpose;
- (d) adequate equipment for delivering pressurized clean and sanitary seawater for processing, the intake for which must be situated in a position where it is not possible for the water being taken in to become contaminated or affected by discharges into the sea of wastewater, waste and engine coolant;
- (e) walls, ceilings and non-slip floors that are easy to clean, in particular if there are pipes, chains or electrical conduits;
- (f) hydraulic systems arranged or protected in such a way as to ensure that any leakage that could contaminate fish is minimized; and
- (g) marine type toilet facilities or other sanitary facilities acceptable to an Inspector.

**SCHEDULE II**  
**(Regulation 26 (6 (a)))**

**ESTABLISHMENT SANITATION REQUIREMENTS**

1. Every establishment shall implement and comply with its sanitation program.
2. (1) Equipment and material used to clean and disinfect an establishment and processing equipment shall be provided in adequate quantities and be conveniently located in the establishment.  
  
(2) Any product used for the lubrication of fish or fishery products processing equipment or machinery and any product used for cleaning and disinfection shall be clearly labelled as to its use, stored in an appropriate location and only used by a person trained to use or apply it in a manner that prevents contamination of fish, fishery products or contact surfaces.
3. (1) Employees shall wear protective clothing such as coveralls, aprons, sleeves, smocks, hand coverings, hair nets or beard nets that are in a clean and sound condition and suitable for the tasks employees are charged to perform.  
  
(2) No person shall enter a processing area unless that person-
  - (a) wears the protective clothing designated in the food safety program and appropriate to the tasks they will perform;
  - (b) ensures that their footwear is clean and sanitary and, if appropriate, uses a foot dip to do so; and

- (c) wears a hair net and, if appropriate, a beard net.
- (3) No person shall:
  - (a) handle or process fish or fishery products unless they first wash their hands with single-service soap, wash or rinse their waterproof protective clothing, and disinfect their hands or hand coverings if either will come into direct contact with fish or fishery products; or
  - (b) after leaving a production line, return to it unless they first wash their hands with single-service soap, wash or rinse their waterproof protective clothing, and disinfect their hands or hand coverings if either will come into direct contact with fish or fishery products.
- (4) Immediately on leaving a processing area a person shall remove any protective clothing and store it in a manner that prevents contamination.
- 4. Pesticides or any other animal control products shall be applied in a manner that prevents the contamination of fish, fishery products, packaging, labelling materials and ingredients.
- 5. Animals are not permitted inside an establishment.
- 6. Fish or fishery products offal shall be-
  - (a) collected in handling systems, receptacles or

conveyances that are not used for the holding or transport of fish or fishery products intended for processing;

- (b) disposed of or stored, before disposal, in a manner that will not attract insect and animal pests, allow the build-up of offensive odours or contaminate the area surrounding the establishment; and
- (c) removed from the establishment or grounds under the control of the operator of the establishment as frequently as necessary to maintain the sanitation of the establishment, and as specified in the food safety program of the establishment.

7. Equipment and material provided to clean and disinfect protective clothing and footwear such as hand dips and foot dips shall be provided in adequate quantities and be conveniently located in processing areas.

8. Doors into and out of an establishment shall be kept closed and may be opened only when necessary to allow personnel, fish, fishery products, equipment and other materials to enter or leave the establishment unless air curtains or other devices as specified in the establishment's food safety program that prevent the entry of insect and animal pests are in operation.

9. No person who is a known carrier of a disease that is likely to be transmitted through food or who is afflicted with an infected wound, skin infection, sore, diarrhoea or any communicable disease, shall work in a registered establishment if there is a possibility of contaminating fish or fishery products with pathogenic organisms.

10. A person engaged in the handling or processing of fish or fishery products shall not wear any jewellery, fingernail polish or personal adornments that could contaminate or become incorporated into fish being processed.

11. (1) No person shall smoke, spit, talk excessively, eat, chew gum or store food or other personal items not used in fish processing in processing areas.

(2) Unnecessary material or equipment shall not be stored in a processing area.

12. Handwash and toilet facilities shall be maintained in good operating order and be properly equipped with single-service towels and toilet tissue, and all effluent and sewage shall be disposed of in accordance with the relevant legislation or, if none exists, in a manner satisfactory to an Inspector.

13. (1) The grounds under the control of an operator of an establishment in proximity to the establishment shall be kept clean, free from debris and unnecessary material and be maintained to minimize harbourages for insect and animal pests.

(2) Areas where fish or fishery products are loaded, unloaded or handled and other high traffic areas shall be paved with asphalt, covered with concrete or other impervious material or with material acceptable by an Inspector and equipped with appropriate drains.

14. Forklifts and other devices used for moving fish or fishery products and materials inside an establishment shall be clean and maintained in a sound condition.

15. (1) Subject to subparagraph (2), no person shall use wooden pallets in an establishment for any purpose other than-

- (a) to handle or transport boxed or otherwise containerized raw material in a holding room; or
    - (b) to transport ingredients, additives, packaging material, raw material, labels, semi-processed salt fish, or packaged, boxed or otherwise containerized finished products into or out of a processing area.
  - (2) Every pallet shall be clean and maintained in a sound condition.
16. (1) Fish or fishery products shall be kept iced or chilled and protected from contamination before processing in the establishment and, if the type of process operation conducted so requires, shall be washed before processing.
- (2) Cold storages shall maintain the temperature of fish or fishery products at  $-18^{\circ}\text{C}$  or colder.
  - (3) Coolers shall maintain fish or fishery products at a temperature from  $4^{\circ}\text{C}$  to  $-1^{\circ}\text{C}$ .
17. (1) Processed fish or fishery products shall be stored in locations designated in the food safety program in order to preserve its quality and safety.
- (2) No odiferous or toxic substance shall be stored in a processing area.

18. Frozen fish or fishery products shall be handled and protected in an establishment to ensure that the temperature of the fish or fishery products does not increase more than 5.5<sup>0</sup>C during the time the fish is removed from cold storage and returned to it unless the frozen fish or fishery products is thawed for further processing; or is placed on a conveyance equipped with cold-storage capability.

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**SCHEDULE III  
(Regulation 24)**

**REQUIREMENTS FOR VESSELS USED FOR FISHING OR  
TRANSPORTING FISH OR FISHERY PRODUCTS**

1. Areas where fish, fishery products and ice are stored shall-
  - (a) have covers to protect the fish, fishery products and be from the sun and weather;
  - (b) be provided with drainage to effectively remove ice melt water and ensure that fish or fishery products and ice do not come into contact with bilge water or other contamination; and
  - (c) where it is necessary to prevent physical damage to the fish or fishery products, be divided into pens or other suitable means as appropriate.
  
2. Subject to paragraph 3, fish or fishery products and ice storage areas shall be of non-absorbent, non-corrodible materials, other than wood, and so constructed as to preclude physical damage to the fish or fishery products and facilitate cleaning and any surfaces that contact fish or fishery products shall be smooth and free from cracks and crevices.
  
3. In the case of vessels built prior to February 12<sup>th</sup>, 2001, and vessels having no below deck storage areas, built-in fish and ice storage areas shall be so constructed as to preclude physical damage to the fish or fishery products and may be of wood, if the surfaces are smooth, free from cracks and crevices and coated with a durable, light coloured paint or coating of a type approved



by the Managing Director.

4. Boxes for fish or fishery products other than live shellfish shall be of smooth, non-absorbent, non-corrodible material, other than wood, free from cracks and crevices, and so constructed as to provide drainage and protect the fish or fishery products from damage by crushing when the boxes are stacked.

5. Fresh fish or fishery products storage areas shall be separated from engine compartments and other heated areas of a vessel by watertight, insulated bulkheads and wall surfaces; bulkheads and deck heads in frozen storage areas of a vessel shall be well insulated.

6. Fish and fishery products handling equipment, such as chutes, conveyors, fish washers, tables and utensils, shall be of smooth, non-absorbent, non-corrodible material, other than wood, free from cracks and crevices and so constructed as to facilitate cleaning.

7. Forks, pumps, tools or other equipment and practices that pierce, tear, or otherwise damage or contaminate the edible portion of fish or fishery products shall not be used.

8. Fish or fishery products, while on board a vessel used for fishing or transporting fish or fishery products, shall be-

- (a) preserved by the use of finely divided ice sufficient to reduce and hold the temperature at 4<sup>0</sup>C or lower, and such ice shall be made from water from a source approved by the Authority's water quality laboratory; or
- (b) preserved by such other methods as the Managing Director may approve.

9. Where chilled water systems are installed on a vessel, such systems shall be of materials approved by the Managing Director, constructed to facilitate proper cleaning and be capable of holding fish or fishery products at  $-1^{\circ}\text{C}$ .

10. Freezing facilities on a vessel shall be capable of freezing the daily catch of fish or fishery products at a rate equivalent to at least the freezing rate of a 25 mm thick block of fish when the temperature of the thermal centre is reduced from  $0^{\circ}\text{C}$  to  $-20^{\circ}\text{C}$  in two hours or less.

11. (1) Fish or fishery products on board a vessel shall be frozen at a freezing rate not less than the rate prescribed by paragraph 10.

(2) In the case of a packaged fish product on board a vessel, the time required to reduce the thermal centre of the packaged product to  $-20^{\circ}\text{C}$  shall not exceed 36 hours.

12. (1) Except for brine frozen fish, the thermal centre of the fish on board a vessel shall be reduced to a temperature of  $-20^{\circ}\text{C}$  or lower before the fish can be removed from the freezer to the cold storage area.

(2) In the case of brine frozen fish on board a vessel, the thermal centre of the fish shall be reduced to  $-12^{\circ}\text{C}$  before the fish can be removed from the freezer to the cold storage area.

13. After freezing, fish on board a vessel shall be glazed or packaged to protect it against dehydration and oxidation.

14. Storage areas in which frozen fish or fishery products are held on board a vessel shall be maintained at a temperature of  $-26^{\circ}\text{C}$  or lower.

15. At least once daily, fish receiving areas and all equipment, containers and utensils used in the handling of fish on board a vessel shall be thoroughly

cleaned with water from a source approved by the Authority's water quality laboratory and disinfected.

16. Following the discharge of fish from a vessel, all equipment and utensils used in the handling of fish and the storage areas, chilled water system, fish containers, pen boards and shelf boards shall be forthwith thoroughly cleaned with water from a source approved by the Authority's water quality laboratory and disinfected.

17. A storage record of the fish or fishery products catch shall be kept on all fishing vessels and the identity of each day's catch shall be maintained.

18. Hand washing and marine type toilet facilities shall be provided on vessels 13.7 metres or more in overall length that has sleeping accommodation and shall be maintained in a clean and sanitary condition.

**SCHEDULE IV**  
**(Regulations 38 and 39 (1))**

**REQUIREMENTS FOR CONVEYANCES AND EQUIPMENT  
USED FOR UNLOADING, HANDLING, HOLDING AND  
TRANSPORTING FRESH FISH AND FISHERY PRODUCTS**

1. Forks, pumps, tools or other equipment and practices that pierce, tear or otherwise damage or contaminate the edible portion of fish or fishery products shall not be used.

2. Fish handling equipment, such as chutes, conveyors, fish washers, tables and utensils, shall be of smooth, non-absorbent, non-corrodible material, other than wood, free from cracks and crevices and so constructed as to facilitate cleaning.

3. (1) Fish shall be transported in covered containers approved by the Managing Director or enclosed vehicle bodies.

(2) The contact surfaces of fish or fishery products storage areas in vehicles and of containers used for transporting fish or fishery products shall be smooth, free from cracks and crevices and made of non-corrodible material.

4. (1) The containers and vehicle bodies used to hold or transport fish or fishery products shall be filled to a level no higher than 90 cm of its depth.

(2) The body of a vehicle used for transporting fish or fishery products in bulk shall be divided at intervals of 1 metre along its length.

5. (1) Fish or fishery products held prior to being transported shall be iced or chilled after unloading from a vessel and be protected from the sun

and weather and from contamination.

(2) Fish shall be iced or chilled while being transported.

6. Water used for unloading, washing or transporting fish or fishery products shall be clean and obtained from a source approved by the Authority's water quality laboratory.

7. Offal and other refuse shall be disposed of in a manner satisfactory to an Inspector.

8. Areas where fish or fishery products is landed or handled and all surfaces that come into contact with fish or fishery products during unloading, handling, holding and transportation shall be maintained in a clean and sanitary condition.

**SCHEDULE V**  
**(Regulation 39 (2))**

**REQUIREMENTS FOR HEALTH CONTROL AND THE  
MONITORING OF PRODUCTION CONDITIONS FOR THE  
PLACING ON THE MARKET OF FISH AND FISHERY  
PRODUCTS**

1. General monitoring

(1) In accordance with regulation 4 (3) of the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, (S.I. 25 of 2001), and in order to establish whether the requirements of this Regulation are complied with, an Inspector may at any time-

- (a) perform a check on the fishing vessels, on the understanding that such a check may be carried out during the stay in port;
- (b) perform a check on the conditions of landing and first sale;
- (c) perform an inspection at regular intervals of establishments to check, in particular:
  - (i) whether the conditions for approval are still fulfilled;
  - (ii) whether the fish or fishery products are handled correctly;
  - (iii) the cleanliness of the premises, facilities and instruments and staff

hygiene;

- (iv) whether identification marks are put on correctly;
- (d) perform an inspection of wholesale markets;
- (e) perform a check on storage and transport conditions.

(2) In order to discharge his or her duties under the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, (S.I. 25 of 2001), and these Regulations, an Inspector may at any time-

- (a) enter any establishment, vessel or vehicle used for the storage or carriage of fish or fishery products and open any container that he or she has reason to believe contains fish or fishery products;
- (b) require to be produced for inspection or for the purpose of obtaining copies thereof, or extracts therefrom, any books, shipping bills, bills of lading or other documents or papers relating to the processing, transporting or marketing of fish or fishery products, and
- (c) take samples of fish or fishery products for inspection and laboratory analysis.

(3) No person shall obstruct or impede an Inspector in the discharge of his or her duties under the Belize Agricultural Health Authority (Food Safety) Regulations, 2001, (S.I. 25 of 2001), and these Regulations.

(4) No Inspector shall inspect any processed product in which he is directly or indirectly financially interested.

2. Special checks

(1) Organoleptic checks -

- (a) Each batch of fish or fishery products must be submitted for inspection by the Authority at the time of landing, exportation or before first sale to check whether they are fit for human consumption. This inspection comprises an organoleptic check, carried out by sampling.
- (b) Fishery products complying, as far as the freshness criteria are concerned, with the quality requirements or marketing standards already laid down pursuant to Part V (Quality Requirements) of these Regulations are considered to fulfill the organoleptic requirements necessary for compliance with the provisions of this Schedule.
- (c) If the organoleptic examination reveals that the fishery products are not fit for human consumption, measures shall be taken to withdraw them from the market and denature in such a way that they cannot be re-used for human consumption.
- (d) If the organoleptic examination reveals any doubt as to the freshness of the fishery



products, use may be made of chemical checks or microbiological analyses.

- (e) Importers or establishments HACCP certified by the Authority with good compliance records (acceptable results for all analyses conducted on 10 consecutive inspections of the selected products exported or imported) may be considered for reduced inspection frequencies provided that they comply with the provisions of these Regulations.

(2) Parasite checks -

- (a) Before they are released for human consumption, fish and fish products shall be subject to a visual inspection, by way of sample, for the purpose of detecting any parasites that are visible.
- (b) Fish or parts of fish which are obviously infested with parasites, and which are removed, shall not be placed on the market for human consumption.

(3) Chemicals checks -

(1) Where necessary, samples shall be taken and subjected to laboratory analysis for the control of the following parameters:

- (a) TVB-N (Total Volatile Basic Nitrogen) and TMA-N (T r i m e t h y l a m i n e -

Nitrogen). The levels of these parameters will be specified for each category of species.

(b) Histamine.

Nine samples shall be taken from each batch. These must fulfill the following requirements:

- the mean value must not exceed 100 ppm;
- two samples may have a value of more than 100 ppm but less than 200 ppm;
- no sample may have a value exceeding 200 ppm.

These limits apply only to fish species of the following families: Scombridae and Clupeidae. However, fish belonging to these families, which have undergone enzyme-ripening treatment in brine, may have higher histamine levels but not more than twice the above values. Examinations shall be carried out in accordance with reliable, scientifically recognized methods.

(2) Contaminants present in the aquatic environment -

(a) Without prejudice to the provisions of the Pesticide Control Act, (CAP. 216), the Belize Environmental Protection Act (CAP. 328), the Coastal Zone Management Act (CAP. 329), concerning water protection and management-

(i) fishery products must not contain in their edible parts contaminants present in the aquatic environment such as veterinary drug residues,

heavy metals and organochlorinated substances at such a level that the calculated dietary intake exceeds the acceptable daily or weekly intake for humans; and

(ii) the monitoring system as established by the Belize Agricultural Health Authority (Biological Residues) (Control) Regulations, 2001, (26 of 2001), shall be implemented to check the level of contamination of fish and fishery products;

(b) the methods of analysis to be used to check the chemical parameters, as well as the sampling plans and the established acceptable levels for the chemical parameters shall be determined by the Authority and carried out in accordance with reliable, scientifically recognized methods.

4. Microbiological Analyses -

(1) The Authority shall perform microbiological analyses on samples of fish and fishery products from importers and fish processing establishments on a regular basis as part of its procedures in monitoring compliance in its food safety program.

(2) Microbiological criteria, including sampling plans and methods of analysis, must meet the Belizean guidelines for microorganisms in fish and fishery products as established by the Authority (Table 1) before it is placed for sale on the market.

(3) Samples failing to meet microbiological criteria shall be subject to regulatory action as outlined by the Food Safety Services of the Authority. (Table 1).

(4) Any sample of a processed product that has been used for inspection or testing may be returned to the applicant, at his request and expense; otherwise it shall be destroyed, or disposed of to a charitable institution.

TABLE 1

**BACTERIOLOGICAL GUIDELINES FOR FISH AND FISH PRODUCTS**

Test Organism*	Product Type**	No. of sample units	Acceptance number(c)	m/g	M/g	Criteria for action
<i>Escherichia coli</i>	Cooked or ready-to-eat products	5	1	4	40	Reject if c=2 or more, or if any one sample exceeds M
	Raw molluscan shellfish	5	1	230/100g	330/100g	Reject if c=2 or more or if any one sample exceeds M

	All other types	5	2	4	40	Reject if c=3 or more, or if any one sample exceeds M
Most Probable Number (MPN)	All types	5	2	100/100g	330/100g	Reject if c=3 or more, or if any one sample exceeds M
Standard Plate Count	All types	5	2	100000	500000	Reject if c=3 or more, or if any one sample exceeds M
<i>Coagulase-Positive Staphylococci</i>	All types	5	1	100	1000	Reject if c=2 or more, or if any one sample exceeds M
<i>Salmonella</i>	All types	5	Absent in each 25 g sample or in pooled samples of 125 g.			Reject if Salmonella is detected.
<i>Vibrio cholerae</i>	Cooked or ready to eat products	5	Absent in each 25 g sample or in pooled samples of 125 g.			Reject if <i>Vibrio cholerae</i> is detected.
<i>Listeria monocytogenes</i>	(See attached)					

\* The analysis of all fish or fishery products shall be conducted in accordance with approved methods.

\*\* Raw shucked or in the shell oysters, clams, mussels or other molluscs and whole scallops which comply with regulation 6 (1) (b) of these Regulations are considered satisfactory when *Escherichia coli* MPN per 100 g of shellfish meat does not exceed a MPN of 230 or if one of the five samples exceeds a MPN of 230 but is less than or equal to a MPN of 330, based on a 5-tube decimal dilution test.

\*\*\* Foods not supporting growth of *L. monocytogenes* include the following:

- a. pH 5.0 - 5.5 and  $A_w < 0.95$
- b. pH  $< 5.0$  regardless of  $A_w$
- c.  $A_w \leq 0.92$  regardless of pH
- d. frozen foods

The pH and  $A_w$  determination should be done on 3 of 5 analytical units. None of the analysed units can fall into the range of pH and  $A_w$  supporting the growth of *L. monocytogenes*.

The designated analytical unit is taken from each sample unit.

Processed products which require cooking and which are clearly labelled with adequate cooking instructions are excluded from testing for *L. monocytogenes*.

\*\*\*\* The method used for detecting *Listeria* depends on GMP status of a plant and the type of food.

**NOTE:** m - no. of bacteria per gram separating acceptable from marginally acceptable samples.

c - no. of samples that may exceed this number of bacteria per gram

M - no sample can exceed this number of bacteria per gram

**3. Payment fees and charges.**

- (a)** Fees and charges for any inspection or laboratory service shall be paid by the interested party making the application for such service, or the establishment or importer undergoing such inspection in accordance with the applicable provisions of this Part.
- (b)** All fees and charges for any inspection or laboratory service, performed pursuant to this Part shall be paid by check, draft, or money order made payable to the Belize Agricultural Health Authority (BAHA).
- (c)** Such check, draft, or money order shall be remitted to the appropriate regional or area office serving the geographical area in which the services are performed, within thirty (30) days from the date of billing, unless otherwise specified in a contract between the applicant and the Managing Director, in which latter event the contract provisions shall apply.

**SCHEDULE VI  
(Regulation 15 (2) (c))**

**MODEL CERTIFICATE (E.U.)**

**HEALTH CERTIFICATE**

**For fishery and aquaculture products intended for export to the  
European Community**

Reference No: .....

Country of dispatch:	
Competent Authority:	

**I. Details identifying the fishery products**

Description of fishery/aquaculture products: \_\_\_\_\_

-species (scientific name): \_\_\_\_\_

-presentation of product and type of treatment: \_\_\_\_\_

Code number (where available): \_\_\_\_\_

Type of packaging: \_\_\_\_\_

Number of packages: \_\_\_\_\_

Net weight: \_\_\_\_\_

Requisite storage and transport temperature: \_\_\_\_\_



**II. Origin of products**

Name(s) and official approval/registration number(s) of establishment(s), factory vessel(s), or cold store(s) approved or freezer vessel(s) registered by the Competent Authority for export to the EC:

\_\_\_\_\_

**III. Destination of products**

The products are dispatched

from: \_\_\_\_\_

to: \_\_\_\_\_

by the following means of transport: \_\_\_\_\_

Name and address of dispatcher: \_\_\_\_\_

Name of consignee and address at place of destination: \_\_\_\_\_

**IV. Health attestation**

The Official Inspector hereby certifies that the fishery or aquaculture products specified above:

1.- have been caught, landed, where appropriate packaged, handled, marked, prepared, processed, frozen, thawed, stored and transported under conditions at least equivalent to those laid down in Council Directive 91/493/EEC of 22 July 1991 laying down the health conditions for the production and the placing on the market of fishery products;

- have undergone health controls at least equivalent to those laid down in Directive 91/493/EEC and in the implementing decisions thereto;

- do not come from toxic species or species containing biotoxins;

2.- in addition in the case of frozen or processed bivalve molluscs, that have been gathered in production areas subject to conditions at least equivalent to those laid down in Council Directive 91/492/EEC of 15 July, 1991, laying down the health conditions for the production and the placing on the market of live bivalve molluscs.

The undersigned Official Inspector hereby declares that he is aware of the provisions of Directives 91/492/EEC, 91/493/EEC and Decision 97/296/EC.

Done at

.....

on .....

.....  
Signature of Official Inspector

Official  
Stamp

**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(FISH AND FISHERY PRODUCTS INSPECTION)**  
**(AMENDMENT) REGULATIONS**

88/2002.

**ARRANGEMENT OF REGULATIONS**

1. Short title.
2. Amendment of Schedule V.
3. Repeal and replacement of Schedule VI.
4. Commencement.

**CHAPTER 211**

88/2002.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(FISH AND FISHERY PRODUCTS INSPECTION)  
(AMENDMENT) REGULATIONS***[10th August, 2002.]*

Short title.

1. These Regulations may be cited as the

**BELIZE AGRICULTURAL HEALTH AUTHORITY (FISH  
AND FISHERY PRODUCTS INSPECTION)  
(AMENDMENT) REGULATIONS,**S.I. No. 173 of  
2001.

and shall be read and construed as one with the **BELIZE AGRICULTURAL HEALTH AUTHORITY (FISH AND FISHERY PRODUCTS INSPECTION) REGULATIONS, 2001**, which, as amended, are hereinafter referred to as the Principal Regulations.

Amendment of  
Schedule V.

2. Schedule V (3) (1) to the Principal Regulations is amended by repealing paragraph (b) and replacing it by the following-

“(b) Histamine

Nine samples shall be taken from each batch. These must fulfill the following requirements:

- the mean value must not exceed 100 ppm;

- two samples may have a value more 100 ppm but less than 200 ppm;

- no sample may have a value exceeding 200 ppm.

These limits apply only to fish species of the following families: Scrombridae, Clupeidae, Engraulidae and Coryphenidae. However, fish belonging to these families, which have undergone enzyme-ripening treatment in brine, may have higher histamine levels but not more than twice the above values. Examinations shall be carried out in accordance with reliable, scientifically recognized methods.”.

3. Schedule VI to the Principal Regulations is repealed and replaced by the Schedule to these Regulations.

Repeal and replacement of Schedule VI.

4. These Regulations, shall come into force on the 9<sup>th</sup> day of August, 2002.

Commencement.

**MADE** by the Minister of Agriculture, Fisheries and Cooperatives this 9th day of August, 2002.

**(DANIEL SILVA)**

Minister of Agriculture, Fisheries and Cooperatives

\_\_\_\_\_

**SCHEDULE  
HEALTH CERTIFICATE**

**For fishery and aquaculture products  
intended for export to the European Community**

Reference No: .....

Country of dispatch:	
Competent Authority ( <sup>1</sup> ):	

**I. Details identifying the fishery products**

Description of fishery/aquaculture products(<sup>2</sup>):

- species (scientific name):

- presentation of product and type of treatment(<sup>3</sup>):

Code number (where available):

Number of packages:

Net weight:

Requisite storage and transport temperature:

**II. Origin of products**

Name(s) and official approval/registration number(s) of establishment(s), factory vessel(s), or cold store(s) approved or freezer vessel(s) registered by the competent authority for export to the EC:

Destination of products

The products are dispatched

from: \_\_\_\_\_  
(place of dispatch)

to: \_\_\_\_\_  
(country and place of destination)

by the following means of transport:

Name and address of dispatcher:

Name of consignee and address at place of destination:

(<sup>1</sup>)Name and address.

(<sup>2</sup>)Delete where applicable.

(<sup>3</sup>)Live, refrigerated, frozen, salted, smoked, preserved, etc.

**III. Health attestation**

The official inspector hereby certifies that the fishery or aquaculture products specified above:

1. - have been caught, landed, where appropriate packaged, handled, marked, prepared, processed, frozen, thawed, stored and transported under conditions at least equivalent to those laid down in Council Directive 91/493/EEC of 22 July 1991 laying down the health conditions for the production and the placing on the market of fishery products;
  - have undergone health controls at least equivalent to those laid down in Directive 91/493/EEC and in the implementing decisions thereto;
  - do not come from toxic species or species containing biotoxins;
2. in addition, in the case of frozen or processed bivalve molluscs, the latter have been gathered in production areas subject to conditions at least equivalent to those laid down in Council Directive 91/492/EEC of 15 July 1991 laying down the health conditions for the production and the placing on the market of live bivalve molluscs.

The undersigned official inspector hereby declares that he is aware of the provisions of Directives 91/492/EEC, 91/493/EEC and Decision 97/296/EC.

Done at ....., on .....

(Place) (Date)

.....  
(Signature of official inspector<sup>(4)</sup>)

(Name in capital letters, capacity and qualifications of person signing)

Official<sup>(4)</sup>  
stamp





**CHAPTER 211**

183/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(BIOLOGICAL RESIDUES) (CONTROL)**  
**REGULATIONS****ARRANGEMENT OF REGULATIONS**

1. Short title.
2. Interpretation.
3. Authority to take samples.
4. Authorised officer to take samples.
5. Records to be kept.
6. Tolerance levels.
7. Suspect carcasses.
8. Action on laboratory results.
9. Sampling methods in cases of illegal treatment.
10. Consequences of persistent violations by owner of animals.
11. Liability of owner of animal to pay costs.
12. Power of authorised officers to control use of pesticides, etc..

13. Removal or destruction of prohibited substances.
14. Administering unregistered substances on animals.
15. Offences.
16. Animals to be slaughtered after withdrawal time.
17. Experimental animals offered as food animals-how to be dealt with.
18. Power of Minister to prohibit use of pesticides on farms, etc ., where use poses danger to health of other animals, etc..
19. Additional offences and penalties.
20. Repeals.
21. Commencement.

—————  
FIRST SCHEDULE

—————  
SECOND SCHEDULE

—————  
THIRD SCHEDULE  
—————

**CHAPTER 211**

183/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(BIOLOGICAL RESIDUES) (CONTROL)  
REGULATIONS***[29th December, 2001.]*

Short title.

1. These Regulations may be cited as the

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(BIOLOGICAL RESIDUES (CONTROL) REGULATIONS.**

Interpretation.

2. In these Regulations, unless the context otherwise requires –

CAP. 211.

“Act” means the Belize Agricultural Health Authority Act;

“active principle” means any chemical substance which gives any product the nature of the pesticide or medicine specific to it;

“animal” has the meaning assigned to it in the Act;

“approved laboratory” means a laboratory approved by the Authority for the purpose of examining official samples in order to detect the presence of residues;

“authority” means the Belize Agricultural Health Authority established under section 3 of the Act;

“authorised officer” means an officer of the Authority designated for the purposes of these regulations;

“biological residue” means the residue of any substance, including metabolic products; metabolites remaining in the tissues and organ of an animal after slaughter or processing, as a result of treatment or exposure of the animals to insecticide, herbicide, fungicide, organic or inorganic compound, hormone or hormone like substance, growth promoter, antibiotic, anthelmintic, tranquilizer or other therapeutic or prophylactic agents;

“lot” means a quantity of a food material delivered at one time and known or presumed, by the sampling officer to have uniform characteristics such as origin, producer, variety, packer, type of packing, markings, consignor or other similar characteristics;

“maximum residue limit” means the maximum concentration of a pesticide or veterinary drug residue legally permitted in or on a food or food commodity;

“official sample” means a sample taken by the Authority or an authorised officer thereof which bears, for the purposes of the examination of the residues or substances listed in the Second Schedule (livestock and poultry, fish and fishery products, milk, eggs, and farmed game), a reference to the species, the type, the quantity concerned, the method of collection and particulars identifying the sex of the animal, the origin of the animal, or the origin of the animal product;

Second  
Schedule.

“pesticide” means any substance intended for preventing, destroying or controlling any pest or any vector of human, animal or plant disease and includes any substance intended for use as a plant growth regulator, defoliant, dessicant, agent for thinning fruit, or for preventing the premature fall of fruits, or a substance applied to crops either before or after harvest to protect the commodity from deterioration during storage and transportation, and any substance applied externally to animals for the control of ectoparasites;

“tolerance level” means that level of biological residue, which does not render the meat, poultry, meat product, fish, fishery product, or other animal products such as milk, honey, unacceptable directly or indirectly for human consumption;

“withdrawal time” means the minimum period of time necessary for any substance used in the treatment of an animal, to be eliminated or reduced to the tolerance level, so that on the day the animal is presented for slaughter or for processing, in the animal so treated or exposed to such substances, any residue will not render the meat or animal product harmful or unacceptable for human food.

Authority to take samples.

3. An authorised officer shall have the authority to take such samples as he deems necessary for the determination of biological residues “free of charge”.

Authorised officer to take samples.

4. (a) The authorised officer shall conduct a regular surveillance of the biological residues in live animals, their to take excrement and body fluids and in tissue, animal products, animal feed and drinking water for the purpose of detecting the presence of the residues and substances listed in the Second Schedule.

Second Schedule.

(b) The authorized officer shall institute a sampling programme, taking into consideration the *ante mortem* and *post mortem* signs, the history of the farm and area from which the animals or animal products come from and the chemicals and/or drugs used on the farm.

(c) Such samples shall be taken according to the phase of the investigation, which shall in the first instance be an investigatory phase, followed by the second or routine surveillance phase. However, in any known or suspected situation of biological residue abuse or accident more intensive sampling may be instituted as deemed necessary by the Authority.

(i) In the investigatory phase, the animals or animal products of a lot shall be randomly selected and one set of samples shall be taken from the carcass, meat, fish or animal product in accordance with the sampling

strategy outlined in the Second Schedule.

Second  
Schedule.

- (ii) Where the animals or the animal products are of unknown or undisclosed origin, the carcasses, meat, fish or animal product shall be subjected to more intense sampling regime in accordance with the principles of *Codex Alimentarius Commission*.
- (iii) All carcasses, meat, fish or animal products of such animals shall be retained by the authorised officer pending the receipt of the laboratory results:

Provided that the carcasses, meat, fish or animal products of any animal may be exported to those countries which do not require laboratory tests, before the receipt of such laboratory results.

- (iv) In the routine surveillance phase, samples shall be taken from randomly selected carcasses, meat, fish or animal products of animals at about half the rate of sampling used in the investigatory phase:

Provided that where there is a specific requirement for the sampling levels and frequency to meet certain export specifications, then the level and frequency of such testing shall meet such requirements.

- (d) All samples shall be accompanied by a Laboratory Request

First Schedule. Form A as prescribed in the First Schedule, stating the analysis requested, species of animal, type of animal product or tissue submitted, name and address of establishment, name and address of the owner of the animal and of the farm, feedlot, aquaculture facility, processing enterprise, or other source of the animals. The type of sample and amounts to be submitted will depend on the analytical method used but will be based on the recommendations of *Codex Alimentarius*.

(e) Samples shall be taken in duplicate and the duplicate sample shall be retained by the authorised officer pending the receipt of the laboratory results.

(f) The methods of analysis shall be those specified by the Authority following internationally acceptable protocols.

First Schedule. (g) The laboratory results shall be reported in the Primary Analysis Certificate Form B as prescribed by First Schedule.

(h) (1) Where the primary analysis shows that an official sample contains -

(a) a prohibited substance; or

(b) an un-registered substance; or

(c) a substance which an analyst reasonably suspects to be an unregistered substance; or

(d) in the case of a sample taken from an animal, its excrement or body fluids or from its tissues or products, an authorised substance at a concentration which is



notified to the analyst by an authorised officer as one which causes him reasonably to suspect that meat or a food product derived from that animal may contain an authorised substance at a concentration exceeding the relevant maximum residue limit; or

- (e) in the case of a sample taken from any meat or food product of animal origin, an authorized substance at a concentration exceeding the relevant maximum residue limit, the analyst shall give a primary analysis certificate, in the form specified in the Primary Analysis Certificate Form B in the First Schedule to an authorized officer who shall then give this to the owner of the animal, meat or food product of animal origin.

First Schedule.

(11) Where the primary analysis does not show anything requiring a Primary Analysis Certificate to be given under subparagraph (1) above, the analyst shall notify an authorised officer of that fact and the authorised officer shall then notify the owner of the animal, meat or food product of animal origin.

- (i) (1) Any Primary Analysis Certificate given by an analyst under these Regulations shall be signed by the analyst and shall specify the name of the authorised officer who submitted the sample for analysis.
- (2) In any proceedings under these Regulations, the production by one of

the parties-

(a) of any document purporting to be a Primary Analysis Certificate given by an analyst under subparagraph (1) above; or

(b) of a document supplied to him by the other party as being a copy of such a Certificate,

shall be sufficient evidence of the facts stated in it unless, in a case falling within sub-paragraph (1) above, the other party requires the analyst to be called as a witness.

Records to be kept.

5. The authorised officer shall keep a record of all samples submitted for analysis and the record shall show the species of animals, type of animal product, origin of the animal or animal product (processing enterprise, farm and owner) and the laboratory findings. The authorised officer shall submit a monthly report of these to the Managing Director of the Authority.

Tolerance levels.

6. Tolerance levels for biological residues shall be as specified in the *Codex Alimentarius* for the specific animal species or commodity of animal origin.

Suspect carcasses.

7. Suspect carcasses, meat, fish or animal products suspected of containing biological residues as evidenced by the history, *ante mortem* and *post mortem* examination shall be retained by the authorised officer and shall have a "retained" tag affixed, pending the receipt of the laboratory results.

8. (a) Where carcasses, meat, fish or animal products are found to have biological residues in excess of the permitted tolerance levels as specified in *Codex Alimentarius*, they shall be condemned and disposed of as required by the regulations under the supervision of the authorised officer.

Action on laboratory results.

(b) Where positive results are obtained as described in subparagraph (a) above, the Authority shall obtain without delay -

- (i) all the information required to identify the animal or animal product and the farm or processing enterprise of the animal's origin or departure;
- (ii) full details of the examination and its results.

(c) Where positive results are obtained as described in subparagraph (a) above, the Authority shall carry out -

- (i) an investigation on the farm of origin or departure, as appropriate, to determine the reasons for the presence of residues;
- (ii) in the case of illegal treatment, an investigation of the source or sources of the substances or products concerned at the stage of manufacture, handling storage, transport, administration, distribution or sale, as appropriate.
- (iii) any other further investigations which the Authority considers necessary.

(d) Animals from which samples have been taken are to be clearly

identified and may not in any circumstances leave the farm until the results of the checks are available.

Sampling methods in cases of illegal treatment.

9. Where illegal treatment of an animal or fish is established, the Authority shall ensure that the livestock, fish or animal product concerned in the investigations referred to in Regulation 8 (c) (ii) above is immediately placed under official control. Such animals or animal products shall bear an official mark or identification and, as a first step, an official sample shall be taken from a statistically representative sample, on internationally recognized scientific basis.

Consequences of persistent violations by owner of animals.

10. (1) Where there is evidence of residues of authorised substances or products of a level exceeding the maximum limit for residues, the Authority shall carry out an investigation on the farm of origin or departure, as applicable, to determine why the above limit was exceeded in accordance with the results of that investigation, and the Authority shall take all necessary measures to safeguard public health including prohibiting animals from leaving the farm concerned or animal products from leaving the farm or establishment concerned for a period determined by the Authority.

(2) In the event of repeated infringements of maximum residue limits pursuant to this regulation when animals are placed on the market by a farmer or products are placed on the market by a farmer or a processing establishment, intensified checks on the animals and products from the farm and/or establishment in question shall be carried out by the Authority for a period of at least six months, and such products or carcasses may be impounded by the Authority pending the results of analysis of the samples. Any results showing that the maximum residue limit has been exceeded shall result in the carcasses or products concerned being declared unfit for human consumption.

Liability of owner of animal to pay costs.

11. (1) The costs of the investigations and checks referred to in Regulation 10 shall be borne by the owner or person having charge of the

animals or animal product. Where the investigation confirms that suspicion was justified, the costs of analyses carried out under Regulations 8 and 9 shall be borne by the owner or person having charge of the animals.

(2) Without prejudice to criminal or administrative penalties, the cost of destroying animals or animal products which test positive to examination to determine maximum residue limits shall be borne by the owner of the animals without indemnity or compensation.

12. Without prejudice to the provisions of the Pesticide Control Act, and any other subsidiary legislation to the same effect, the authorised officer shall control the use of pesticides and veterinary drugs in authorised establishment or enterprises, and shall take steps to prevent the introduction of prohibited chemicals and similar substances for use in registered establishments. Prohibited pesticides and veterinary drugs are listed in the Fourth Schedule.

Power of authorised officers to control use of pesticides, etc.. CAP. 216. Fourth Schedule.

13. Where prohibited or non-approved substances are found in a registered establishment, the authorised officer shall make provision for their removal and/or destruction without prejudice to the possible imposition of administrative penalties on the offender.

Removal of destruction of prohibited substances.

14. (1) Subject to subregulations (2) and (3) below, no person shall administer any unregistered substance to an animal.

Administering unregistered substances on animals.

(2) Nothing in subregulation (1) above shall prohibit the administration of any veterinary product to an animal where it is administered in accordance with the provisions of Regulations providing for the registration and control of veterinary drugs and animal feed.

(3) Nothing in subregulation (1) above shall prohibit the administration to an animal of -

(a) any medicated feeding stuff where it is

administered in accordance with a veterinary written direction from a veterinarian duly registered in Belize; or

- (b) any veterinary product which has been specially prepared in accordance with the approval of the Authority or some other competent authority for animal health in Belize, in cases to which paragraph (a) of this subregulation does not apply.

Offences.

15. (1) No person shall sell or supply for slaughter, or slaughter or process, any animal or animal product for human consumption if it contains -

- (a) a prohibited substance;
- (b) an unregistered substance;
- (c) an authorised substance in any of its tissues or food product at a concentration exceeding the relevant maximum residue limit.

(2) No person shall sell or supply for slaughter, or slaughter or process, any animal or animal product for human consumption if the withdrawal period in respect of any veterinary product which has been administered to the animal or to the animal from which the food product originated from, has not expired.

(3) No person shall sell for human consumption -

- (a) any meat or fish (whether or not mixed with other food); or

(b) any other food product of animal origin,

in which there is any substance or unregistered substance or an authorised substance at a concentration exceeding the relevant maximum residue limit.

16. Where animals have been treated with or exposed to various drugs or pesticides, a sufficient period of time (the “withdrawal time”) shall be allowed before such animals are presented for slaughter or processing so that any biological residue may be eliminated or reduced to acceptable levels as prescribed by regulations and as listed in *Codex Alimentarius Commission*.

Animals to be slaughtered after withdrawal time.

17. (1) No animal that has been experimentally exposed to any pharmaceutical, chemical or biological product shall be accepted for slaughter or processing at a registered establishment or enterprise unless the Manager, research worker and sponsor of the experiment submit in advance to the Managing Director of the Authority an evaluation of the protocols which demonstrate that the use of the experimental product not result in adulteration of the meat, fish or animal product or the methods for the detection of the residues of the product and its withdrawal period.

Experimental animals offered as food animals - how to be dealt with.

(2) On a basis of the above information submitted in subregulation (1) above to the Managing Director of the Authority, the Managing Director of the Authority shall inform the authorised officer of the guidelines for control in each case in compliance with the standards prescribed for that purpose in Regulations.

18. The Minister, on advice from the Managing Director of the Authority and the Chairman of the Pesticide Control Board, may prohibit or restrict the use of pesticides on farms, feedlots, ranches, processing enterprises, aquaculture facilities, apiaries, poultry houses, ponds, stables, pens or other such places where animals are kept where such pesticides constitute or may constitute a danger to the health and well being of useful animals and humans.

Power of Minister to prohibit use of pesticides on farms, etc., where use poses danger to health of other animals, etc..

Additional offences and penalties.

19. (1) Any failure to cooperate with the Authority and any obstruction by any person employed in a slaughterhouse or as a processing plant supervisor or, in the case of a private enterprise, by the slaughterhouse or processing plant owner or owners, or by the owner of the animals or animal products or person having charge of them, during inspection and sampling as required for the monitoring of residues, and during the investigations and checks provided for in these Regulations shall result in appropriate criminal and/or administrative penalties being imposed by the Authority.

(2) Any person who contravenes these Regulations commits an offence and shall be liable on summary conviction to a fine not exceeding three thousand dollars or to imprisonment for a term not exceeding two years or to both such fine and term of imprisonment.

Repeals.  
S.I. 26 of 2001.

20. Upon the commencement of these Regulations, the Belize Agricultural Health Authority (Biological Residues) (Control) Regulations, 2001, shall stand repealed.

Commencement.

21. These Regulations shall come into force on the 12<sup>th</sup> day of December, 2001.

**MADE** by the Minister responsible for Agriculture and Fisheries this 12<sup>th</sup> day of December, 2001.

**(DANIEL SILVA)**

MINISTER RESPONSIBLE FOR  
AGRICULTURE, FISHERIES AND  
COOPERATIVES



**FIRST SCHEDULE**

**FORM A  
(Regulation 4 (b))**

**LABORATORY REQUEST FORM**

**BELIZE AGRICULTURAL HEALTH AUTHORITY**

**VETERINARY MEAT INSPECTION SERVICES FORM  
FOR REMITTANCE OF MEATS SAMPLES  
FOR ANALYSIS OF PESTICIDE AND BIOLOGICAL RESIDUES**

Place .....Date .....

Establishment No. ....Type of Tissue .....

Quantity ..... Type of Packing .....

**ANALYSIS REQUESTED:**

- Organophosphates
- Herbicides
- Carbamates
- Heavy Metals
- Diethylstilbestrol
- Fungicides
- Antibiotics and
- Drugs
- Species
- Other

\*Indicate specific drug or  
chemicals when necessary  
e.g., Chloramphenicol

Inspector taking sample: .....

No. of animals slaughtered: .....

No. of animals sampled: .....

Lot No: .....

Farm of Origin: .....

.....

Date of slaughter: ..... Date submitted ..... Time .....

Laboratory to which samples sent: .....

Deceision made: .....

.....  
Sender

.....  
Signature

.....  
Received by

.....  
Date & time received

.....  
Signature

**FIRST SCHEDULE**

**FORM A**

**LABORATORY REQUEST FORM**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
FOOD SAFETY SERVICE**

**BIOLOGICAL RESIDUES IN FOOD OF ANIMAL ORIGIN**

**LABORATORY REQUEST FORM FOR THE REMITTANCE OF  
SAMPLES FOR THE ANALYSIS OF PESTICIDES AND  
BIOLOGICAL RESIDUES**

A. Place: ..... B. Date: .....

C. Establishment/Enterprise No. .... D. Type of Sample: 1. Tissue (*specify*) .....

2. Water

E. Condition of Sample .....

3. Urine

4. Milk

F. Purpose of Submission:

5. Honey

6. Feed

1.  Diagnostic 2.  Suspect 3.  Monitoring 7. Environ(*specify*)

4.  Surveillance 5.  Haccp 6.  Other (*specify*) .....

## G. ANALYSIS REQUESTED:

1.	Organochlorines
2.	Organophosphates
3.	Herbicides
4.	Carbamates
5.	Heavy Metals
6.	Fungicides
7.	Antibiotics*
8.	Veterinary Drug*
9.	Species
10.	Toxins (1. • Aflatoxin, 2. • Ciguatoxin, 3. • Other (Specify)
11.	Other (Specify)

\* Indicate specific veterinary drug or antibiotic

H. Type of Analysis Requested: 1. •Screening      2. •Confirmatory

I. Instrumentation: 1. •Charm II Analyzer 2. •HPLC 3. •AA 4. •GC 5. •MS 6. •Other

J. Authorized Officer taking sample.....

K. No. of animals/ animal products processed .....

L. No. of animals or animal products sampled: .....M. Lot No: .....

N. Farm of Origin .....

O. Processor .....

P. Date of slaughter/processing .....

Q. Date and time submitted .....

R. Name (Print) and signature of submitter .....

S. Received by..... T. Action .....

**FIRST SCHEDULE**

**FORM B  
(Regulation 4 (d) and (h) (1))**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
FOOD SAFETY SERVICE  
BIOLOGICAL RESIDUES IN FOOD OF ANIMAL ORIGIN**

**PRIMARY ANALYSIS CERTIFICATE**

Name .....  
Address .....

Primary analysis of the official sample described below has shown that it contains a residue of:

[Tick the appropriate]

- (a) a prohibited substance;
- (b) an unregistered substance;
- (c) a substance reasonably suspected of being an unregistered substance;
- (d) an authorised substance at a concentration which an authorised officer has notified the analyst as being one which he reasonably suspects will produce, in animal tissue or a food product derived from the animal to which the sample relates an authorised substance at a concentration exceeding the relevant maximum residue limit;
- (e) an authorised substance at a concentration exceeding the relevant maximum residue limit.

As indicated in box 9 overleaf

Signature of analyst ..... Date .....



**BELIZE AGRICULTURAL HEALTH AUTHORITY  
FOOD SAFETY SERVICE  
BIOLOGICAL RESIDUES IN FOOD OF ANIMAL ORIGIN  
FORM B**

**LABORATORY REPORT FORM**

**FOR LABORATORY USE ONLY**

Date Received  Lab Ref. No.

Sample Conditions Lot No.

Owner  Sampling Officer

Address

Test For  Type of Test

Results of Analysis:

MRL (if appropriate)

Screening

Screening 2

Confirmatory

Comments

Name: \_\_\_\_\_ Date

Signature: \_\_\_\_\_ Action

**SECOND SCHEDULE**  
**(Regulations 2, 4 (a) and 4 (c) (I))**

**GROUP A**  
**SUBSTANCES HAVING ANABOLIC EFFECT AND**  
**UNAUTHORISED SUBSTANCES**

- (1) Stilbenes, stilbenes derivatives, and their salts and esters
- (2) Antithyroid agents
- (3) Steroids
- (4) Resorcylic acid lactones including zeranol
- (5) Beta-agonists
- (6) Compounds prohibited for use in food producing animals in Belize

**GROUP B**  
**VETERINARY DRUGS AND CONTAMINANTS**

- (1) Antibacterial substances, including sulphonamides, quinolones
- (2) Other veterinary drugs
  - (a) Anthelmintics
  - (b) Anticoccidials, including nitroimidazoles;
  - (c) Carbamates and pyrethroids
  - (d) Sedatives
  - (e) Non-steroidal anti-inflammatory drugs (NSAIDs)
  - (f) Other pharmacologically active substances
- (3) Other substances and environmental contaminants
  - (a) Organochlorine compounds including PcBs
  - (b) Organophosphorus compounds
  - (c) Chemical elements
  - (d) Mycotoxins
  - (e) Dyes
  - (f) Others



Including unregistered substances which could be used for veterinary purposes.

### **THIRD SCHEDULE**

The purpose of this Schedule is to define the minimum number of animals or animal products from which the samples must be taken. Each sample can be analysed for detecting the presence of one or more substances.

#### **GROUP 1**

##### **BOVINE, PROCINE, OVINE, CAPRINE AND EQUINE ANIMALS**

##### **1. BOVINE ANIMALS**

The minimum number of animals to be controlled each year for all kinds of residues and substances must at least equal 0.4% of bovine animals slaughtered the previous year, with the following breakdown:

##### **Group A: 0.25 % divided as follows:**

- one half of the samples are to be taken from live animals on the holding; (by derogation, 25% of samples analysed for the research of Group A 5 substances can be taken from appropriate material (serum, feeding stuffs, drinking water, etc.)
- one half of the samples are to be taken at the slaughterhouse. Each sub-group in Group A must be checked each year using a minimum of 5% of the total number of samples to be collected for Group A. The balance will be allocated according to the experience and background information of the result of the investigatory phase.

**Group B: 0.15%**

30% of the samples shall be checked for Group B 1 substances.

30% of the samples shall be checked for Group B 2 substances.

10% of the samples shall be checked for Group B 3 substances.

The balance will be allocated according to the situation found after the investigatory phase.

**2. PORCINE ANIMALS**

The minimum number of animals to be checked each year for all kinds of residues and substances must at least equal 0.05% of the pigs slaughtered the previous year, with the following breakdown:

**Group A: 0.02 %**

In those cases where the sampling of animals is carried out at the slaughterhouse, in addition the analysis of drinking water, feedingstuff, faeces, or all other appropriate parameters must be undertaken at farm level. In that case, the minimum number of farms to be visited annually must represent at least one farm per 1000 pigs slaughtered the previous year.

Each sub-group in Group A must be checked each year using a minimum of 5% of the total number of samples to be collected for Group A.

The balance will be allocated according to the experience and background information of the investigatory phase.

**Group B: 0.03%**

The same breakdown per sub-group as for bovine animals has to be respected. The balance will be allocated according to the situation of the investigatory phase.

**3. SHEEP AND GOATS**

The minimum number of animals to be checked for all kind of residues and substances must at least equal 0.05% of sheep and goats over three months of age slaughtered the previous year, with the following breakdown:

**Group A: 0.01 %**

Each sub-group of Group A must be checked each year using a minimum of 5% of the total number of samples to be collected for Group A.

The balance will be allocated according to the experience and background information of the investigatory phase.

**Group B: 0.04 %**

The same breakdown per sub-group as for bovine animals has to be respected. The balance will be allocated according to the experience of the investigatory phase.

**4. EQUINE ANIMALS**

The number of samples is to be determined by the Authority in relation to the problems identified.

**GROUP 2  
BROILER CHICKENS, SPENT HENS, TURKEYS, OTHER  
POULTRY**

A sample consists of one or more animals depending on the requirements of the analytical methods.

For each category of poultry considered (broiler chickens, spent hens, turkeys,

and other poultry), the minimum number of samples to be taken each year must at least equal one per two hundred tonnes of annual production (deadweight), with a minimum of one sample for each group of substances if the annual production of the category of birds considered is over five tonnes.

The following breakdown must be respected:

**Group A: 50 % of the total samples**

The equivalent of one fifth of these samples must be taken at farm level.

Each sub-group of Group A must be checked each year using a minimum of 5% of the total number of samples to be collected for Group A.

The balance will be allocated according to the experience and background information of the investigatory phase.

**Group B: 50 % of the total sample**

30% must be checked for Group B 1 substances,  
30% must be checked for Group B 2 substances,  
10% must be checked for Group B 3 substances.

The balance will be allocated according to the situation of the investigatory phase.

**GROUP 3  
AQUACULTURE PRODUCTS**

**1. Finfish farming products**

A sample is one or more fish, according to the size of the fish in question and of the requirements of the analytical method.

Belize will respect the minimum sampling levels and frequencies given below, depending on the production of farmed fish (expressed in tonnes).

The minimum number of samples to be collected each year must be at least one per ten tonnes of annual production.

The compounds sought and the samples selected for analysis should be selected according to the likely use of these substances.

The following breakdown shall be respected:

**Group A: one third of the total samples:**

All the samples must be taken at farm level, on fish at all stages of farming including fish which is ready to be placed on the market for consumption.

**Group B: two thirds of the total samples:**

The sampling should be carried out:

- (a) preferably at the farm, on fish ready to be placed on the market for consumption;
- (b) either at the processing plant, or at wholesale level, on fresh fish, on condition that tracing-back to the farm of origin, in the event of positive

results, can be done.

In all cases, samples taken at farm level should be taken from a minimum of 10% of registered sites of production.

## **2. Other aquaculture products**

If there is reason to believe that veterinary medicine or chemicals are being applied to the other aquaculture products, or when environmental contamination is suspected, then these species shall be included in the sampling plan in proportion to their production as additional samples to those taken for finfish farming products. In the investigatory phase, a minimum of one sample per ten tonnes of annual production shall be collected each year.

For sea-farming, in which sampling conditions may be especially difficult, sample may be taken from feed in place of samples from fish.

## **GROUP 4 MILK**

### **1. Bovine milk**

#### **A. Sampling requirements**

- Each official sample shall be taken by the BAHA in such way that it is always possible to trace it back to the farm of origin of the milk.
- The samples, according to the choice of BAHA, may be taken:
  - (a) either at farm level from the collection tank,
  - (b) or at the level of the dairy industry before the bulk tanker has discharged.

The sample size will depend on the analytical methods used.

**B. Sampling level and frequency**

The annual number of samples is one per five tonnes of the annual production of milk, with a minimum of fifty samples.

**The following breakdown must be respected:**

- (a) 70% of the samples must be examined for the presence of residues of veterinary drugs. In this case, each sample has to be tested for at least four different compounds from at least three grouped among groups A 6, B 1, B 2 (a) and B 2 (e) of the Second Schedule to this regulation.
- (b) 15% of the samples must be tested for the presence of residues designated in group B 3 of Annex 1 to this regulation.
- (c) The balance (15) must be allocated according to the situation of the investigatory phase.

**2. Milk from other species (ovine, caprine, equine)**

The number of samples for these species will be determined by the Authority according to any problems identified.

**GROUP 5  
EGGS**

**1. Hen eggs**

**A. Sampling requirements**

- Each official sample must be taken by the Authority in such way that it is always possible to trace it back to the farm of origin of the eggs.
- The samples, according to the choice of the Authority, can be taken:
  - (a) either at farm level;
  - (b) or at the level of the packing centre.
- The sample size is at least twelve eggs or more, according to the analytical methods used.

**B. Sampling level and frequency**

The number of samples to be taken each year must be at least equal to one per ten tonnes of the annual production of consumption eggs, with a minimum of twenty samples. The breakdown of samples may be decided by the Authority according to the structure of the industry, particularly as regards levels of integration within it.

At least 30% of samples must be collected from packing centres, which represent the most significant proportion of eggs supplied for human consumption.

The following breakdown must be respected:

- 70% of the samples must be tested for at least one compound from each following group: group A 6, B 1 and B 2 (b) mentioned in annex 1 of this regulation.
- 30% of the samples must be allocated to the situation in the investigatory phase, but must include some analyses for substances in Group B 3 (a) of The Second Schedule.



**2. Eggs from other species of poultry**

The number of samples for these species is to be determined by BAHA according to the level of production and the problems identified. The eggs from these species must be included in the sampling plan as additional samples to those taken for hen eggs.

**GROUP 6  
RABBIT MEAT AND THE MEAT OF WILD GAME AND  
FARMED GAME**

**1. Rabbit meat**

**A. Sampling requirements**

One sample consists of one or more animals from the same producer, according to the requirements of the analytical methods.

- Each official sample must be taken by the Authority in such way that it is always possible to trace it back to the farm of origin of the rabbits.
- The samples, according to the structure of the rabbit production in Belize, can be taken:
  - (a) either at farm level,
  - (b) or at the level of the registered Establishments.

Some additional samples of drinking water and feedingstuff may be taken at farm level, for the control of illegal substances.

**B. Sampling level and frequency**

The number of samples to be taken each year will be determined by the Authority.

**2. Farmed game****A. Sampling requirements**

The sample size will depend on the analytical method used.

The sample must be taken at the processing unit level. It must be possible to trace the animals or their meat back to the farm of origin.

Some additional samples of drinking water and feedingstuff may be taken at farm level, for the control of illegal substances.

**B. Sampling level and frequency**

The number of samples to be taken each year must at least be equal to ten samples.

The following breakdown shall be respected:

**- Group A: 20 % of the total number of samples**

The majority of the samples must be analysed for compounds of group A 5 and group A.

The majority of the samples must be analysed for compounds of group A 5 and group A6.

- **Group B: 70% of the total number of samples**

The breakdown must be:

- 30% must be checked for Group B 1 substances,
- 30% must be checked for Group B 2 (a) and (b) substances,
- 10% must be checked for Group B 2 (c) and (e) substances,
- 30% must be checked for Group B 3 substances.

The balance (10%) will be allocated according to the experience of the Investigatory phase.

**3. Wild game**

**A. Sampling requirements**

The sample size will depend on the analytical method used.

The samples will be taken at the processing unit level or at the hunting place.

It must be possible to trace the animals back to the region where they were hunted.

**B. Sampling level and frequency**

The number of samples to be taken each year must at least be equal to ten samples. These samples will be taken to analyse residues of chemical elements.

**GROUP 7  
HONEY****A. Sampling requirements**

The sample size will depend on the analytical method used.

The samples can be taken at any point in the production chain, provided that it is possible to trace the honey back to the original producer.

**B. Sampling level and frequency**

The number of samples to be taken each year must be at least equal to one per thirty tonnes of the annual production for the first three hundred tonnes of production and one sample for each additional thirty tonnes.

The following breakdown must be respected:

- Group B I and Group B 2 (c): 50% of the total number of samples,
- Group B 3 (a), (b) and (c): 40% of the total number of samples.

The balance (10%) must be allocated according to the experience of the Investigatory phase. In particular, consideration could be given to mycotoxins.

**FOURTH SCHEDULE**

**LIST OF VETERINARY PRODUCTS PROHIBITED FOR USE IN  
FOOD PRODUCING ANIMALS IN BELIZE**

1. Chloramphenicol
  2. Furazolidone
  3. Nitrofurans
  4. Dimetridazole
  5. Metronidazole
  6. Ethyl Stilbestrol
-

**CHAPTER 211**

184/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(VETERINARY DRUGS AND ANIMAL FEED)**  
**(REGISTRATION AND CONTROL)****ARRANGEMENT OF REGULATIONS**

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FIRST SCHEDULE

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**CHAPTER 211**

184/2001.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(VETERINARY DRUGS AND ANIMAL FEED)  
(REGISTRATION AND CONTROL) REGULATIONS***[29th December, 2001.]***PART I****PRELIMINARY**

Short title.

1. These Regulations may be cited as the

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(VETERINARY DRUGS AND ANIMAL FEED)  
(REGISTRATION AND CONTROL) REGULATIONS.**

Interpretation.

2. In these Regulations, unless the context otherwise requires –

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“Act” means the Belize Agricultural Health Authority Act;

“active ingredient” means the substance that is biologically active in a veterinary drug or veterinary pesticide;

“animal” includes cattle, buffalos, horses, mules, asses, sheep, swine, goats, dogs, cats, birds, poultry, insects, fish, reptile, amphibians, eggs of any kind and all animals of whatever kind, be they genetically engineered or altered or otherwise, whether similar to the foregoing or not;



“animal feed” means a mixture of nutrients that are produced under hygienic conditions that comply with the requirements of each species, age, and type of production, either as the only source of feed or as a supplement;

“antidote” means a substance used to neutralize the toxic effects produced by a chemical agent;

“antimicrobials” means substances that inhibit or kill micro-organisms that affect animals;

“Authority” means the Belize Agricultural Health Authority established under section 3 of the Act;

“distribute” means to supply, deliver or give out veterinary drugs or veterinary pesticides, or to divide and dispense such drugs or pesticides in portions to retailers or others;

“extra label use”, in respect of a veterinary drug or veterinary pesticide includes-

- (a) actual use or intended use of the veterinary drug or pesticide in an animal in a manner that is not in accordance with the approved labelling of the drug;
- (b) use of the veterinary drug or pesticide for diseases, conditions and other indications in an animal that is not listed on the labelling of the drug or pesticide;
- (c) use in or on an animal of the drug or pesticide at dosage levels, frequencies or routes of administration other than those stated on the labelling of the drug or pesticide; or

- (d) deviation from the withdrawal time labelled on the drug or pesticide based on the uses of the drug as specified in paragraph (a) to (c) of this definition;

“import” means import into Belize by any means and “importation” has a corresponding meaning;

“importer” includes any person who, whether as owner, consignor, consignee, agent or broker, is in possession of or in any way entitled to the custody or control of any thing;

“maximum residue limit” in respect of a veterinary drug, means the maximum concentration of residue resulting from the use of a veterinary drug (expressed in mg/kg on a fresh weight basis) that is recommended, permitted or recognised as acceptable in or on a food as defined by the Authority;

“owner”, in respect of a veterinary drug or a veterinary pesticide, means -

- (a) a person having or claiming any right, title or interest in the drug or pesticide;
- (b) an agent or a representative of a person referred to in paragraph (a) of this definition;
- (c) a person in charge, or who appears to be in charge of a veterinary drug;

“quality control” means all activities included to ensure and to verify that the production, identification, efficacy, purity, safety, management and commercialization and rational use of a veterinary drug, pesticide or animal feed comply with established norms;

“raw materials” in respect of a veterinary drug or animal feed, means an active or inactive substance, either altered or modified, that is utilised to manufacture the veterinary drug or animal feed;

“Registrar” means an officer of the Authority designated in writing by the Managing Director of the Authority to be the Registrar of Veterinary Drugs, Veterinary Pesticides and Animal Feed;

“residue” in respect of a veterinary drug or pesticide, means any specified substance found in any edible portion of animal product destined for human or animal consumption, resulting from the use of such veterinary drug or pesticide, and includes derivatives of a veterinary drug such as metabolites and impurities associated with a particular veterinary drug;

“sell” means to vend, offer for sale, exchange or give up for money or money’s worth or as a gift;

“veterinary drug” means every substance or composition applied or administered to any animal, including poultry, fish or bees, whether used for therapeutic, prophylactic or diagnostic purposes or for the modification of an animal’s physiological functions or behaviour, or any substance or composition presented as owning such properties;

“veterinary pesticide” means any substance or composition that prevents, kills or controls any pest which is utilized exclusively on animals;

“withdrawal period”, in respect of a veterinary drug, means the period following the last treatment of an animal with the drug during which -

- (a) the animal may not be offered for slaughter;  
and
- (b) products from the animal may not be sold or

offered for sale,

based on the time necessary for drug residues in the animal to deplete to the maximum residue limit.

Scope.

3. (1) These Regulations apply to -

(a) veterinary drugs, veterinary pesticides, animal feed, biologicals and biotechnological products of veterinary use, which are used, or prescribed for use, or intended to be used, in connection with the treatment, prophylaxis or diagnosis of disease in animals;

(b) the manufacture, importation, distribution and sale of the products specified in paragraph (a) of this regulation.

CAP. 216.

(2) Where there is any inconsistency between the provisions of these Regulations and the provisions of the Pesticide Control Act, the provisions of that Act shall prevail.

## PART II

### ADMINISTRATION

Establishment of Veterinary Drugs Control Unit within the Authority.

4. There shall be and is hereby established a Unit within the Authority called the Veterinary Drugs Control Unit (hereinafter called “the Unit”), which shall perform the functions and discharge the duties conferred and imposed upon it by these regulations.

Functions of the Unit.

5. The Unit shall perform the following functions and discharge the

following duties -

- (a) administering these Regulations;
- (b) keeping records of the importation, distribution, manufacture, sale and use of veterinary drugs, veterinary pesticides, animal feed, biologicals and biotechnological products of veterinary use which are used, or prescribed for use, or intended to be used, in connection with the treatment of animals;
- (c) developing strategies and actions of conciliation, arbitration, dissemination and evaluation of, and promoting, the rational and proper use of veterinary drugs, pesticides and animal feed;
- (d) evaluating and determining applications for the registration of veterinary drugs, pesticides and animal feed;
- (e) evaluating and determining applications for the registration of importers of veterinary drugs, pesticides and animal feed;
- (f) advising the Minister in order to keep up-dated the Schedules to these Regulations;
- (g) establishing maximum residue limits for veterinary drugs;

- (h) maintaining and updating a National Formulary of Veterinary Drugs and publishing it periodically in the *Gazette*;
- (i) establishing standards for the dispensation and use of veterinary drugs, pesticides and animal feed;
- (j) harmonising, in accordance with Belize's obligations under bi-lateral, regional or multilateral trade agreements, including the WTO Agreement, procedures and protocols relating to the registration, distribution, sale, importation, manufacture and control of veterinary drugs, veterinary pesticides and animal feed, including but not limited to harmonising-
  - (i) forms and certificates,
  - (ii) registration procedures,
  - (iii) quality control and standards,
  - (iv) analytical methods,
  - (v) implementation procedures,

applicable under these Regulations with those of Belize's trading partners in the Caribbean, North America, Central America, the European Union and other regions of the world.

Registrar. 6. (1) The Unit shall be headed by an officer of the Authority

designated in writing for that purpose by the Managing Director of the Authority, and such officer shall be called the Registrar of Veterinary Drugs, Veterinary Pesticides and Animal Feed (hereinafter called “the Registrar”).

(2) The Registrar shall perform his functions and discharge his duties pursuant to these Regulations under the direct control and supervision of the Managing Director of the Authority or an officer of the Authority designated for that purpose by the Managing Director.

7. (1) There shall be and is hereby established, for the purpose of advising the Unit in performing its functions and discharging its duties under these Regulations, a Veterinary Drug Control Committee comprised of -

Veterinary Drug Control Committee.

- (a) the Registrar, who shall be Chairman of the Committee;
- (b) the Director of Animal Health of the Authority;
- (c) the Director of Food Safety of the Authority;
- (d) the Laboratory Administrator of the Authority;
- (e) a veterinary surgeon appointed by the Veterinary Surgeons Board appointed under section 3 of the Veterinary Surgeons Act; and
- (f) a member appointed by the Veterinary Association of Belize.

CAP. 326.

(2) The Veterinary Drugs Control Committee shall determine -

- (a) the times and places at which it shall meet to transact business;
- (b) the procedure to be followed at a meeting; and
- (c) the quorum at a meeting.

(3) The Veterinary Drugs Control Committee shall act notwithstanding any vacancy in its membership or the absence of any member.

Functions of  
the Veterinary  
Drug Control  
Committee.

8. The Veterinary Drugs Control Committee shall advise the Unit and, in this respect, shall -

- (a) review periodically the list of veterinary drugs registered pursuant to these regulations, and advise the Unit of any desired changes to such list;
- (b) make recommendations respecting the registration of veterinary drugs, animal feed and importers, manufacturers, distributors and sellers of the same;
- (c) make recommendations respecting amendments to these Regulations.



**PART III**

**REGISTRATION OF VETERINARY DRUGS,  
VETERINARY PESTICIDES AND  
ANIMAL FEED, ETC.**

9. The Unit shall register all veterinary drugs, veterinary pesticides and animal feed imported, exported, distributed, used, manufactured, packaged or labelled in Belize in accordance with the procedures set out in the First Schedule.

Registration of veterinary drugs, veterinary pesticides and animal feed. First Schedule.

10. (1) At the time of registration, the Unit shall classify a veterinary drug or a veterinary pesticide as -

Classification of veterinary drugs and veterinary pesticides.

(a) over-the-counter;

(b) prescription-only; or

(c) restricted.

(2) An over-the-counter veterinary drug or veterinary pesticide may be sold to any person over eighteen years without a prescription.

(3) A prescription-only veterinary drug or veterinary pesticide may only be sold to a person over eighteen years upon a prescription issued by a veterinary surgeon registered under the Veterinary Surgeons Act.

CAP. 326.

(4) A restricted veterinary drug or veterinary pesticide may only be sold to a veterinary surgeon registered under the Veterinary Surgeons Act and shall be used only under his direct supervision.

CAP. 326.

(5) No veterinary drugs shall be sold to a person below the age of

eighteen years.

Unregistered  
drugs, etc., are  
prohibited.

11. (1) No person shall sell, manufacture, import, package, label or distribute a veterinary drug or veterinary pesticide or animal feed that is not registered by the Unit under Regulation 9.

Second  
Schedule.

(2) The veterinary drugs specified in the Second Schedule are banned for use in Belize.

Second  
Schedule.

(3) The Unit, on the advice of the Veterinary Drugs Control Committee, may amend the Second Schedule by adding or removing the name of a drug specified therein.

Registration of  
premises selling  
etc., veterinary  
drugs, etc..  
Third Schedule.

12. Every premises, establishment or outlet that manufactures, re-packages, re-bottles, re-labels, sells, imports, exports, bottles, packages, labels or exports veterinary drugs, veterinary pesticides or animal feed shall be registered in accordance with the procedure set out in the Third Schedule.

#### PART IV

#### RETAIL SALE OF VETERINARY DRUGS AND VETERINARY PESTICIDES

Labelling of  
veterinary drugs.

13. (1) All veterinary drugs intended for retail sale in Belize shall be clearly labelled in English with at least the following information -

- (a) the commercial names of the drug or its conventional name;
- (b) the qualitative, quantitative and pharmacologic composition of the drug, including its active and inactive ingredients;

- (c) the presentation of the packaging of the drug;
- (d) the uses and indications of the drug;
- (e) the volume and weight of the drug;
- (f) the expiry date of the drug;
- (g) the dosage per species, including the method of administration and use, and the instructions of use;
- (h) the registration number of the drug in Belize;
- (i) any contraindications, warnings, and antidotes (if any);
- (j) the words “for veterinary use” displayed conspicuously on the packaging of the drug;
- (k) the batch or lot number of the drug;
- (l) the total quantity of the drug in each package or unit;
- (m) any other precautionary information and measures respecting the use of the drug;
- (n) the name of the manufacturer of the drug and the drug’s country of origin;
- (o) any applicable conditions of storage and preservation;

- (p) applicable withdrawal periods for meat, milk, and other types of food.

(2) The information referred to in subregulation (1) may be attached on the label to the drug or on the information leaflet in respect of the drug included in the packaging of the drug.

Labelling of  
veterinary  
pesticides.

14. (1) All veterinary pesticides intended for retail sale in Belize shall be clearly labelled in English with at least the following information:-

- (a) the classification or type of the pesticide;
- (b) the uses and indications of the pesticides, including the common and scientific names of pests for which the pesticide is used;
- (c) where the pesticide is to be used after preparing a solution, instructions for preparing the solution;
- (d) the withdrawal period of the pesticide;
- (e) instructions respecting the de-contamination and proper disposal of the pesticide container;
- (f) instructions respecting any precautionary measures which a person using the pesticide must take;
- (g) information on the toxicity of the pesticide to humans and animals, and symptoms and signs of intoxication and any antidote (if

any);

- (h) the words “in the case of accidental intoxication consult your medical doctor or veterinary surgeon immediately and submit this label” printed in bold letters and placed conspicuously on the label;
- (i) the words “keep out of the reach of children” and “stop, read the instructions on this label and the information leaflet before use” printed in bold letters and placed conspicuously on the label; and
- (j) information on protective clothing to be worn when applying the pesticide.

## PART V

### IMPORTATION OF VETERINARY DRUGS, ETC.

15. (1) No person shall import a veterinary drug, veterinary pesticide or animal feed unless he has an importer’s licence issued by the Unit. Importer’s licence.
- (2) An importer’s licence shall be issued and may be suspended or revoked by the Unit in accordance with the procedures outlined in the Fourth Schedule. Fourth Schedule.
- (3) The Unit may impose conditions in connection with the grant of an importer’s licence.

**PART VI****MANUFACTURE OF VETERINARY  
DRUGS, ETC.**

- Manufacturer's licence.
16. (1) No person shall manufacture a veterinary drug unless he has a manufacturer's licence granted by the Unit.
- (2) A manufacturer's licence shall be granted, and may be suspended or revoked, by the Unit in accordance with the procedures outlined in the Fifth Schedule.
- Fifth Schedule.
- (3) The Unit may impose conditions in connection with the grant of a manufacturer's licence.

**PART VII****PREMISES OUTLETS AND ESTABLISHMENTS  
THAT SELL, DISTRIBUTE, ETC., VETERINARY  
DRUGS, PESTICIDES AND ANIMAL FEED**

- Conditions of registration.
17. (1) Any premises, outlet or establishment that sells, bottles, packages, labels, distributes, handles, re-packages, re-labels, re-bottles or otherwise deals with veterinary drugs, veterinary pesticides or animal feed shall, when making application to be registered pursuant to these Regulations, submit to the Unit –
- (a) a duly completed application form;
- (b) public health and environmental approval of the premises, outlet or establishment certifying the premises, outlet or establishment as posing no risks to human

health or to the environment, and as suitable for the business for which application is made;

(c) floor plans of the premises, outlet or establishment; and

(d) city, town, community or village council approval.

(2) Where any premises, outlet or establishment is to be used to sell biological products or other veterinary products which require refrigeration to be preserved, such premises, outlet or establishment shall have the proper refrigeration system with its respective thermometer.

(3) All premises, outlets and establishments used to sell veterinary drugs shall have adequate lighting, storage facilities and ventilation systems.

(4) Where veterinary drugs, veterinary pesticides and animal feed are sold in one premises, outlet or establishment, they shall be physically stored separately.

**PART VIII**

**OFFENCES AND PENALTIES**

18. (1) A person commits an offence who -

Offences and penalties.

(a) uses, distributes, packages, bottles, labels or sells veterinary drugs, veterinary pesticides or animal feed in contravention of these Regulations;

- (b) manufacturers veterinary drugs, veterinary pesticides or animal feed in contravention of these Regulations;
- (c) imports veterinary drugs, veterinary pesticides or animal feed in contravention of these Regulations;
- (d) imports, manufactures, sells, distributes or uses a veterinary drug, veterinary pesticide or animal feed-
  - (i) without the packaging required under these Regulations;
  - (ii) without the labelling required under these Regulations;
  - (iii) which has passed its sell-by-date (is expired).
  - (iv) which is banned;
  - (v) except in accordance (in the case of veterinary drugs or veterinary pesticides) in accordance with its appropriate classification pursuant to these Regulations;
- (e) contravenes any term or condition of an importer's licence, a manufacturer's licence or any other licence granted by the Unit under these Regulations;



- (f) obstructs any officer of the Unit in the performance of his duties under these Regulations.

(2) A person who commits an offence under subregulation (1) is liable to be penalised by the Unit -

- (a) for a first offence, to a written warning or an administrative fine of five hundred dollars;
- (b) for a second offence, to a suspension for a period of one month of the relevant licence (if any) held by that person, and to an administrative fine of one thousand five hundred dollars;
- (c) for a third or subsequent offence, to cancellation of the licence (if any) held by that person and to an administrative fine of five thousand dollars.

(3) A veterinary drug, veterinary pesticide or animal feed in respect of which an offence has been committed may be seized by the Unit and upon such seizure shall be forfeited to the Authority:

(4) All fines collected under these Regulations shall be credited to the account of the Authority.

19. Any person who is aggrieved by an adverse decision of the Unit under these Regulations may, within three months after the date on which such decision is communicated to him, appeal to the Managing Director of the Authority.

Appeals.

Extra label use of drugs or pesticides permitted in certain cases.

20. Notwithstanding any thing to the contrary in these Regulations, the extra-label use of a veterinary drug or a veterinary pesticide shall be lawful for treating a particular disease, condition or other indication in an animal where -

- (a) no veterinary drug or pesticide is known to treat such disease, condition or other indication; or
- (b) no veterinary drug or pesticide which treats such disease, condition or other indication is available for use in Belize.
- (c) it is used under veterinary surgeons administration or supervision.

Effect of Schedules.

21. The Schedules shall be read and construed as one with these Regulations, and form an integral part of these Regulations.

Commencement.

22. These Regulations shall come into force on the 12<sup>th</sup> day of December, 2001.

**MADE** by the Minister responsible for Agriculture, Fisheries and Cooperatives this 12<sup>th</sup> day of December, 2001.

**(DANIEL SILVA)**

Minister responsible for Agriculture,  
Fisheries and Cooperatives

**FIRST SCHEDULE**

**(Section 9)**

**PROCEDURE FOR THE REGISTRATION OF ALL  
VETERINARY DRUGS, PESTICIDES AND  
ANIMAL FEED PERMITTED FOR USE IN BELIZE**

**PART 1**

**PROCEDURE FOR REGISTRATION**

1. (1) In this Schedule, unless the context otherwise requires:- Interpretation.

“certificate of registration” means a certificate showing that a veterinary drug, veterinary pesticide or animal feed has been registered pursuant to this Schedule and Regulation 9 of the Regulations;

“label” means any brand or mark or any written, pictorial or other descriptive matter appearing on or attached to or packed with any veterinary drug, veterinary pesticide or animal feed or its package and, when used as a verb, means to brand or mark or to attach or to provide in any other manner, with any written, pictorial or other descriptive matter;

“logo” means a trade-mark used by a manufacturer of veterinary drugs, veterinary pesticides or animal feed to designate its product or range of products;

“product” means a registered veterinary drug, veterinary pesticide or animal feed in the form in which it is packaged and sold;

“registered veterinary drug”, “registered veterinary pesticide” or “registered animal feed” means a drug, pesticide or animal feed registered under Regulation 9 and this Schedule, in respect of which there is a current certificate of

registration;

“trade name” means the name under which a registered veterinary product, registered veterinary pesticide or animal feed is registered, packaged and sold by the manufacturer, which is used exclusively by the manufacturer as a trade-mark to distinguish the product from other registered veterinary products, registered veterinary pesticides or animal feed.

(2) A word or phrase used in this Schedule which is not defined herein but which is defined in the Regulations shall have the meaning assigned to it in the Regulations.

Application for  
registration.

2. (1) A registered veterinarian, or an owner of veterinary drugs, pesticides or animal feed desirous of selling or using a veterinary drug, pesticide or animal feed in Belize shall make written application to the Unit pursuant to this Schedule I to have the veterinary drug, pesticide or animal feed registered under Regulation 9 of the Regulations.

(2) The written application referred to in subparagraph (1) shall be in the form set out in Part 11 of this Schedule, and shall be accompanied by the appropriate fee set out in paragraph 6 of this Schedule.

(3) The written application referred to in subparagraph (1) shall additionally be accompanied by -

- (a) the trade name of the veterinary drug, veterinary pesticide or animal feed, or the logo used for the purposes of marketing the product;
- (b) the maximum residue limit of the veterinary drug or veterinary pesticide, for veterinary drugs or pesticide used to treat food

animals;

- (c) details of the labels of the veterinary drug, veterinary pesticide or animal feed, including three copies of the proposed label for approval by the Unit.

(4) Where a veterinary drug, veterinary pesticide or animal feed has been registered pursuant to this Schedule, it shall not be a requirement to register such veterinary drug, veterinary pesticide or animal feed before using or selling it.

3. (1) Upon receiving an application made under paragraph 2, the Registrar shall satisfy himself that -

Procedure upon receipt of application.

- (a) the application complies with the form set out in Part II of this Schedule;
- (b) the application is accompanied by the appropriate fee set out in paragraph 6 of this Schedule;
- (c) all the documents and information referred to in subparagraph (3) of paragraph 2 of this Schedule have accompanied the application.

(2) The Registrar shall -

- (a) if the application is accompanied by all the required documents, information and fee, place the application before the Unit for consideration;

(b) if the application is not accompanied by all the required documents, information, fee, or is incomplete or deficient in some material respect, return the application to the applicant.

(3) Where the Registrar returns an application to an applicant under subparagraph (2) (b), the Registrar shall inform the applicant of the steps which the applicant should take in order to complete the application in accordance with the requirements of this Schedule.

(4) Every application placed before the Unit by the Registrar under subparagraph (2)(a) shall be considered and either approved or rejected by the Unit within fourteen days.

(5) Where the Unit rejects an application under subparagraph (4), it shall give written notice thereof to the applicant, including the grounds of the rejection.

(6) An applicant aggrieved by a decision of the Unit not to register its veterinary drug may appeal against such decision to the Managing Director within fourteen days of the receipt of such decision, and the Managing Director's decision on the appeal shall be final.

Provisional  
registration.

4. (1) Subject to subparagraph (2), where the Unit, after considering an application for the registration of a veterinary drug, pesticide or animal feed under Regulation 9 of the Act and this Schedule, and after considering all the surrounding circumstances of the application, is not satisfied that a veterinary drug, pesticide or animal feed should be registered, it may grant provisional registration for use subject to such conditions as it may lay down, for a period not exceeding one year, after which -

(a) the veterinary drug, pesticide or animal feed

shall either be registered as a veterinary drug, pesticide or animal feed; or

(b) the provisional registration may be withdrawn by the Unit.

(2) No veterinary drug, pesticide or animal feed used to treat food animals shall be provisionally registered.

5. (1) All veterinary drugs, and pesticides shall be registered or provisionally registered as –

Types of certificates of registration.

- (a) over-the-counter; or
- (b) prescription-only; or
- (c) restricted,

and the relevant certificate shall be issued to the applicant upon decision by the Unit under paragraph 3 (4) or 4 (a), whichever applies.

(2) Certificates of registration shall be in the form set out in Part III of this Schedule.

Part III Schedule.

6. (1) The following fees shall be payable on the provisional registration or registration of each -

Fees.

- (a) over-the-counter veterinary drug or veterinary pesticide ... .. \$100;
- (b) prescription-only veterinary drug or veterinary pesticide .... .. \$200;
- (c) restricted veterinary drug or veterinary pesticide .... .. \$300;

(d) animal feed ... .. \$150.

(2) The same applicable fees set out in subparagraph (1) shall be payable on the renewal of each registration of a veterinary drug or veterinary pesticide.

(3) The same applicable fees set out in subparagraph (1) shall be payable for the registration of a veterinary drug or veterinary pesticide which was previously provisionally registered.

Duration of  
certificates of  
registration.

7. A certificate of registration for a veterinary drug granted by the Unit under this Schedule shall be valid for three years.

Cancellation of  
registration.

8. If, after a veterinary drug, veterinary pesticide or animal feed has been registered, it comes to the knowledge of the Unit that the registration was procured by false or misleading information or the concealment of material facts, the Unit may cancel the registration with immediate effect, after inviting the holder of the registration to show cause why it should not be cancelled, and the fee in respect of the registration shall be forfeited.



**PART II**

**APPLICATION FORM**

1. The Registrar of Veterinary Drugs,  
Veterinary Pesticides and Animal Feed  
Belize Agricultural Health Authority  
Belmopan  
Belize
2. Date \_\_\_\_\_
3. Name of Applicant \_\_\_\_\_
4. Address of Applicant \_\_\_\_\_  
\_\_\_\_\_
5. Telephone Number/Email Address of Applicant \_\_\_\_\_  
\_\_\_\_\_
6. Is Applicant a Registered Veterinarian or Owner of the Veterinary  
Drug, Veterinary Pesticide or Animal Feed? (choose one)  
\_\_\_\_\_
7. Common Name of Veterinary Drug/Veterinary Pesticide/Animal Feed  
\_\_\_\_\_
8. Trade Name of Veterinary Drug/Veterinary Pesticide/Animal Feed  
\_\_\_\_\_
9. Maximum Residue Limit of Veterinary Drug/Veterinary Pesticide  
\_\_\_\_\_
10. Details of Labels of the Veterinary Drug, Veterinary Pesticide or  
Animal Feed (Also attach 3 copies)

---

11. Type of animals on which Veterinary Drug, Veterinary Pesticide or Animal Feed may be used \_\_\_\_\_

---

12. Classification of Veterinary Drug or Veterinary Pesticide (Tick appropriate) If you do not know the appropriate box to tick, leave blank.

(a) Over-the-counter

(b) Prescription-only

(c) Restricted

13. Is Veterinary Drug, Veterinary Pesticide or Animal Feed being manufactured in Belize at time of application? (Tick appropriate)

YES  NO

14. If the answer to 13 above is NO, provide details of registration in -

(a) Country of manufacture (attach copies, if possible) \_\_\_\_\_

---

(b) Any other countries where drug/pesticide/animal feed is registered

---

15. Has registration of the drug, pesticide/feed ever been refused in another jurisdiction? (Tick appropriate)

YES  NO

(If YES, provide details and reasons for such refusal) \_\_\_\_\_

---

16. Fees included \_\_\_\_\_  
\_\_\_\_\_

17. Declaration by Applicant: I hereby declare that all the information provided in this application is true and correct to the best of my knowledge and belief, and I understand that if the Unit discovers that any information in this application was fraudulent or misleading, or that I have concealed material facts herein, the registration of the veterinary drug, veterinary pesticide or animal feed which I hereby apply for may be cancelled and the fee forfeited.

SIGNATURE OF APPLICANT  
\_\_\_\_\_

**FOR OFFICIAL USE ONLY**

1. Application received \_\_\_\_\_

2. Fees paid \_\_\_\_\_

3. Application complete/incomplete \_\_\_\_\_

4. If application is incomplete, details of required follow up communicated to applicant and date \_\_\_\_\_  
\_\_\_\_\_

5. Registration status \_\_\_\_\_

6. Other remarks \_\_\_\_\_

Date \_\_\_\_\_

**SIGNED**

\_\_\_\_\_  
**REGISTRAR**

**PART III****VETERINARY DRUGS CONTROL UNIT  
BELIZE AGRICULTURAL HEALTH AUTHORITY****CERTIFICATE OF REGISTRATION  
OF A VETERINARY DRUG**

THIS IS TO CERTIFY that            (the applicant) of            (address)           ,  
has as of the            day of           , 20           , been granted this  
Certificate of Registration pursuant to Regulation 9 and Schedule 1 of the  
Belize Agricultural Health Authority (Veterinary Drugs and Animal Feed)  
(Registration and Control) Regulations, 2001, and that the drug/pesticide/  
animal feed commonly known as             
          ; whose trade name is           ; has  
been registered as of the same date as over-the-counter/prescription-only/  
restricted\* and may by virtue of such registration be sold and used in Belize  
for the treatment or feeding of            animals.  
(specify)

THIS CERTIFICATE is valid for three years from the date of issuance  
hereof.

WITNESS my hand and the Public Seal of the Veterinary Drugs  
Control Unit this            day of           , 20           .

\_\_\_\_\_  
REGISTRAR

\*Delete inappropriate.

**SECOND SCHEDULE**

**(Regulation 11(2) and (3))**

**LIST OF BANNED VETERINARY DRUGS WHICH SHALL NOT BE USED, SOLD, MANUFACTURED, DISTRIBUTED OR IMPORTED INTO BELIZE FOR TREATING FOOD ANIMALS**

1. Chloramphenicol.
2. Clenbuterol.
3. Diethylstilbestrol (DES).
4. Dimetridazole.
5. Ipronidazole.
6. Other Nitroimidazoles.
7. Furazolidine (except for approved topical use).
8. Nitrofurazone (except for approved topical use).
9. Sulfonamide drugs in lactating dairy cattle (except approved use of sulfadimethoxine, sulfabromomenthazine, and sulfaethoxypyridazine).
10. Fluoroquinolones.
11. Glycopeptides.

**THIRD SCHEDULE  
(Regulation 15 (2))**

**PART I**

**PROCEDURE FOR THE ISSUANCE, SUSPENSION  
OR REVOCATION OF AN IMPORTER'S LICENCE**

- |   |  |
|---|--|
| Interpretation.                                       | 1. In this Schedule, unless the context otherwise requires a word or phrase used and not defined in this Schedule but defined in the Regulations shall have the meaning assigned to it in the Regulations.   |
| Licence to import a registered veterinary drug, etc.. | 2. (1) Any person desirous of importing a veterinary drug, veterinary pesticide or animal feed into Belize shall make application to the Unit in the form set out in Part II of this Schedule.<br><br>(2) No person shall import the veterinary drugs listed in the Second Schedule to the Regulations for the purpose of treating food animals.<br><br>(3) The application referred to in subparagraph (1) shall be in the form set out in Part II of this Schedule, and shall be accompanied by the appropriate fee set out in paragraph 3 of this Schedule. |
| Import licence fees.                                  | 3. The annual import licence fee for a licence shall be determined by the Unit after consultation with persons interested in the importation of veterinary drugs, pesticides and animal feed.  |
| Procedure upon receipt of application.                | 4. (1) Upon receiving an application for an import licence, the Registrar shall ensure that the appropriate fee accompanies the application, and shall then place it before the Unit for consideration.<br><br>(2) Where an application is not accompanied by the appropriate fee, the Registrar shall return the application to the applicant, with instructions to resubmit the application.   |

(3) Every application placed before the Unit by the Registrar shall be considered by the Unit within fourteen days, and the Unit may approve the application and issue the relevant import licence, or refuse the application and inform the applicant in writing of the grounds for such refusal.

(4) Any applicant aggrieved by the decision of the Unit not to issue an import licence may appeal against such decision to the Managing Director of the Authority within fourteen days of the receipt of such decision, and the Managing Director's decision on the appeal shall be final.

5. (1) An import licence issued by the Unit under this Schedule shall be valid for one year.

Duration of licences.

(2) An import licence may be issued subject to conditions imposed by the Unit in connection with that licence.

(3) An import licence shall be in the form set out in Part III of this Schedule.

6. (1) If, after an import licence has been issued by the Unit under this Schedule, it comes to the knowledge of the Unit that the licence was procured by false or misleading information or the concealment of material facts, the Unit may revoke the licence with immediate effect, after inviting the holder of the licence to show cause why it should not be revoked, and the fee in respect of the issuance of the licence shall be forfeited.

Revocation of import licences.

(2) An import licence may be suspended by the Unit for a specified duration if the holder thereof breaches any of the conditions imposed by the Unit in connection with the issuance of that licence.

(3) Any person who contravenes this paragraph shall be liable to a penalty which may take the form of a reprimand but which may extend to a monetary penalty determined by the Unit after taking into account all the circumstances of the contravention.

**PART II****APPLICATION FORM FOR AN IMPORT LICENCE**

1. The Registrar of Veterinary Drugs,      2. Date \_\_\_\_\_  
 Veterinary Pesticides and Animal Feed  
 Belize Agricultural Health Authority  
 Belmopan  
 Belize
3. Name of Applicant \_\_\_\_\_
4. Address of Applicant \_\_\_\_\_
5. Telephone Number/Email Address of Applicant \_\_\_\_\_
6. Is Applicant a Registered Veterinarian. (tick appropriate box)
- YES       NO
7. Common Name of Veterinary Drug/Veterinary Pesticide/Animal Feed  
 for which application for import licence is made  
 \_\_\_\_\_
8. Is Veterinary Drug/Veterinary Pesticide/Animal Feed being  
 manufactured or distributed in Belize at date of application?
- YES       NO
- If YES, give reasons for the desired importation \_\_\_\_\_  
 \_\_\_\_\_



9. Types of animals on which Veterinary Drug/Veterinary Pesticide/ Animal Feed sought to be imported may be used (specify)

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(iii) \_\_\_\_\_

10. Classification of Veterinary Drug or Veterinary Pesticide (see Regulation 9)

\_\_\_\_\_

11. Fee included YES  NO

12. Class of import licence applied for (specify) \_\_\_\_\_

Declaration by Applicant: I hereby declare that all the information provided in this application is true and correct to the best of my knowledge and belief, and I understand that if an import licence is granted due to any fraudulent or misleading information in this application, or due to the concealment of material information, such licence may be revoked by the Unit and the fee forfeited.

SIGNATURE OF APPLICANT \_\_\_\_\_

\_\_\_\_\_

**FOR OFFICIAL USE ONLY**

\_\_\_\_\_

1. Application received \_\_\_\_\_

2. Fees paid \_\_\_\_\_

3. Application submitted to Unit on \_\_\_\_\_

4. Status of Application: Approved/Refused and reasons (if refused)

\_\_\_\_\_

5. Import Licence issued on \_\_\_\_\_

6. Other remarks \_\_\_\_\_

7. Date \_\_\_\_\_

SIGNED

\_\_\_\_\_  
REGISTRAR

**PART III**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
VETERINARY DRUGS CONTROL UNIT**

**FORM OF IMPORT LICENCE**

IMPORT LICENCE NUMBER \_\_\_\_\_

DATE ISSUED \_\_\_\_\_

THIS IS TO CERTIFY that (name of applicant) of (address of applicant) , is as of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, licensed under a licence to import into Belize \_\_\_\_\_ under licence.

THIS LICENCE is valid \_\_\_\_\_

THIS LICENCE is issued subject to the following conditions -

1. \_\_\_\_\_ (specify conditions, if any)
2. \_\_\_\_\_
3. \_\_\_\_\_

WITNESS my hand and the Public Seal of the Veterinary Drugs Control Unit this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
**REGISTRAR**

**FOURTH SCHEDULE****[Section 16 (2)]****PART I****PROCEDURE FOR THE ISSUANCE, SUSPENSION  
OR REVOCATION OF A MANUFACTURER'S LICENCE**

Interpretation.

1. (1) In this Schedule, unless the context otherwise requires -

“manufacturer” means a person licensed as a manufacturer under Part VI of the Regulations;

“manufacturer’s licence” means a licence to manufacture veterinary drugs, veterinary pesticides or animal feed in Belize issued by the Unit under Part VI of the Regulations and pursuant to this Schedule.

(2) A word or phrase used and not defined in this Schedule but defined in the Regulations shall have the meaning assigned to it in the Regulations.

Manufacturer’s  
licence.

2. (1) Any person desirous of manufacturing a veterinary drug, veterinary pesticide or animal feed shall make application to the Unit.

(2) No person shall manufacture the veterinary drugs listed in the Second Schedule for the purpose of treating food animals.

(3) Subject to subparagraph (1), any person desirous of manufacturing a registered veterinary drug, veterinary pesticide or animal feed shall make written application to the Unit for a manufacturer’s licence, in the form set out in Part II of this Schedule.

(4) The application referred to in subparagraph (1) shall be in the form set out in Part II of this Schedule, and shall be accompanied by the appropriate fee set out in paragraph 3 of this Schedule.

3. The fee payable for a manufacturer's licence shall be \$750 per annum, or such other amount determined by the Unit after consultation with manufacturers of veterinary drugs, veterinary pesticide or animal feed in Belize.

Manufacturer's licence fee.

4. (1) Upon receiving an application for a manufacturer's licence, the Registrar shall ensure that the appropriate fee accompanies the application, and shall then place it before the Unit for consideration.

Procedure upon receipt of application.

(2) Where an application is not accompanied by the appropriate fee, the Registrar shall return the application to the applicant, with instructions to resubmit the application.

(3) Every application placed before the Unit by the Registrar shall be considered by the Unit within fourteen days, and the Unit may approve the application and issue the manufacturer's licence, or refuse the application and inform the applicant in writing of the grounds for such refusal.

(4) An applicant aggrieved by the decision of the Unit not to issue a manufacturer's licence may appeal against such decision to the Managing Director of the Authority within fourteen days of the receipt of such decision, and the Managing Director's decision on the appeal shall be final.

5. (1) A manufacturer's licence issued by the Unit under this Schedule shall be valid for one year.

Duration and form of manufacturer's licences.

(2) A manufacturer's licence may be issued subject to conditions imposed by the Unit in connection with that licence.

(3) A manufacturer's licence shall be in the form set out in Part III

of this Schedule.

Revocation of  
manufacturer's  
licences.

6. (1) If, after a manufacturer's licence has been issued by the Unit under this Schedule, it comes to the knowledge of the Unit that the licence was procured by false or misleading information or the concealment of material facts, the Unit may revoke the licence with immediate effect, after inviting the holder of the licence to show cause why the licence should not be revoked, and the fee in respect of the issuance of the licence shall be forfeited.

(2) A manufacturer's licence may be suspended by the Unit if the holder thereof breaches any conditions imposed by the Unit in connection with the issuance of that licence.

(3) Any person who contravenes this paragraph shall be liable to a penalty which may take the form of a reprimand but which may extend to a monetary penalty determined by the Unit after taking into account all the circumstances of the contravention.

**PART II**

**APPLICATION FORM FOR A MANUFACTURER'S LICENCE**

1. The Registrar of Veterinary Drugs,  
Veterinary Pesticides and Animal Feed  
Belize Agricultural Health Authority  
Belmopan  
Belize
2. Date \_\_\_\_\_
3. Name of Applicant \_\_\_\_\_
4. Business Address of Applicant \_\_\_\_\_
5. Telephone Number/Email Address of Applicant \_\_\_\_\_
- 
6. Is Applicant a Registered Veterinarian. (tick appropriate box)
- YES  NO
7. Common Name of Veterinary Drug/Veterinary Pesticide/Animal Feed  
for which application for import licence is made
- \_\_\_\_\_
8. Is Veterinary Drug/Veterinary Pesticide/Animal Feed being  
manufactured or distributed in Belize at date of application?
- YES  NO

9. Types of animals on which Veterinary Drug/Veterinary Pesticide/Animal Feed sought to be imported may be used (specify)

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(iii) \_\_\_\_\_

10. Classification of Veterinary Drug or Veterinary Pesticide (see Regulation 9)

\_\_\_\_\_

11. Fee included YES  NO

12. Business plans for the applicant for the next year (specify and attach additional information if necessary)

\_\_\_\_\_

Declaration by Applicant: I hereby declare that all the information provided in this application is true and correct to the best of my knowledge and belief, and I understand that if a manufacturer's licence is granted due to any fraudulent or misleading information in this application, or due to the concealment of material information, such licence may be revoked by the Unit and the fee forfeited.

SIGNATURE OF APPLICANT

\_\_\_\_\_

\_\_\_\_\_

**FOR OFFICIAL USE ONLY**

\_\_\_\_\_

1. Application received \_\_\_\_\_



2. Fee paid \_\_\_\_\_
3. Application submitted to Unit on \_\_\_\_\_
4. Status of Application: Approved/Refused and reasons (if refused)  
\_\_\_\_\_
5. Manufacturer's Licence issued on \_\_\_\_\_
6. Other remarks \_\_\_\_\_
7. Date \_\_\_\_\_

**SIGNED**

\_\_\_\_\_  
**REGISTRAR**

**PART III****BELIZE AGRICULTURAL HEALTH AUTHORITY  
VETERINARY DRUGS CONTROL UNIT****FORM OF MANUFACTURER'S LICENCE**

MANUFACTURER'S LICENCE NUMBER \_\_\_\_\_

DATE ISSUED \_\_\_\_\_

THIS IS TO CERTIFY that \_\_\_\_\_ (name of applicant) of  
\_\_\_\_\_ (address of applicant), has been granted a manufacturer's licence tomanufacture \_\_\_\_\_  
(specify)THIS LICENCE is valid for one year (and is issued subject to the following  
conditions)-

1. \_\_\_\_\_ (specify, if any)
2. \_\_\_\_\_
3. \_\_\_\_\_

WITNESS my hand and the Public Seal of the Veterinary Drugs Control  
Unit this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.\_\_\_\_\_  
**REGISTRAR**

**CHAPTER 211**

**NOTIFIABLE PLANT PEST (CITRUS CANKER AND  
CITRUS LEPROSIS) ORDER**

77/2002.

**ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Notifiable plant pests.
  3. Restrictions on sale, etc., of restricted articles.
  4. Commencement.
-

**CHAPTER 211**

77/2002.

**NOTIFIABLE PLANT PEST (CITRUS CANKER AND  
CITRUS LEPROSIS) ORDER***[29th June, 2002.]*

- Short title. 1. This Order may be cited as the
- NOTIFIABLE PLANT PESTS (CITRUS CANKER  
AND CITRUS LEPROSIS) ORDER.**
- Notifiable  
plant pests.  
CAP. 211. 2. It is hereby notified and declared that Citrus Canker and Citrus Leprosis  
are notifiable plant pests for the purposes of section 35 (a) and (f) of the Belize  
Agricultural Health Authority Act.
- Restrictions  
on sale, etc.,  
of restricted  
articles. 3. A person shall -
- (a) immediately notify the Belize Agricultural  
Health Authority of the presence or suspected  
presence of Citrus Canker or Citrus Leprosis  
in any area;
- (b) not possess, carry or import wooden pallets  
made from Citrus Canker from infested areas;
- (c) not possess, carry or import citrus products  
or plant parts from infested areas without the  
prior written approval of the Belize Agricultural  
Health Authority.
- Commencement. 4. This Order shall come into force on the 15<sup>th</sup> day of March, 2002.

**MADE** by the Belize Agricultural Health Authority this 15<sup>th</sup> day of March, 2002.

**(PAMELA SCOTT)**  
Managing Director,  
Belize Agricultural Health Authority

**APPROVED** by the Minister responsible for Agriculture this 15<sup>th</sup> day of March, 2002.

**(DANIEL SILVA)**  
Minister of Agriculture,  
Fisheries and Cooperatives

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**CHAPTER 211**

76/2002.

**QUARANTINE PEST AND QUARANTINE AREA  
(DECLARATION) ORDER****ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Declaration of quarantine area and quarantine pest.
  3. Commencement.
-

**CHAPTER 211**

**QUARANTINE PEST AND QUARANTINE AREA  
(DECLARATION) ORDER**

76/2002.

*[29th June, 2002.]*

1. This Order may be cited as the

Short title.

**QUARANTINE PEST AND QUARANTINE AREA  
(DECLARATION) ORDER.**

2. The entire town of Punta Gorda, extending north to the junction of Eldridge and the old road to Punta Gorda, is hereby declared to be a quarantine area for the purpose of controlling the spread of medfly.

Declaration of quarantine area and quarantine pest.

3. This Order shall come into force with effect from the 27<sup>th</sup> day of June, 2002.

Commencement.

**MADE** by the Belize Agricultural Health Authority this 27<sup>th</sup> day of June, 2002.

**(PAMELA SCOTT)**  
Managing Director  
Belize Agricultural Health Authority

**APPROVED** by the Minister responsible for Agriculture this 27<sup>th</sup> day of June, 2002.

**(DANIEL SILVA)**  
Minister of Agriculture  
Fisheries and Cooperatives

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**CHAPTER 211**

**NOTIFIABLE PLANT PEST (QUARANTINE AREA) ORDER**

118/2000.

**ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Quarantine area.
  3. Commencement.
-

**CHAPTER 211**

118/2000.

**NOTIFIABLE PLANT PEST (QUARANTINE AREA) ORDER**

[2nd December, 2000.]

Short title.

1. This Order may be cited as the

**NOTIFIABLE PLANT PEST (QUARANTINE AREA)  
ORDER.**Quarantine  
area.  
Schedule.

2. The area set out in the Schedule to this Order is declared to be under quarantine for the purpose of controlling and preventing the spread of the Southern Pine Bark Beetle,
- Dendroctonus frontalis*
- .

Commencement.

3. This Order shall come into force on signature.

**MADE** by the Belize Agricultural Health Authority this 27th day of November, 2000.

**(DR. M. TEWES)**  
Managing Director  
Belize Agricultural Health Authority

**APPROVED** by the Minister of Agriculture this 27th day of November, 2000.

**(DANIEL SILVA)**  
Minister of Agriculture

**SCHEDULE**

**[Paragraph 2]**

**ALL THOSE AREA** of pine forest and savannas found within the Mountain Pine Ridge area and the Chiqiubul Forest Reserve, including all those lands within the Mountain Pine Ridge Forest Reserve and any adjacent national or private lands in the Cayo Administration District.

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**CHAPTER 211**

119/2000.

**NOTIFIABLE PLANT PEST ORDER****ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Notifiable plant pest.
  3. Commencement.
-

**CHAPTER 211**

**NOTIFIABLE PLANT PEST ORDER**

119/2000.

*[2nd December, 2000.]*

1. This Order may be cited as the Short title.  
**NOTIFIABLE PLANT PEST ORDER.**
2. The pest set out in the Schedule to this Order is declared to be a Notifiable plant  
pest.  
Schedule.  
Notifiable Plant Pest.
3. This Order shall come into force on signature. Commencemnt.

**MADE** by the Belize Agricultural Health Authority this 27th day of November, 2000.

**(DR. M. TEWES)**  
Managing Director  
Belize Agricultural Health Authority

**APPROVED** by the Minister responsible for Agriculture this 27th day of November, 2000.

**(DANIEL SILVA)**  
Minister of Agriculture and Fisheries

**SCHEDULE****[Paragraph 2]**

Southern pine bark beetle, scientifically known as *Dendroctonus frontalis*.

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**CHAPTER 211**

**ANIMALS (DISEASES AND IMPORTATION)**

**ARRANGEMENT OF REGULATIONS**

1. Animals (Importation) Control Regulations.
2. Anthrax Regulations.
3. Foot and Mouth Disease Regulations.
4. Poultry Disease Regulations.
5. Swine Fever Regulations.

**CHAPTER 211****ANIMALS (IMPORTATION) CONTROL REGULATIONS*****(Section 5)***

11/1953.  
3/1968.  
47/1982.

1. These Regulations may be cited as the

**ANIMALS (IMPORTATION) CONTROL REGULATIONS.***General*

2. No animals shall be imported into Belize except in accordance with the provisions of these Regulations.

3. No animal shall be imported into Belize except in accordance with the terms of a permit granted by the Chief Agricultural Officer.

4. (1) No animal shall be landed at any port other than Belize City, or at any aerodrome other than the Philip S. W. Goldson International Airport.

(2) Notwithstanding the provisions of paragraph (1) of this regulation the Chief Agricultural Officer may in his discretion grant a permit in writing for any animal to be landed elsewhere in Belize subject to such conditions and directions as he may prescribe in such permit.

5. (1) Every animal before being landed shall be subject to inspection by the Inspector who may-

(a) if satisfied-

- (i) that any such animal suffers from any disease; or



- (ii) that any condition of a permit permitting the importation of any such animal has not been complied with,

refuse permission for any such animal to be landed;  
or

- (b) grant permission for any such animal to be landed either unconditionally or subject to such conditions as he may impose.

(2) No animal shall be landed without prior written permission of the Inspector.

6. (1) Subject to the provisions of regulations 5 and 8 of these Regulations every animal shall, if so required by the Inspector upon being landed in Belize, be removed by such means and subject to such conditions as the Inspector may direct to a quarantine depot approved by the Chief Agricultural Officer for the purpose of quarantine and shall there be kept in quarantine for such period as the Inspector may direct.

Such directions shall be given on a form as set out in Form A of the First Schedule to these Regulations.

(2) The release from quarantine of any animal shall be subject to and dependent upon the result of re-inspection and of any diagnostic examination and any tests which the Inspector may deem necessary to employ for the detection of disease.

(3) Notwithstanding the expiry of the period of quarantine directed by the Inspector under paragraph (1) of this regulation no animal shall be removed from any quarantine depot without the prior written permission of the Inspector on a form as set out in Form B of the First Schedule to these Regulations.

Such permission may be either unconditional or subject to such conditions as may be specified therein.

7. (1) All expenses incurred in and incidental to the keeping in quarantine of an animal shall be borne by the consignee of such animal.

(2) Every animal shall be kept in quarantine at the risk of the consignee.

(3) When any animal, while in quarantine in accordance with the provisions of these Regulations, develops or, in the opinion of the Inspector, shows symptoms of any disease, the spread of which would endanger the health of livestock in Belize, such animal may, with the approval of the Minister, be destroyed without payment of compensation.

8. The provisions of these Regulations as related to the importation of animals shall not apply to any animals (other than dogs) imported by or on behalf of the Government of Belize.

9. In these Regulations, unless the context otherwise requires-

“Chief Agricultural Officer” includes any officer of the Agricultural Department authorised by him in writing for the purposes of these Regulations;

“Inspector” means the person appointed by the Minister in accordance with section 3 of the Animals (Diseases and Importation) Act.

#### *Dogs and Cats*

10. (1) No canine animal or feline animal shall be imported into Belize except such canine animal or feline animal is imported directly from one of the territories specified in the Second Schedule to these Regulations.

(2) No canine animal or feline animal so imported shall be landed unless there is produced a certificate signed by a qualified State or Government Veterinary Surgeon of the Department or Ministry of Agriculture of that State or country.

Such certificate shall state that-

- (a) such canine animal or feline animal is in good health and free from symptoms of infectious and contagious diseases; and
- (b) there has been no rabies among unquarantined canine animals or other animals in the country or, in the case of the U.S.A., any State from which such canine animal or feline animal was exported during the six months immediately preceding the exportation of such canine animal or feline animal; or
- (c) the animal has been vaccinated against Rabies with an approved vaccine not less than one month or more than six months immediately prior to the date of exportation of the animal.

(3) No canine animal or feline animal so imported shall be landed if, during the period of transportation, it has been in contact with any other canine animal or feline animal other than a canine animal or feline animal-

- (a) in respect of which the certificate referred to in paragraph (2) of this regulation has been given; or
- (b) which has been released from quarantine in the exporting territory as being in good health

and free from any infections and contagious diseases.

(4) Notwithstanding the provisions of paragraphs (1) (2) and (3) of this regulation the Minister may, subject to such conditions and restrictions as he may think fit, permit the importation of any canine animal or feline animal from any port or place, other than those territories specified in the Second Schedule to these Regulations:

Provided that permission is obtained at least two months prior to the date of the proposed importation.

(5) Cats and dogs that are landed in contravention of these Regulations shall be seized by an Inspector and detained, destroyed or otherwise disposed of as the Minister may direct, without liability to the State for such detention, destruction or disposal.

(6) Any person importing or causing to be imported or assisting in the importation of any cat, or dog in contravention of these Regulations shall be guilty of an offence and on summary conviction shall be liable to a fine not exceeding five hundred dollars or a term of imprisonment not exceeding six months.

(7) In this regulation, unless the context otherwise requires-

“canine animal” means a dog and includes all other animals of the canine tribe whether wild or domesticated, and hyena;

“feline animal” means a cat and all other animals of the feline tribe whether wild or domesticated.

*Horses*

11. (1) No horse shall be imported into Belize except such horse is imported directly from one of the territories specified in the Second Schedule to these Regulations.

(2) No horse so imported shall be landed unless there is produced to the Inspector in respect thereof a certificate signed by a qualified State or Government Veterinary Surgeon of the Department or Ministry of Agriculture of that State or country.

Such certificate shall state-

- (a) that such horse is free from foot and mouth disease; or
- (b) if such State or country is not free from foot and mouth disease, that the area from which it was transported to the port of embarkation is free from foot and mouth disease;

and also-

- (c) such horse is healthy and free from infectious disease;
- (d) such horse has been subjected to the Mallein test for glanders or farcy with negative results; and
- (e) so far as it has been possible to ascertain no case of dourine (mal du coit), mal de caderas, glanders, farcy, epizootic lymphangitis, ulcerative lymphangitis,

influenza, infectious equine anaemia, encephalomyelitis, or mange has occurred in the stables or on the premises where such horse was kept during the thirty days prior to the date of export.

(3) Notwithstanding the provisions of paragraphs (1) and (2) of this regulation the Chief Agricultural Officer may permit any horse to be imported into Belize from Mexico or Guatemala subject to such conditions and directions as he may impose in writing.

(4) In this regulation, unless the context otherwise requires-

“horse” includes mare, mule, donkey and zebra.

*Cattle, Pigs, Sheep and Goats*

12. (1) No cattle, pig, sheep or goat shall be imported into Belize except any such animal is imported from one of the territories specified in the Second Schedule to these Regulations, or in the event of importation from any other territory subject to any conditions which the Chief Agricultural Officer may so impose.

(2) No cattle so imported shall be landed unless there is produced to the Inspector in respect thereof a certificate signed by a qualified State or Government Veterinary Surgeon of the Department or Ministry of Agriculture of that State or country.

Such certificate shall state-

- (a) that such cattle are free from foot and mouth disease; or
- (b) if such State or country is not free from foot

and mouth disease, that the area from which such cattle originated and through which it was transported to the port of embarkation is free from foot and mouth disease;

and also-

- (c) are physically sound, in good health, and free of symptoms of paratuberculosis (Johne's Disease) and other infectious diseases;
- (d) have passed negative to an intradermal tuberculin test within ten days prior to the date of shipment;
- (e)
  - (i) in the case of males, have reacted negatively to the serum-agglutination test for Brucellosis within thirty days prior to the date of shipment, and in the case of females have reacted negatively to the serum-agglutination test for Brucellosis within thirty days prior to shipment; or
  - (ii) have been inoculated with *Brucella abortus* vaccine (Strain 19) when between four and eight months of age and within three years prior to the date of shipment; or
  - (iii) have reacted negatively to the serum-agglutination test for Brucellosis and have subsequently and within fourteen days of such negative reaction

been inoculated with *Brucella abortus* vaccine (Strain 19) when over eight months of age and within three years prior to the date of shipment; or

- (iv) having been previously vaccinated with *Brucella abortus* vaccine (Strain 19) have been re-vaccinated within three years of the previous vaccination and within three years prior to the date of shipment.

(3) No pig so imported shall be landed unless there is produced to the Inspector in respect thereof a certificate signed by a qualified State or Government Veterinary Surgeon of the Department or Ministry of Agriculture of that State or country.

Such certificate shall state-

- (a) that such pig is free from foot and mouth disease; or
- (b) if such State or country is not free from foot and mouth disease, that the area from which such pig originated and through which it was transported to the port of embarkation is free from foot and mouth disease;

and also-

- (c) has originated from a herd where no infectious diseases of swine had existed for at least six months prior to the date of shipment.



(4) No sheep so imported shall be landed unless there is produced to the Inspector in respect thereof a certificate signed by a qualified State or Government Veterinary Surgeon of the Department or Ministry of Agriculture of that State or country.

Such certificate shall state-

- (a) that such sheep is free from foot and mouth disease; or
- (b) if such State or country is not free from foot and mouth disease, that the area from which such sheep originated and through which it was transported to the port of embarkation is free from foot and mouth disease;

and also-

- (c) is physically sound, in good health and free from infectious diseases, and has been in such condition for at least sixty days prior to the date of shipment.

(5) No goat so imported shall be landed unless there is produced to the Inspector in respect thereof a certificate signed by a qualified State or Government Veterinary Surgeon of the Department or Ministry of Agriculture of that State or country.

Such certificate shall state-

- (a) that such goat is free from foot and mouth disease; or

- (b) if such State or country is not free from foot and mouth disease, that the area from which such goat originated and through which it was transported to the port of embarkation is free from foot and mouth disease;

and also-

- (c) has passed negatively to an intradermal tuberculin test within ten days prior to the date of shipment;
- (d) is free from Brucellosis as indicated by a negative reaction to the serum-agglutination test for that disease; and
- (e) is physically sound, in good health, free of indications of infectious diseases including Takosis.

(6) Notwithstanding the provisions of paragraphs (2) and (3) of this regulation the Chief Agricultural Officer may permit cattle and pigs to be imported into Belize for slaughter purposes subject to such conditions and directions as he may impose in writing.

#### *Poultry*

13. (1) No bird and/or egg (for hatching purposes) shall be imported into Belize except in accordance with a permit granted by the Chief Agricultural Officer and subject to such conditions and directions as he may impose in writing.

(2) In this regulation, unless inconsistent with the context “bird” includes domestic fowl, turkey, geese, duck, guinea-fowl, pea-fowl, pigeon, pheasant, parrot, ostriches and the egg of such bird.

*Carcasses of Cattle, Pigs, Sheep and Goats*

14. (1) No fresh carcass whether frozen or chilled, nor any cured or pickled carcass of any cattle, pig, sheep or goat, or any portion thereof shall be imported into Belize except such carcass or portion thereof is imported-

- (a) directly from any of the territories specified in the Third Schedule to these Regulations; and
- (b) in accordance with the terms of a permit granted by the Chief Agricultural Officer.

*Animal Products*

15. No animal products including hides, skins, horns, hair, wool, dehydrated or fresh blood, bones and bone meal, tankage, hoofs, or milk and other dairy products shall be imported into Belize except in accordance with the terms of a permit issued by the Chief Agricultural Officer.

*Fodder, Litter and Straw*

16. (1) No fodder, litter or straw shall be imported into Belize except-

- (a) directly from any of the countries specified in the Fourth Schedule to these Regulations, and
- (b) in accordance with terms of a permit granted by the Chief Agricultural Officer.

(2) Notwithstanding the provisions of paragraph (1) of this regulation, no fodder, litter or straw imported from any country shall be landed in Belize unless there is produced to the Inspector in respect thereof a

certificate of the Ministry or Department of Agriculture concerned stating that the area from which such fodder, litter or straw originated and the district through which it was transported to the port of shipment is free from foot and mouth disease.

*Dung and Garbage*

17. (1) No dung (other than the excrements of birds) shall be imported into Belize.

(2) The provisions of paragraph (1) of this regulation shall not apply to any dung which is contained in any box or crate in which any animal is lawfully imported into Belize.

(3) No garbage or waste animal matter shall be discharged from vessels or aircraft within the boundaries of Belize except under such conditions as may be specified by the Chief Agricultural Officer.

*Used or Second-hand Animal Blankets, Saddle Cloths,  
Felting, Pads, etc.*

18. (1) No used or second-hand animal blankets, saddle cloth, felting, pad or other similar article shall be imported into Belize.

(2) The provision of paragraph (1) of this regulation shall not apply-

(a) to any articles which accompany and form part of the clothing or individual accoutrement of any animal lawfully imported into Belize if such articles were new at the time of shipment, and

(b) to mules imported from Mexico or Guatemala under paragraph (3) of regulation

11 of these Regulations.

*Used or Second-hand Animal Trappings and Poultry Equipment*

19. No used or second-hand harness, saddle, halter, rein, girth, rope, yoke, chain, or other trapping or equipment including fittings, utensils, pens, crates or other animal container or poultry equipment including incubators, feeding troughs and other appliances shall be landed in Belize unless such trappings and equipment have been previously treated to the satisfaction of the Chief Agricultural Officer, or shall be treated by the Inspector with an insecticide approved by the Chief Agricultural Officer at the risk of the person to whom the trappings or equipment are consigned before delivery to the consignee.

*Biological Products*

20. (1) No biological product of any animal intended for use in veterinary medicine shall be imported into Belize except in accordance with the terms of a permit granted by the Chief Agricultural Officer.

(2) In this regulation “biological product” includes any substance commonly known as vaccines, sera, toxins, anti-toxins and antigens intended for use in the practice of veterinary medicine.

21. No animal semen shall be imported into Belize for use in artificial insemination without the permission of the Chief Agricultural Officer.

*Importation Fees*

22. Importers of animals will pay fees for inspection as may be gazetted from time to time.

(Reg 6)

FIRST SCHEDULE

FORM A

MINISTRY OF AGRICULTURE

BELIZE

No.

Animal Importation Certificate

THIS IS TO CERTIFY that I have this day examined the undermentioned animal/animals and-

- (a) find them/it to be healthy and therefore permit entry into Belize;
- (b) find .....

and therefore order that they/it be permitted entry into Belize under the following conditions:

- (i) quarantined for ..... days.
- (ii) .....
- (iii) .....

- (c) find .....
- and therefore order that they/it be prohibited entry into Belize.

2. Inspection fees of \$ .....have been paid.

Date .....

Chief Agricultural Officer

Number and description of animal/animals .....

Name of Importer.....

Whence Imported .....

Name of Vessel and Date of Importation .....

Nature of Documents accompanying the animal/animals .....

**FORM B**

**MINISTRY OF AGRICULTURE**

**BELIZE**

No.

*Animal Quarantine Certificate*

THIS IS TO CERTIFY that the undermentioned animal(s) has/have been received at the Quarantine Station in accordance with Animal Importation Certificate No..... dated

Date .....

*Chief Agricultural Officer*

Number and description of animals .....

Name of Importer .....

THIS IS TO CERTIFY that I have this day examined the above-mentioned animal(s) which was/were received at the Quarantine Station on ..... and declare them/it fit to be released from Quarantine.

2. The animal(s) has/have been delivered to ..... who by signature hereunder acknowledges receipt of same.

Date .....

*Chief Agricultural Officer*

RECEIVED the abovementioned animal(s).

Date ..... Signature .....



SECOND SCHEDULE

3/1968.

*(Regs. 9, 10 and 11)*

Canada  
United States of America  
The Commonwealth Caribbean Islands and Guyana

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THIRD SCHEDULE

3/1968.

*(Reg. 12)*

Great Britain  
Canada  
New Zealand  
Australia  
United States of America  
The Commonwealth Caribbean Islands and Guyana

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FOURTH SCHEDULE

3/1968.

*(Reg. 13)*

Canada  
United States of America  
The Commonwealth Caribbean Islands and Guyana

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**CHAPTER 211****ANTHRAX REGULATIONS****ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Notification of disease.
  3. Notification of infected places.
  4. Duty of occupiers of infected places.
  5. Prohibition of movement of animals in infected places.
  6. Carcasses to be buried or burnt in infected places.
  7. Exhumation of carcasses prohibited.
  8. Carcasses to be kept intact.
  9. Milk not to be used as food for man or other animals.
  10. Disinfection of stables, utensils, etc..
  11. Obligation of owners affected or suspected animals.
  12. Vaccination and inoculation in infected places and areas.
  13. Penalty.
-

**CHAPTER 211**

**ANTHRAX REGULATIONS**

***(Section 11)***

1. These Regulations may be cited as the Short title.

**ANTHRAX REGULATIONS.**

2. (1) Every person - Notification  
of disease.

(a) having in his possession or under his charge any animal affected with, or suspected to be affected with, anthrax, or the carcass of any animal so affected or suspected, or

(b) who suspects by reason of the appearance or behaviour of any animal (the ownership of which cannot be immediately established) that such animal is or was at the time of its death affected or suspected, of being affected with anthrax,

shall within twenty-four hours give notice of such animal or such carcass being or having been so affected or suspected, to the constable in charge of the nearest police station.

(2) Every veterinary surgeon who, upon examining any animal or the carcass of any animal, is of opinion or suspects that such animal is, or was when it died or was slaughtered, affected with anthrax, shall within twenty-four hours give notice of the affection or suspicion of affection to the constable in charge of the nearest police station.

- (3) Every such constable upon the receipt of such notice shall-
- (a) forthwith transmit the information by telegram to the Chief Agricultural Officer;
  - (b) as soon as may be practicable thereafter confirm in writing to the Chief Agricultural Officer the transmission by telegram of such information; and
  - (c) inform the Medical Officer of Health.

Notification of  
infected  
places.

3. (1) The Chief Agricultural Officer shall, upon receipt of any information pursuant to paragraph (3) of regulation 2 of these Regulations, forthwith cause a notice in the Form A in the Schedule to these Regulations to be served upon the occupier of any premises whereupon such animal is.

(2) The Chief Agricultural Officer shall immediately after the service of the notice referred to in paragraph (1) of this regulation cause an inspector to proceed to the place to which such notice refers, and there make a full investigation of all the circumstances, and such inspector shall make a report thereon to the Chief Agricultural Officer.

(3) An inspector may give directions in relation to the steps which should be taken in dealing with any animal affected with anthrax and with any other animal, vehicle, utensil, implement, fodder, litter, dung or other thing (whether similar to the foregoing or not) within the infected place, and the occupier of every such infected place shall comply with such directions.

(4) A notice under paragraph (1) of this regulation shall remain in force until withdrawn by a Withdrawal Notice in the Form B in the Schedule to these Regulations.

4. The owner or occupier of any infected place shall-
- Duty of occupiers  
of infected  
places.
- (a) prevent access of any other animal-
    - (i) to any animal or carcass affected with or suspected of being affected with anthrax;
    - (ii) to any part of the premises which has been exposed to infection by any animal or carcass affected with or suspected of being affected with anthrax;
  - (b) detain on the premises any animal affected with or suspected of being affected with anthrax, and any other animal which has been in the same shed, stable, building, yard or field with any such animal;
  - (c) disinfect as soon as practicable with any such disinfectant as an inspector may, in any particular case, authorise, any place where the animal or carcass has lain or where its blood or body discharges have escaped.
5. (1) No animal shall be moved into or out of, an infected place except in accordance with the terms of a permit in writing granted by an inspector.
- Prohibition of  
movement of  
animals in  
infected places.
- (2) No animal shall be allowed to stray into or out of an infected place.
- (3) No carcass, litter, dung, fodder, utensils, pens, hurdles or other

things (whether similar to the foregoing or not) used in connection with any animal affected with, or suspected of being affected with, anthrax shall be removed from an infected place except in accordance with the terms of a permit in writing granted by an inspector.

Carcasses to be buried or burnt in infected places.

6. The carcass of every animal which dies within an infected place shall -

(a) within twelve hours of death, be burned within the infected place as near to the place where such animal died as practicable; or

(b) be buried with lime within the infected place in a pit not less than seven feet deep and such pit shall be dug as near to the place where such animal died as practicable and shall in no case be less than one hundred feet from any dwelling house, river, well, water course, drain or other channel.

Exhumation of carcasses prohibited.

7. No person, except in accordance with the terms of a permit in writing granted by an inspector, shall open any pit in which the carcass of any animal has been buried pursuant to the provisions of regulation 6 of these Regulations, or dig up or remove such carcass or any part thereof.

Carcasses to be kept intact.

8. No person shall skin, open or in any way mutilate the carcass of any animal which died or is suspected to have died from anthrax:

Provided, however, that the provisions of this regulation shall not apply to any autopsy or diagnostic examination performed by, or on the instructions of, the inspector.

Milk not to be used as food for man or other animals.

9. No milk obtained from any animal affected with, or suspected of being affected with anthrax shall be used as food either for human beings or for animals

and any container in which such milk has been placed shall be thoroughly sterilised before being used for any other purpose.

10. Every occupier of an infected place shall at his own expense and in such manner as the inspector shall direct, cleanse and disinfect-

Disinfection of stables, utensils, etc..

- (a) all parts of any shed, stable, building, field or other place in which any animal affected with, or suspected of being affected with, anthrax has died or was slaughtered or was kept prior to its death or slaughter;
- (b) every utensil, pen, hurdle or other thing (whether similar to the foregoing or not) used in connection with any animal affected with, or suspected of being affected with, anthrax.

11. (1) No person shall, in relation to any animal affected with, or suspected of being affected with, anthrax-

Obligation of owners of affected or suspected animals.

- (a) expose any such animal in any market, fair, sale yard or in any other place at which animals are exposed for sale;
- (b) place any such animal in any place adjacent to any market, fair, sale yard or other place at which animals are exposed for sale;
- (c) send or carry or cause to be sent or carried by inland navigable water or on any coasting vessel, any such animal;
- (d) carry, lead or drive, or cause to be carried, led or driven on any highway or thoroughfare,

any such animal;

- (e) place, keep or graze, or permit to be placed kept or grazed, on the sides of any public road or on any land adjoining a public road which is unfenced or insufficiently fenced, any such animal;
- (f) allow any such animal to stray on to a public road or on to the sides thereof or to be on un-enclosed land or in any field or place which is insufficiently fenced.

(2) In addition to any penalty recoverable against any person convicted of an offence against this regulation, every animal found in any place in contravention of the provisions of this regulation may be moved by or at the direction of an inspector to some convenient place and there detained and isolated.

Vaccination and inoculation in infected places and areas.

12. (1) Every owner of any animal within an infected place or area shall, if required by the Chief Agricultural Officer or an inspector and at his own risk and expense, cause such animal to be vaccinated, inoculated or otherwise treated in such manner and with such substances as the Chief Agricultural Officer or the inspector may direct.

(2) Every such owner shall comply with such directions as an inspector may from time to time give with regard to the care, management and method of handling any such animal during and subsequent to the time of such vaccination, inoculation or other treatment.

(3) Every such owner as required, shall from time to time report to the Chief Agricultural Officer the number of animals which have been vaccinated, inoculated or otherwise treated and such report shall indicate the





(Signature) .....

(Title of office) .....

*Description of Infected Place*

Premises

District

FORM B

(Reg. 3 (4))

*Withdrawal Notice*

To.....of .....

I, ..... of .....  
being an Inspector appointed under the Animals (Diseases and Importation)  
Act, do hereby withdraw, as from the ..... day of .....20 .....  
the notice relating to premises in your occupation at .....dated the .....day  
of .....20 ..... signed by ..... and served upon you on the .....  
day of ..... 20.....

DATED this .....day of ..... 20 .....

(Signature) .....

(Title of office) .....

**CHAPTER 211**

**FOOT AND MOUTH DISEASE REGULATIONS**

**ARRANGEMENT OF SECTIONS**

1. Short title.
2. Interpretation.
3. Notification of disease.
4. Declaration of infected place.
5. Withdrawal notice.
6. Restriction on movement of animals about infected place.
7. Rules to be observed in infected place.
8. Rules for infected areas.
9. Disinfection for foot and mouth and disease.
10. Disinfection of vehicles.
11. Control of movement of animals exposed to infection.
12. Control of movement of persons.

**CHAPTER 211****FOOT AND MOUTH DISEASE REGULATIONS****(Section 11)**

- Short title. 1. These Regulations may be cited as the
- FOOT AND MOUTH DISEASE REGULATIONS.**
- Interpretation. 2. In these Regulations –
- “Act” means the Animals (Diseases and Importation) Act.
- “animal” means any horse, ass, mule, ox, sheep, goat or other ruminating animal or pig;
- “carcass” means the carcass of an animal, and includes part of the carcass or of the meat, bones, hide, skin, hoofs, horns, offal or other part of an animal;
- “diseased animal” means an animal affected with foot and mouth disease;
- “inspector” means an inspector or an assistant inspector appointed under section 3 of the Act;
- “suspected animal” means an animal suspected of being affected with foot and mouth disease.
- Notification of disease. 3. (1) Every person –
- (a) having, or having had in his possession or under his charge, any animal or carcass affected with or suspected of being affected with foot and mouth disease, or

- (b) who suspects by reason of the appearance or behaviour of any animal (the ownership of which cannot be immediately established) that such animal is, or was at the time of its death, affected or suspected of being affected with foot and mouth disease,

shall within twenty-four hours give notice of such animal or such carcass being or having been so affected or suspected, to the constable in charge of the nearest police station.

(2) Every veterinary surgeon who examines any animal or carcass of any animal and is of opinion or suspects that such animal or carcass is affected with foot and mouth disease, or was so affected when it died or was slaughtered, shall within twenty-four hours give notice of the affection or suspicion of affection to the constable in charge of the nearest police station.

(3) Every such constable, upon the receipt of such notice shall—

- (a) forthwith transmit the information by telegram to the Chief Agricultural Officer;
- (b) as soon as may be practicable thereafter confirm in writing to the Chief Agricultural Officer the transmission by telegram of such information, and
- (c) inform the Medical Officer of Health.

4. (1) Where pursuant to subparagraph (a) of paragraph (3) of regulation 3 of these Regulations, the Chief Agricultural Officer receives such information or has reasonable grounds for suspecting that foot and mouth disease exists, or has within fifty-six days existed, on any premises, he shall forthwith cause a notice in the Form A in the Schedule to these Regulations to be served

Declaration of infected place.

on the occupier of any premises whereon such animal is or with respect to which such suspicion exists.

(2) Upon service of such notice the place therein specified shall become an infected place subject to confirmation or otherwise by the Minister under the provisions of the Act, and the Chief Agricultural Officer shall immediately cause an inspector to proceed to the place to which such notice refers, and there make a full investigation of all the circumstances; and such inspector shall forthwith report thereon to the Chief Agricultural Officer, who shall submit a report to the Minister:

Provided that the Chief Agricultural Officer may at any time within twenty-one days of such service, and before such confirmation or otherwise, withdraw such notice and thereupon such place shall cease to be an infected place.

(3) For the purposes of his enquiries an inspector may enter on any part of the premises and he may take therefrom any specimen he may require for the purposes of analysis, and the occupier of the premises and persons in his employment shall render such reasonable assistance to such inspector as may be required.

(4) Every inspector before entering any premises in which foot and mouth disease exists or is suspected to exist shall put on suitable boots and overall clothing which are capable of being disinfected, and immediately before leaving such premises thoroughly disinfect his boots, overall clothing and hands.

Withdrawal  
notice.

5. Subject as hereinafter provided the rules, applied to premises declared to be infected places under regulation 4 of these Regulations, shall remain in force until such notice is withdrawn by a further notice in the Form B of the Schedule to these Regulations served on the occupier of the place by an inspector. Notice of the serving of a notice in the Form B shall be sent to the officer in charge of the nearest police station and to the local medical officer of

health.

6. (1) Where an inspector has caused a notice in Form A to be issued under regulation 4 (1) of these Regulations it shall thereupon be unlawful for any person to move any animal out of the area lying within a radius of five miles from the place of the suspected outbreak, or along, over or across a highway, road or lane in such area except where the movement, being movement entirely within the area, is necessary or expedient for the detention of the animal:

Restriction on movement of animals about infected place.

Provided that an inspector may by a licence in the Form C of the Schedule to these Regulations and subject to such conditions as are set out in such licence authorise movement of animals which is otherwise prohibited by this regulation in any case where in his opinion such movement is necessary or expedient, and the movement is wholly within the area in which movement is prohibited by this regulation, and thereupon it shall be lawful to move the animals in accordance with the licence.

(2) Dogs and poultry in the area lying within a radius of five miles from an infected place shall be kept under control by being -

- (a) confined to a kennel, pen or other enclosure from which they cannot escape; or
- (b) effectively secured to some fixed object; or
- (c) accompanied by the owner or some responsible person deputed by him and under the effectual control of such owner or person.

7. (1) Any place or premises declared to be an infected place under regulation 4 of these Regulations shall be subject to the following rules -

Rules to be observed in infected place.

Rule 1. No cloven-hoofed animal shall be moved into or out of an infected place except under the terms of a licence granted by an inspector.

- Rule 2. No horse, ass or mule shall be moved out of an infected place unless it has been disinfected to the satisfaction of an inspector and in accordance with a licence granted by the inspector.
- Rule 3. No carcass shall be moved out of an infected place except in accordance with the terms of a licence granted by an inspector.
- Rule 4. No live poultry, rabbit, dog, cat or other animal or any portion of the carcass of such animal or poultry shall be removed out of an infected place except in accordance with the conditions set out in a licence granted by an inspector.
- Rule 5. No fodder, litter, dung, utensil, vehicle or other thing shall be removed from an infected place except in accordance with the terms of a licence issued by an inspector.
- Rule 6. All liquid manure, urine or shed washings shall be thoroughly disinfected to the satisfaction of an inspector before being permitted to escape from any shed, yard or other place in which a suspected or diseased animal is or has recently been kept.
- Rule 7. No person other than an inspector shall enter or leave an infected place except in accordance with a written permit from an inspector.
- Rule 8. Any person whomsoever entering any shed, field or other place in which a diseased or suspected animal is or has recently been kept shall wear suitable overall clothing and boots which are capable of being disinfected and are approved by an inspector, and shall before leaving such place thoroughly cleanse and disinfect such clothing and boots and also his hands.
- Rule 9. Where any inspector so directs, any person upon leaving a shed, field or other place in which a diseased or suspected animal is or has recently been kept, shall leave such clothing as the inspector may



direct in such shed, field or other place and shall thoroughly disinfect his hands and boots.

Rule 10. Any person attending a diseased or suspected animal shall not attend an animal not so diseased or suspected except with a written permit from an inspector.

Rule 11. A receptacle containing an approved disinfectant shall be kept at all exits and at such other parts of the infected place as the inspector may direct.

Rule 12. Milk from any animal shall not be moved from an infected place, and unless and until such milk has been boiled it shall not be used for the feeding of animals, and any utensil in which such milk is placed before being so treated shall be thoroughly sterilised with boiling water or by other means to the satisfaction of an inspector before any other milk is placed therein.

(2) An inspector acting under the direction of the Chief Agricultural Officer may by notice in writing to the occupier of an infected place direct that-

- (a) such additional rules as may be specified in such notice, shall apply to the infected place;
- (b) any of the rules prescribed in this regulation shall cease to apply to the infected place or shall be modified in the manner specified in such notice.

(3) Unless the Minister shall in any particular case otherwise direct, the inspector shall as soon as is practicable after the issuance of an Order of the Minister confirming any premises to be an infected place, arrange for, and undertake the valuation and slaughter of all cloven hoofed animals in the same field, shed or other place, or in the same herd or flock, or otherwise in contact

with diseased animals, or in any way exposed to infection with foot and mouth disease and the disposal of the carcasses of such animals by cremating or by other means authorised by the Chief Agricultural Officer, and in accordance with the provisions of these Regulations.

Rules for infected areas.

8. Whenever the Minister shall, in accordance with the provisions of section 6 of the Act, by order declare any area to be infected with foot and mouth disease, such area shall be subject to the following provisions:

- (a) any farm, holding, pen, property or enclosure which is partly within and partly outside the infected area shall be deemed to be wholly within the area, and for this purpose the detached parts of farms, holdings, pens, properties or enclosures shall be deemed separate premises;
- (b) no animal shall be moved out of the infected area;
- (c) no animal shall be moved into the infected area except direct to a farm or slaughter-house situated not less than two miles from any infected place and then only if accompanied by and in accordance with the conditions of a licence issued by an inspector;
- (d) (i) no animal shall be moved within the infected area unless accompanied by and in accordance with the conditions of a licence granted by an inspector, and subject as herein-after provided,

- such inspector may grant a licence if in his opinion the movement is necessary;
- (ii) where the place of destination specified in the licence is premises other than a slaughter-house, the animal shall on arrival thereat be detained for a period of fourteen days;
  - (iii) no licence shall be granted for the movement of any animal to farm premises for purposes of sale or exhibition thereon;
  - (iv) no licence shall be granted for the movement of an animal within two miles of any infected place;
- (e) no animal shall graze on any roadside or unenclosed or insufficiently enclosed pasture within any infested area;
- (f) no animal shall be allowed to stray on any highway, road or unenclosed land within any infected area, and any animal found so doing shall be impounded and kept at the owner's expense;
- (g) no exhibition or sale of animals shall be held in any infected area;
- (h) (i) licences for the movement of animals granted under this regulation shall be

in the Form C of the Schedule to these Regulations, and every such licence shall state the conditions under which movement may be made;

(ii) no person shall efface, alter, obliterate or remove or attempt to efface, alter, obliterate or remove any mark painted, stamped or clipped on any animal as required by the conditions of any licence granted under these Regulations;

(i) no manure or waste meat trimmings or any other refuse shall be moved from any slaughter-house or other premises within an infected area except to other premises within the same infected area and then subject to the conditions set out in the written permit given by an inspector;

(j) all dogs and poultry within an infected area shall be kept under control by being-

(i) confined in a kennel or other enclosure from which such dog or poultry cannot escape; or

(ii) effectively secured by some fixed object; or

(iii) accompanied by the owner or some responsible person deputed by him, and under the effectual control of such

owner or person,

and any dog or poultry not so restrained shall be liable to seizure and destruction;

- (k) an inspector may, notwithstanding the existence of any footpath or right of way, prohibit the entry of any person into any field, shed or other place in an infected area by giving notice in writing to that effect to the occupier. In every such case the owner of any animal in such place or his agents or servants may enter such premises or place for the purpose of feeding or tending the animals, but such owner or his agents or servants shall not enter such place for any other purpose except with the permission in writing of an inspector, and no other person shall enter such premises or place except with a written permit granted by an inspector. Notices shall be affixed or exhibited by an inspector to ensure compliance with the restrictions imposed.

9. (1) Every shed or other place in which an animal affected with foot and mouth disease has been kept while so affected or has died or been slaughtered shall be disinfected and cleansed as follows:

Disinfection for foot and mouth disease.

- (a) the whole of the interior of such shed or other place including the fittings shall first be thoroughly washed or sprayed with a disinfectant approved by an inspector; then

- (b) all dung or other discharge shall be scraped from the walls, fittings and floors, and then the shed or other place swept out, and the sweepings and all litter, dung or other thing that has been in contact with, or used about, any animal shall be effectually removed therefrom; and
- (c) the floor of the shed or other place and all other parts thereof with which any animal or its droppings or any discharge may have come into contact shall again be thoroughly washed or sprayed with a disinfectant approved by an inspector.

(2) All litter, dung or other thing removed from the shed or other place shall be forthwith thoroughly disinfected or burnt or otherwise destroyed to the satisfaction of an inspector.

(3) Where any field or other like place is not capable of being so disinfected and cleansed, it shall be sufficient if such field or place be disinfected and cleansed to the satisfaction of an inspector.

Disinfection of  
vehicles.

10. (1) Any cart, van, truck or other vehicle used for the conveyance of any animal or carcass thereof into, within or out of an infected area, or with respect to which any inspector shall issue a notice requiring disinfection, shall as soon as practicable after each occasion on which it is so used, and before any other animal or any fodder or litter, or any other thing intended to be used for or about animals is placed therein, be disinfected, cleansed, and again disinfected by, and at the expense of, the owner thereof or the person using or the person in charge of the same in the following manner:

- (a) the floor, roof, sides and ends of the inside of the vehicle and the sides and ends of the outside of the vehicle and all other parts thereof with which any animal or its droppings or discharges have or may have come in contact, shall be scraped and swept, and the scrapings and sweepings and all dung, sawdust, litter and other matter shall be effectually removed therefrom, the same parts of the vehicle shall then be thoroughly washed or scrubbed or scoured with water, and then be disinfected by being thoroughly coated or washed with a disinfectant approved by an inspector;
- (b) the scrapings and sweepings of the vehicle and all dung, sawdust, litter, bedding and other matter removed therefrom shall forthwith be well mixed with quicklime and buried, or burnt.

(2) Every crate, box, hamper, loading board, rope, net or other apparatus used in connection with the conveyance of animals as aforesaid shall, on each occasion when the vehicle is required by this regulation to be cleansed and disinfected, be thoroughly cleansed and then be disinfected by being thoroughly coated, washed or saturated with a disinfectant approved by an inspector, and at the expense of the owner or person using or the person in charge of the vehicle.

(3) If the owner or the person using, or the person in charge of any vehicle or other thing used for or in connection with the conveyance of an animal as aforesaid, fails to cleanse and disinfect to the satisfaction of an inspector, the vehicle or thing as required by this regulation or by a notice served by an inspector, it shall be lawful for the Chief Agricultural Officer to

cause such vehicle to be cleansed and disinfected and to recover from such owner or person the expense of such cleansing and disinfection as a civil debt.

Control of movement of animals exposed to infection.

11. (1) Where an inspector as a result of information received, believes that any animal has been exposed to the infection of foot and mouth disease he shall, and in any other case in respect of any animal if he considers it expedient so to do for the purpose of preventing the spread of the disease, may, forthwith serve a notice in the Form D of the Schedule to these Regulations as herein provided, on the owner or the person in charge of the animal.

(2) After the service of a notice under paragraph (1) of this regulation it shall not be lawful for any person, until the operation of the notice terminates or the notice is withdrawn by a further notice in the Form E of the Schedule to these Regulations signed by an inspector –

(a) to move any animal on, to or into such place; or

(b) to permit any animal to which the notice applies to stray out of such place or to come into contact with any other animal.

(3) The inspector may insert in any notice given under paragraph (1) of this regulation such conditions governing the isolation, housing, pasturage, movement or handling of any animal as he may consider expedient.

(4) In any case where any animal may be in such a situation as to make effective isolation impracticable, the inspector may require that such animal be moved to some convenient and isolated place approved by him for the detention of the animal before the serving of the notice in the Form D in the Schedule to these Regulations.

Control of movement of persons.

12. (1) If an inspector has reasonable grounds for believing that the movement of any person, animal or thing on to or from any place may be attended



with risk of spread of foot and mouth disease or that any animal, place or thing has been exposed to the infection of such disease, he may, acting under the general or special direction of the Chief Agricultural Officer and for the purpose of preventing the spread of the disease, prohibit the movement of any person, animal or thing on, to or from any place, or direct the movement of any person, animal or thing from any place or impose any condition on any such movement or any requirement in relation to such person, place, animal or thing, either in respect of subsequent detention or disinfection or otherwise, by serving a notice in writing to that effect on such person or on the owner or occupier of the place as aforesaid or on the owner or person in charge of the animal or thing.

(2) For the purposes of this regulation “animal” shall be deemed to include any four-footed animal and any poultry.

(3) Any disinfection required by the provisions of a notice under this regulation shall, if so required by the notice, be carried out by and at the expense of the person to whom the notice is served.

**SCHEDULE****FORM A***(Reg. 4)**Notice Defining an Infected Place*

To \_\_\_\_\_ of \_\_\_\_\_  
 I, the undersigned, being an Inspector appointed under section 3 of the Act, hereby give you notice, as the occupier of the undermentioned premises, that in accordance with the provisions of the Foot and Mouth Disease Regulations, under which this Notice is served, the under-mentioned premises are hereby declared to be a foot and mouth disease infected place for the purposes of the said regulations, and that the said premises accordingly become subject to the rules set out below. Any person infringing these Rules is liable to heavy penalties.

This Notice remains in force until it is withdrawn by a subsequent notice (Form B) served by an inspector on the occupier of the infected place.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
 (Signed)  
 Inspector  
 (Address)

## Description of Infected Place

Premises	District

Rules Governing Infected Place  
(Foot and Mouth Disease Regulations 6 and 7)

N.B.- Copies of this Notice should be sent to -  
Chief Agricultural Officer  
Nearest Police Station  
Medical Officer (Health)

FORM B (Reg. 5)

*Withdrawal of Notice Defining Infected Place*

To \_\_\_\_\_ of \_\_\_\_\_  
I, the undersigned, being the Chief Agricultural Officer of Belize hereby  
withdraw as from the \_\_\_\_\_ day of \_\_\_\_\_ 20 , \_\_\_\_\_ the  
Notice in Form A signed by \_\_\_\_\_ and served upon you on the  
day of \_\_\_\_\_ 20

Dated this \_\_\_\_\_ day of \_\_\_\_\_ , 20

(Signed) .....  
*Chief Agricultural Officer*

N.B.-Copies of this Notice should be sent to –

The Minister  
Nearest Police Station  
Medical Officer (Health)

## FORM C

(Regs. 6 and 8)

## Movement Licence

I, the undersigned, being an Inspector appointed under section 3 of the Act, hereby authorise the movement of the under-mentioned animals or animal products to the place or premises specified in Column IV subject to the conditions set out on the back hereof. These conditions should be carefully read and observed. Failure to comply with them renders a person liable to prosecution and heavy penalties.

I Name and address of person to whom this licence is granted	II Name and description of animals or animal products to be moved.	III Name or description of the place or premises from which the animals or animal products are to be moved.	IV Name or description of the place or premises to which the animals or animal products are to be moved.

This Licence is available for six days, including the day of the date hereof, or such less period as may be specified on the Licence by the Inspector granting it, and no longer.

This Licence may be cancelled at any time by a notice served by an Inspector on the person to whom this Licence is granted.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20

(Signed)  
Inspector  
(Address)

N.B.-Copies of this Licence should be sent to-

Chief Agricultural Officer  
Nearest Police Station

*Conditions applicable to this Licence*

A Licence for movement between different parts of the same farm or holding, if endorsed by the Inspector granting it “occupation licence”, is available for movement of the animals or animal products as often as required, and shall remain in force until cancelled in writing by an Inspector.

2. The animals or animal products shall be moved in the manner and by the route specified in the Licence. If no such provisions are specified the animals or animal products shall be moved by the nearest available route, and without avoidable delay to the place of destination specified in the Licence, and not elsewhere.
3. The animals shall be kept as far as practicable apart from other animals during the movement.
4. Where the number of animals moved (except with an occupation licence) is less than the number in respect of which the licence is granted, the Inspector shall endorse on the Licence at Column II, the number of animals actually moved, and the Licence shall not be valid for any further movements.
5. Before movement, other than movement between different parts of the same farm, animals shall be marked with a letter “M” on the neck.
6. The Licence shall accompany the animals throughout the movement and shall be produced on demand to an inspector or a police constable.
7. The movement licence, unless marked “occupation licence” shall be delivered to the nearest Police Station immediately upon arrival of the animals

at the place of destination.

8. Unless the place of destination specified in Column IV be a place of slaughter, the animals shall on arrival, be detained for a period of 14 days from the date of arrival.

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FORM D

(Reg. 11)

*Notice to Owner or Person in Charge Prohibiting Movement of Animal*

To \_\_\_\_\_ of \_\_\_\_\_  
I, the undersigned, being an Inspector appointed under section 3 of the Act, hereby prohibit the movement of the following animals, namely, (Describe animal) from or out of

(Describe farm, field, shed, sty or other place of detention),

and I hereby require you to take notice that in consequence of this and the provisions of the Foot and Mouth Disease Regulations, it is not lawful for any person, (until the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ on which day the operation of this notice terminates, or\* until this notice is withdrawn)-

- (a) to move such animal or any other animal from or out of such place as aforesaid; or
- (b) to move any animal on to or into such place as aforesaid; or
- (c) to permit any animal to which the notice applies to stray out of such place or to come into contact with any animal.

In addition the above-named animal is subject to the following conditions:

\*Strike out if inapplicable.



**CHAPTER 211****POULTRY DISEASE REGULATIONS****ARRANGEMENT OF SECTIONS**

1. Short title.
2. Notification of disease
3. Notification of infected places.
4. Prohibition of movement of poultry.
5. Confinement to infected place.
6. Isolation of poultry on adjoining premises.
7. Straying poultry to be destroyed.
8. Carcasses may be burnt or buried.
9. Vaccination and immunisation.
10. Compensation for poultry destroyed.
11. Valuation of poultry.
12. Cleansing of pens and coops.
13. Inspection of vehicles.
14. Penalty.



**CHAPTER 211**

**POULTRY DISEASE REGULATIONS**

***(Section 11)***

1. These Regulations may be cited as the Short title.
- POULTRY DISEASE REGULATIONS.**
2. (1) Every person Notification of disease.
- (a) having in his possession or under his charge any poultry affected with, or suspected to be affected with, disease, or the carcass of any poultry so affected or suspected, or
- (b) who suspects by reason of the appearance or behaviour of any poultry (the ownership of which cannot be immediately established) that such poultry is, or was at the time of its death, affected or suspected, of being affected with disease,

shall, within twenty-four hours, give notice of such poultry or such carcass being or having been so affected or suspected, to the constable in charge of the nearest police station or the nearest inspector.

(2) Every veterinary surgeon who, upon examining any poultry or the carcass of any poultry, is of opinion or suspects that such poultry is, or was when it died or was slaughtered, affected with disease, shall within twenty-four hours give notice of the affection or suspicion of affection to the nearest inspector or the police constable in charge of the nearest police station.

- (3) Every such constable or inspector upon the receipt of such notice shall-
- (a) forthwith transmit the information by telegram to the Chief Agricultural Officer;
  - (b) as soon as may be practicable thereafter confirm in writing to the Chief Agricultural Officer the transmission by telegram of such information; and
  - (c) inform the Medical Officer of Health.

Notification of  
infected places.

3. (1) The Chief Agricultural Officer shall, upon receipt of any information pursuant to paragraph (3) of regulation 2 of these Regulations forthwith cause a notice in the Form A in the Schedule to these Regulations to be served upon the occupier of any premises whereupon such poultry is.

(2) The Chief Agricultural Officer shall immediately after the service of the notice referred to in paragraph (1) of this regulation cause an inspector to proceed to the place to which such notice refers, and there make a full investigation of all the circumstances and such inspector shall make a report thereon to the Chief Agricultural Officer.

(3) An inspector may give directions in relation to the steps which should be taken in dealing with any poultry affected with disease and with any other poultry, or carcasses of other poultry, eggs, vehicle, utensil, implement, fodder, litter, dung, droppings or other thing (whether similar to the foregoing or not) within the infected place and the occupier of every such infected place shall comply with such directions.

(4) A notice under paragraph (1) of this regulation shall remain in force until withdrawn by a Withdrawal Notice in the Form B in the Schedule to these Regulations.

- |  |   |
|--|---|
| 4. No poultry nor the carcass of any poultry nor any portion of such carcass (except dressed carcasses for human consumption) shall be moved out of or into, or from place to place within any infected place or area except in accordance with the terms of a permit in writing given by an inspector.  | Prohibition of movement of poultry.         |
| 5. Persons in charge of poultry within an infected place or an infected area shall cause such poultry to be confined in a coop, pen or other enclosure, unless an inspector in writing otherwise directs.  | Confinement to infected place.              |
| 6. Persons in charge of poultry on separate premises within an infected place or infected area shall cause such poultry to be isolated from poultry on adjoining premises within or upon the boundary of the infected place or infected area, unless an inspector in writing otherwise directs.  | Isolation of poultry on adjoining premises. |
| 7. All poultry straying into or out of or straying within an infected place or infected area, and all poultry being moved into or out of or within an infected place or infected area in contravention of regulations 4, 5 and 6 of these Regulations, may in the discretion of an inspector or constable in charge of the nearest police station, be destroyed. | Straying poultry to be destroyed.           |
| 8. The carcasses of any poultry destroyed or shot in accordance with regulation 7 of these Regulations may in the discretion of an inspector or constable in charge of the nearest police station be burnt or buried.  | Carcasses may be burnt or buried.           |
| 9. An inspector may order that any poultry within any infected place or infected area shall at the risk of the owner be immunized against any disease by vaccination or otherwise, and the cost of any such immunization shall be a charge against the General Revenue.  | Vaccination and immunisation.               |
| 10. An inspector may order that -  | Compensation for poultry destroyed.         |
| <p style="margin-left: 40px;">(a) any infected poultry in an infected place shall be destroyed without compensation to the owner of the said poultry;</p>  |   |

- (b) all other poultry in an infected place which in his opinion have or may have had direct contact with infected birds shall be destroyed and compensation shall be paid from general revenue to the owner, equal to the full and current value of the poultry so destroyed, provided the sum does not exceed two dollars per head for fowls, ducks and guinea fowls and five dollars per head of turkeys and geese.

Valuation of poultry.

11. In the event of a dispute occurring between the owner and the inspector as to the value of the poultry destroyed and for which compensation shall be paid under regulation 10 (b) of these Regulations, a valuer shall be appointed by the Magistrate of the District in which the infected place shall wholly or mainly lie, and the valuation made by the valuer so appointed shall be final.

Cleansing of pens and coops.

12. Every part of any coop, pen or other enclosure where any poultry infected with, or suspected of being infected with, any disease has been kept or isolated shall be cleansed and treated in such manner as an inspector may in any particular case direct.

Inspection of vehicles.

13. (1) Any inspector or constable or any person authorised in writing by the Chief Agricultural Officer may stop and inspect any vehicle, either within an infected place or not, if he has reason to suspect that poultry or carcasses are being transported on the vehicle in contravention of regulation 4 of these Regulations.

(2) The driver of the vehicle shall, on request, give particulars of the consignors or consignees of any poultry or carcasses which are being so carried.

14. Any person who commits a breach of any of the provisions of these Regulations which is not made an offence under the provisions of the Animals (Diseases and Importation) Act, shall be liable on summary conviction to a fine not exceeding one hundred and fifty dollars or to imprisonment for a term not exceeding six months. Penalty.

SCHEDULE

FORM A

(Reg. 3 (1))

Notice Defining Infected Place

To \_\_\_\_\_ of \_\_\_\_\_  
I, \_\_\_\_\_ of \_\_\_\_\_  
being an Inspector appointed under the Animals (Diseases and Importation) Act, hereby give you notice as the occupier of the under-mentioned premises that the said premises are hereby declared to be an infected place and to become subject to the provisions of the Poultry Diseases Regulations.

Description of Infected Place

Premises	District

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
(Title) .....

FORM B

*(Reg. (4))*

*Withdrawal Notice*

To \_\_\_\_\_ of \_\_\_\_\_  
 I, \_\_\_\_\_ of \_\_\_\_\_  
 being an Inspector appointed under the Animals (Diseases and Importation)  
 Act, do hereby withdraw, as from the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, the notice  
 relating to premises in your occupation at \_\_\_\_\_ dated the \_\_\_\_\_ d a y  
 of \_\_\_\_\_, 20\_\_\_\_, and served upon you on the \_\_\_\_\_ day of  
 \_\_\_\_\_, 20\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

(Title) .....

\_\_\_\_\_

**CHAPTER 211**

**SWINE FEVER REGULATIONS**

**ARRANGEMENT OF SECTIONS**

1. Short title.
2. Notification of disease
3. Notification of infected places.
4. Prohibition of movement of swine.
5. Confinement to infected place or area.
6. Straying swine to be destroyed.
7. Disposal of carcass.
8. Exhumation of carcass prohibited.
9. Disposal of dung, etc., from infected swine.
10. Cleansing of sty, pens, etc..
11. Isolation of contacts.
12. Isolation of swine on adjoining premises in infected area.
13. Carcass of contacts to be destroyed.
14. Compensation for swine shot or destroyed.
15. Penalty.

**CHAPTER 211****SWINE FEVER REGULATIONS*****(Section 11)***

Short title. 1. These Regulations may be cited as the

**SWINE FEVER REGULATIONS.**

Notification of disease. 2. (1) Every person-

(a) having in his possession or under his charge any swine affected with, or suspected to be affected with, swine fever, or the carcass of any swine so affected or suspected, or

(b) who suspects by reason of the appearance or behaviour of any swine (the ownership of which cannot be immediately established) that such swine is or was at the time of its death affected or suspected, of being affected with swine fever,

shall, within twenty-four hours, give notice of such swine or such carcass being, or having been, so affected or suspected, to the constable in charge of the nearest police station.

(2) Every veterinary surgeon who, upon examining any swine or the carcass of any swine, is of opinion or suspects that such swine is or was when it died or was slaughtered affected with swine fever, shall within twenty-four hours give notice of the affection or suspicion of affection to the constable in charge of the nearest police station.



- (3) Every such constable upon receipt of such notice shall-
  - (a) forthwith transmit the information by telegram to the Chief Agricultural Officer;
  - (b) as soon as may be practicable thereafter confirm in writing to the Chief Agricultural Officer the transmission by telegram of such information; and
  - (c) inform the Medical Officer of Health.

3. (1) The Chief Agricultural Officer shall, upon receipt of any information pursuant to paragraph (3) of regulation 2 of these Regulations, forthwith cause a notice in the Form A in the Schedule to these Regulations to be served upon the occupier of any premises whereon such animal is.

Notification of infected places.

(2) The Chief Agricultural Officer shall immediately after the service of the notice referred to in paragraph (1) of this regulation cause an inspector to proceed to the place to which such notice refers, and there make a full investigation of all the circumstances and such inspector shall make a report thereon to the Chief Agricultural Officer.

(3) An inspector may give directions in relation to the steps which should be taken in dealing with any animal affected with swine fever and with any other animal, vehicle, utensil, implement, fodder, litter, dung or other thing (whether similar to the foregoing or not) within the infected place, and the occupier of every such infected place shall comply with such directions.

(4) A notice under paragraph (1) of this regulation shall remain in force until withdrawn by a Withdrawal Notice in the Form B in the Schedule to these Regulations.

- Prohibition of movement of swine. 4. No swine nor the carcass of any swine nor any portion of such carcass shall be moved out of or into, or from place to place within any infected place or area except in accordance with the terms of a permit in writing by an inspector.
- Confinement to infected place or area. 5. All swine within an infected place or an infected area shall be kept confined in a sty, pen or other enclosure, unless an inspector in writing otherwise directs.
- Straying swine to be destroyed. 6. Any swine straying into or out of or from place to place within an infected place or an infected area may, in the discretion of an inspector or constable in charge of the nearest police station, be shot or otherwise destroyed.
- Disposal of carcass. 7. (1) The carcass of any swine –
- (a) destroyed pursuant to regulation 6 of these Regulations, or
  - (b) which died of swine fever, or
  - (c) which died within an infected place or an infected area,
- shall be burnt or buried within six hours of the death of such swine, in the infected place or infected area from or into which it strayed or in which it died, by the owner or occupier of such place.
- (2) Where the carcass of any such swine is buried it shall be buried at a depth of not less than five feet below the surface of the ground.
- Exhumation of carcass prohibited. 8. No person shall exhume or dig up the carcass of any swine nor any portion thereof which is buried within an infected area except in accordance with the terms of a permit in writing granted by an inspector.

9. (1) No dung of any swine, nor any food, fodder, litter or utensils used in connection with any swine in any infected place or infected area shall be moved out of such infected place or infected area.

Disposal of dung, etc., from infected swine.

(2) Any such dung, food, fodder, litter or utensils shall be burnt or buried or otherwise treated, dealt with, or disposed of, by the owner thereof, as an inspector may in any particular case direct.

10. Every part of every sty, pen or other enclosure where any swine affected with, or suspected of being affected with, swine fever has been kept or isolated shall be cleansed and treated by the owner thereof in such manner as an inspector may in any particular case direct.

Cleansing of sty, pens, etc..

11. (1) Any swine which, within a period of thirty days, has been in contact with any swine affected with swine fever shall be isolated by the person in charge of such swine, and kept confined in a sty, pen or other enclosure for a period of not less than thirty days after the death or destruction of the last of such swine affected with swine fever unless the inspector in writing otherwise directs.

Isolation of contacts.

(2) For the purposes of paragraph (1) of this regulation, every person who has disposed of any swine which has been in contact with swine affected with swine fever, shall, upon being so required by an inspector, disclose the name and address of any person to whom such swine was disposed of and the place at which such swine was delivered or the destination to which it was consigned.

(3) The Chief Agricultural Officer or the inspector may order that any swine within any infected place or infected area shall at the risk and if so determined, at the expense of the owner be immunized against swine fever by vaccination or otherwise.

(4) All swine immunized pursuant to the provisions of paragraph (3) of this regulation shall be isolated from other swine by the person in charge

of such swine and kept confined for such period as may be specified by the inspector.

Isolation of swine on adjoining premises in infected area.

12. Persons in charge of swine on separate premises within an infected place or infected area shall isolate them from swine on adjoining premises within or upon the boundaries of such infected place or infected area, unless the inspector in writing otherwise directs.

Carcass of contacts to be destroyed.

13. The carcass of any swine which has within seven days immediately preceding the date of its slaughter been in contact with any other swine affected with or suspected of being affected with swine fever may be seized and destroyed by an inspector.

Compensation for swine shot or destroyed.

14. An inspector may order that -

(a) any infected swine in an infected place or area shall be shot, or otherwise destroyed without compensation to the owner of the said swine;

(b) all other swine in an infected place or area which in his opinion have or have had direct contact with infected swine, shall be shot or otherwise destroyed and compensation shall be paid from general revenue to the owner, equal to the full and current value of the swine so destroyed.

Penalty.

15. Any person who commits a breach of any of the provisions of these Regulations which is not made an offence under the provisions of the Animals (Diseases and Importation) Act, shall be liable on summary conviction to a fine not exceeding one hundred and fifty dollars or to imprisonment for a term not exceeding six months.

SCHEDULE

FORM A

(Reg. 3 (1))

*Notice Defining Infected Place*

To \_\_\_\_\_ of \_\_\_\_\_  
 I, \_\_\_\_\_ of \_\_\_\_\_  
 being an Inspector appointed under the Animals (Diseases and Importation)  
 Act, hereby give you notice as the occupier of the under-mentioned premises  
 that the said premises are hereby declared to be an infected place and to become  
 subject to the provisions of the Swine Fever Regulations.

Description of Infected Place

Premises	District

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
 (Title) .....

FORM B

(Reg. 3 (4))

Withdrawal Notice

To \_\_\_\_\_ of \_\_\_\_\_  
 I, \_\_\_\_\_ of \_\_\_\_\_  
 being an Inspector appointed under the Animals (Diseases and Importation)  
 Act, do hereby withdraw, as from the \_\_\_\_\_ day  
 of \_\_\_\_\_, 20\_\_\_\_, the notice relating to  
 premises in your occupation at \_\_\_\_\_ dated the  
 \_\_\_\_\_ day of \_\_\_\_\_,  
 20\_\_\_\_, signed by \_\_\_\_\_ and served  
 upon you on the \_\_\_\_\_  
 \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

(Title) .....

\_\_\_\_\_

**CHAPTER 211**

**FERTILIZERS AND FEEDING STUFFS REGULATIONS**

9/1979.

**ARRANGEMENT OF SECTIONS**

1. Short title.
2. Definition.
3. Ingredients of certain articles.
4. Form of certificate.
5. Deleterious substances.
6. Disclosure of materials in feeding stuffs.
7. Methods of analysis.
8. Use of additives.
9. Prohibition.
10. Marking of articles.
11. Posting of samples.
12. Analysis of samaples.
13. Taking of samples, etc..

**CHAPTER 211**

9/1979

**FERTILIZERS AND FEEDING STUFFS REGULATIONS***(Section 14)**[10th March, 1979]*

Short title.

1. These Regulations may be cited as the

**FERTILIZERS AND FEEDING STUFFS REGULATIONS.**

Definitions.

2. In these Regulations, unless the context otherwise requires-

“Act” means the Fertilizers and Feeding Stuffs Act;

“amount of protein” means-

(a) except in the case of compound feeding stuffs or feed supplements, the amount of nitrogen, other than ammoniacal, nitrate or urea nitrogen, multiplied by 6.25;

(b) in the case of compound feeding stuffs or feed supplements, the amount of nitrogen, including urea and ammoniacal nitrogen but not nitrate nitrogen multiplied by 6.25;

“antioxidant” means any substance which delays, retards or prevents the development in a feeding stuff or rancidity or other deterioration arising from oxidation;

“binder” means any non-nutritional substance which aids the compaction of feeding stuffs;



“colourant “ means any substance, other than a basic feed ingredient, which is added to a feeding stuff only to impart colour to a feeding stuff or to an animal product;

“compound feeding stuffs” means a product, other than a feed supplement, obtained by mixing two or more materials, including at least one of the materials mentioned in the first column of Part II of the First Schedule, to these Regulations for the purpose of this definition the presence of any added substance of a kind referred to in regulation 9 shall be disregarded;

“daily ration” means the total quantity of feeding stuffs, expressed on a 12 percent moisture basis, necessary on average for an animal of a given kind: age group and level of production in order to satisfy its nutritional needs;

“emulsifier” means any substance, other than a basic feed ingredient, which aids the formation of the uniform dispersion of two or more immiscible substances;

“feed supplement” means a product obtained by mixing two or more materials, being a product of kind commonly sold or used to supplement other feeding stuffs to an extent of not more than one-twentieth of the total quantity;

“fibre” means the organic matter calculated as the result of treatment of the feeding stuff according to the method of analysis described in paragraph 7.2 of the Fourth Schedule, to these Regulations;

“oil” means the extract obtained as a result of treatment of a feeding stuff according to the method of analysis described in paragraph 3.21 or 3.22 of the Fourth Schedule, to these Regulations;

“stabiliser” means any substance, other than a basic feed ingredient, which maintains the uniform dispersion of two or more immiscible substances;

“sugar” means total reducing sugars after inversion expressed as sucrose;

“whole feeding stuff” means a mixture of feeding stuffs which by reason of its composition, is sufficient to ensure a daily ration.

Ingredients of certain articles.

3. (1) For the purposes of section 4 any article sold under a name set out in Column I of the First Schedule, to these Regulations has the meaning and shall contain the main ingredients set out against that name in Column 2 of that Schedule and the Statutory Statement shall contain *inter alia* the percentage of the article mentioned in Column 3 thereof.

(2) For the purposes of section 6 the limits of variations permissible in respect of any article named in Column 3 of the First Schedule to these Regulations shall be that set out against that article in Column 4 of that Schedule.

Form of certificate.

4. The forms of certificate of analysis to be granted by the Analyst shall be as in the Second Schedule to these Regulations.

Deleterious substances.

5. For the purposes of section 12 (1) the following substances are declared to be deleterious substances:-

- (a) Salts soluble in water, if present in a feeding stuff in proportions likely to be injurious to the health of animals.
- (b) All substances (poisonous) except those naturally present in the material or materials from which the feeding stuff is derived.
- (c) Sand, silicious matter or other insoluble matter not naturally associated with ingredients of the feeding stuff which do not fall within the scope of this regulation or which, even if naturally so associated are present in greater proportion than the maximum than may be expected in average

commercial samples of the feeding material.

6. (1) The presence of the following in the feeding stuffs shall be disclosed. Disclosure of materials in feeding stuffs.
- (a) Husks, chaff, glumes, shudes, hulls, nutshells or skins of nuts, from any source, whether ground or unground, treated or untreated, when used as separate ingredients or artificial mixtures in the manufacture of feeding stuffs.
  - (b) Peat, peamoss, spent or sugar cane pith.
  - (c) Wheat or rye straw.
  - (d) Sawdust or any other form of wood.
- (2) When the kernels naturally associated in seeds with one or other of the above mentioned under item (a) of paragraph (1) of this regulation are present in a feeding stuff along with the materials with which they are so associated, regard shall be had to the proportion of the above materials which might reasonably be expected to accompany such kernels when the seed from which they are derived is in its condition (natural), provided that feeding in this condition is regarded as a common practice in the feeding of livestock.
7. The methods by which analysis of fertilizers and feeding stuffs shall be made for the purposes of the Act shall be as set out in the Third and Fourth Schedules respectively to these Regulations. Method of analysis.
8. The use of additives shall be as set out in the Fifth Schedule to these Regulations. Use of additives.
9. (1) No person shall sell or have in his possession with a view to sale for use as a feeding stuff or import into Belize for such any material containing Prohibition.

any added antioxidant, colourant, emulsifier, stabiliser, binder, vitamin D2 or D3, copper, cobalt, selenium, manganese, zinc, urea or any added substance of a description specified in the first column of Part V of the table in the Fifth Schedule to these Regulations unless the material complies with the provisions of that Schedule as respects content and, where appropriate marking and it shall be an offence if a sampled portion of any such material does not comply with the provisions of that Schedule as regards content.

(2) The provisions of this regulation shall not apply as respects to any antioxidant, colourant, emulsifier, stabiliser, binder, vitamin D2 or D3, copper, cobalt, selenium, manganese, zinc or urea or substance as aforesaid which is-

- (a) for use only in accordance with a prescription given by a veterinary surgeon or practitioner for the treatment of a particular animal or herd under his care;
- (b) a medicinal product or for use for a medicinal purpose in a feeding stuff;
- (c) for use only for the purpose of scientific research or experiment and is not generally for sale, purchase or use in a feeding stuff;
- (d) intended for the exportation to a destination outside Belize and is clearly marked or labelled to that effect.

(3) No person shall use as feeding stuff or import into Belize for use any material containing any added substance not being a substance of a name or description specified in any part in the table set out in the Fifth Schedule to these Regulations or in- paragraph 1 (f) or (g) of that Schedule, which is deleterious to poultry, cattle or to human beings, and it shall be an offence if a

sampled portion of any such material is shown by analysis of the sample taken from it to contain an added substance which is deleterious as aforesaid.

10. Articles I shall be marked legibly in writing, printing, or stenciling-

Marking of articles.

- (a) on the article itself or on a label securely attached thereto, or
- (b) where the article is packed in a number of separate packages either on the wrapper or on the container, or on a label securely attached to each of the packages, or
- (c) where the article is in a bulk container or tanker-
  - (i) on the bulk container or tanker, or a label securely attached thereto, or
  - (ii) where the bulk container or the tanker is a road vehicle, on a document which clearly relates to the material which is retained in the vehicle and is readily available for inspection, or
  - (iii) otherwise in such a manner that the mark shall be readily apparent and unequivocally associated with the material, or
- (d) where the article is loose in bags or bales in such a manner that the mark shall be readily apparent and unequivocally associated with the material.

- Posting of samples. 11. Any part of a sample required to be sent to any person shall be sent by registered post.
- Analysis of samples. 12. Where a sample of a feeding stuff has been taken by an inspector in the prescribed manner and sent to an agricultural analyst for analysis, any such analysis of the oil content shall be disregarded unless it is carried out before the end of three weeks commencing the date of sampling.
- Taking of samples, etc.. 13. The manner of taking, dividing, marking, sealing and fastening of samples shall be as described in the Sixth Schedule to these Regulations.
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**FIRST SCHEDULE  
PART I FERTILIZERS  
SECTION 4 (a), (b) AND (C), AND SECTION 6 (1b)**

Column I	Column II	Column III	Column IV
Name of article	Meanings/Ingredients of articles	Ingredients the percentage of which are to be declared in the statutory statement	Limits of variation
Compound fertilizer	A mixture of any two or more of the materials mentioned in this table	Amounts, if any of nitrogen, potash phosphoric acid	Nitrogen, potash and phosphoric acid 10%
Ammonium nitrate	Ammonium nitrate for fertilizing purposes	Amount of nitrogen	5% of the amount stated
Ammonium sulphate nitrate	A mixture of ammonium sulphate and nitrate	Amount of nitrogen	5% of the amount stated
Calcium cyanamide	Commercial calcium cyanamide	Amount of nitrogen	5% of the amount stated
Calcium nitrate	Calcium nitrate for fertilizing purposes	Amount of nitrogen	5% of the amount stated
Nitrogenous gas liquor, ammoniacal gas liquor, gas liquor	Ammoniacal liquor produced in the carbonisation of coal, free from visible tar	Amount of nitrogen	5% of the amount stated
Ammonium sulphate	Ammonium sulphate for fertilizing purposes	Amount of nitrogen	5% of the amount stated
Urea	Commercially pur, urea containing less than 1.5% biuret	Amount of nitrogen	5% of the amount stated
Basic slag	A by-product containing phosphorous, obtained in the manufacture of steeal to which no addition had been made	Total amount of phosphoric acid	10% of the amount stated

## FIRST SCHEDULE (cont.)

Column I	Column II	Column III	Column IV
Dicalcium phosphate	Dicalcium phosphate for fertilizing purposes	Amount of phosphoric acid	5% of the amount stated
Phosphate rock, ground or otherwise	The substance obtained from mineral deposits, to which nothing else has been added	Amount of phosphoric acid	10% of the amount stated
Superphosphate	Phosphate rock treated with sulphuric acid (1) Phosphate rock treated with sulphuric acid and phosphoric acid. (2) Phosphate rock treated with phosphoric acid only.	Amount of phosphoric acid  (1) Amount of phosphoric acid  (2) Amount of phosphoric acid	10% of the amount stated  10% of the amount stated  10% of the amount stated
Superphosphate concentrated			
Superphosphate, triple			
Kainit	A mineral potassium salt with or without magnesium	Amount of potash	5% of the amount stated
Magnesium Kainit	Mineral potassium salt containing at least 3.6% magnesium	Amount of potash	5% of the amount stated
Potassium chloride	Potassium chloride for fertilizing purpose	Amount of potash	5% of the amount stated
Potassium sulphate	Potassium chloride for fertilizing purpose	Amount of potash	5% of the amount stated



FIRST SCHEDULE (cont.)

Column I	Column II	Column III	Column IV
Potassium nitrate	Potassium nitrate for fertilizing purposes	Amounts of nitrogen and potash	5% of the amount stated
Potassic nitrate of soda	A mixture of sodium and potassium nitrates	Amounts of nitrogen and potash	5% of the amount stated
Chilean potash nitrate	For fertilizing purposes	Amounts of nitrogen and potash	5% of the amount stated
Potassic basic slag	A mixture of basic slag and potassium chloride or sulphate	Amounts of phosphoric acid	10% of the amount stated
Bone meal, obtained by grinding or otherwise treating bone	Commercially pure bone, raw, degreased or steamed, of which 90% passes a sieve of 1/4 inch square aperture	Amounts of nitrogen and phosphoric acid	10% of the amount stated
Dried blood	A product dried and ground to which no other matter has been added.	Amount of nitrogen	10% of the amount stated
Fish residues	A product dried and ground to which no other matter has been added	Amounts of nitrogen and phosphoric acid	10% of the amount stated
Hoofs	A product, crushed and ground to which no other matter has been added	Amount of nitrogen	10% of the amount stated
Hoofs and horns	A mixture of hoof and horn, crushed or ground to which no other matter has been added	Amount of nitrogen	10% of the amount stated
Horns	A product, crushed and ground to which no other matter has been added	Amount of nitrogen	10% of the amount stated
Meat and bone residue	A product of drying and grinding bone, flesh and other slaughterhouse residues	Amount of nitrogen and phosphoric acid	10% of the amount stated

## FIRST SCHEDULE (cont.)

Column I	Column II	Column III	Column IV
Oil seed fertilizers, obtained by removal of oil from seeds	The residue obtained by the removal of oil from commercially pure seed	Amount of nitrogen	10% of the amount stated
PART II FEEDING STUFFS			
Column I	Column II	Column III	Column IV
Name of article	Meaning/Ingredients of articles	Ingredients the percentages of which are to be declared in the statutory statement	Limits of variation
Compound feeding stuff	A mixture of any two or more of the materials mentioned in this table	Amount, if any, of protein (stating as being included therein the amount, if any of protein equivalent of urea and ammonia) and amount, if any of oil and fibre	10% of the amount stated in each case
Artificially dried grass, any other artificially dried green crop or a mixture of any of them	Any product whether ground or otherwise which (a) is obtained be artificially drying grass, green cereal or mixture of them (b) has had no other substance added thereto	Amount of protein	10% of the amount stated in each case
Coconut or copra meal or cake	The residue resulting from the removal of oil from commercially pure nut	Amount of oil and protein respectively	10% of the amount stated in each case

## FIRST SCHEDULE PART II (cont.)

Column I	Column II	Column III	Column IV
Cotton cakes or meals not decorticated	The residue resulting from the removal of oil from commercially pure cotton seed, not decorticated	Amount of oil and protein respectively	10% of the amount stated in each case
Cotton cakes or meals not decorticated or partly decorticated cotton seed	The residue resulting from the removal of oil from commercially pure cotton seed from which the cortex in whole or part, has been removed	Amount of oil, protein and fibre respectively	10% of the amount stated in each case
Dried brewery grains	The material produced by drying the residue of malted and unmalted cereals used in brewing, to which no other matter has been added	Amount of oil and protein respectively	10% of the amount stated in each case
Dried distillery by-products (other than yeast and malt culms)		Amount of oil and protein respectively, of fibre if present in excess of 2% and calcium if present in excess of 2%	10% of the amount stated in each case
Dried yeast	A material produced by drying yeast residues to which no other matter has been added	Amount of protein	10% of the amount stated

## FIRST SCHEDULE PART II (cont.)

Column I	Column II	Column III	Column IV
Feed supplement		Instructions for mixing with other feeding stuffs or information as to use where supplement is fed direct to animals. Protein equivalent of urea, if any	Protein equivalent of urea 10%, iodine, cobalt, copper, iron, manganese, zinc, molybdenum, selenium, vitamin D2 and D3 30% or amount stated. Other vitamins no upper limit, if less, 30% of the amount stated
Feeding bone flour or any other bone product for feeding purposes	Commercially pur bone, raw or degreased from which nitrogen may have been partially removed by steam	Amounts of phosphoric acid and protein	10% of the amount stated in each case
Feeding dried blood	Blood which has been dried to which no other matter has been added	Amounts of nitrogen	10% of the amount stated
Feeding meat or bone meal	The product containing not less than 40% protein and not more than 4% salt obtained by drying and grinding animal carcasses or portions thereof (excluding hoof, horn and feathers) to which no other matter has been added but which may have been preliminarily treated for the removal of fat	Amounts of oil, protein and phosphoric acid	10% of the amount stated in each case

FIRST SCHEDULE PART 11 (cont.)

Column I	Column II	Column III	Column IV
Feeding meat meal	The product, containing not less than 55% protein and not more than 4% salt obtained by drying and grinding animal carcasses or portions thereof (excluding hoof, horn and feathers) to which no other matter has been added but which may have been preliminarily treated for the removal of fat	Amounts of oil, protein and phosphoric acid	10% of the amount stated in each case
Fish meal, white fish meal	A product obtained by drying and grinding or otherwise treating fish or waste of fish, to which no other matter has been added	Amounts of oil, protein phosphoric and salt	10% of the amount stated in each case
Maize, flaked	A product obtained by cooking and flaking commercially pure maize, either as grown, or from which the germ in whole or part, has been removed	Amounts of oil and protein	10% of the amount stated in each case
Maize germ cake or meal	A meal or cake resulting from the grinding of maize germs or from which the oil has been removed in whole or in part	Amounts of oil and protein	10% of the amount stated in each case

## FIRST SCHEDULE PART II (cont.)

Column I	Column II	Column III	Column IV
Maize gluten feed	A by-product resulting from the removal of starch and germ from maize, to which no other matter has been added	Amounts of oil and protein	10% of the amount stated in each case
Maize meal	The meal obtained by grinding commercially pure maize, as grown	Amounts of oil and protein	10% of the amount stated in each case
Milk powders, including oil and/or fat fortified milk powders	The product obtained by drying milk from which oil may be have been removed or added	Amounts of oil and protein	10% of the amount stated in each case
Mixture of molasses and urea		Sugar and protein equivalent of urea	10% of the amount stated in each case
Molasses feeds	Any mixture, other than molasses and urea, containing not less than 10% sugar or an absorbent material and treacle or molasses	Amounts of sugar and fibre	10% of the amount stated in each case
Oil cakes or meals which are the product of undecorticated material from which oil has been removed	The product obtained from commercially pure nuts or beans	Amount of oil and protein	10% of the amount stated in each case

## FIRST SCHEDULE PART II (cont.)

Column I	Column II	Column III	Column IV
Oil cakes or meals which are the product of any one decorticated or partly decorticated material from which oil has been removed	The product obtained from commercially pure nuts or beans	Amount of oil and protein	10% of the amount stated in each case
Rice bean or meal	The by-product produced in milling shelled rice to which no other matter has been added	Amount of oil, protein and fibre	10% of the amount stated in each case
Nut cakes or meals	The residue resulting from the removal of oil from commercially pure nut kernels	Amount of oil and protein	10% of the amount stated in each case
Wheat offals or millers offals	A product of wheat separated in the process of milling and containing not more than 4% of vegetable matter, other than wheat, extracted from wheat in the process of cleaning by the maker of the offals in the production of flour	Amount of fibre	Not to exceed 10% of the amount stated

## SECOND SCHEDULE

## FORM I

*(Section 10)*

## FORM OF CERTIFICATE OF ANALYSIS

## CERTIFICATE OF ANALYSIS OF FERTILIZER (1)

I, the undersigned, agricultural analyst for the Belize Government, in pursuance of the provisions of the \_\_\_\_\_, hereby certify that I received on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, from (2) \_\_\_\_\_ one part of a sample of (3) \_\_\_\_\_ for analysis; which was duly sealed and fastened up and marked (4) \_\_\_\_\_ and was accompanied by a (5) \_\_\_\_\_, as follows: (6) \_\_\_\_\_ and also by a signed statement that the sample was taken in the prescribed manner; and that the said part has been analysed by me, or under my direction, and I declare the results of analysis to be as follows: (7)

	%		ppm
Nitrogen (N).....		Boron (B) .....	
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) Total ....		Cobalt (Co) .....	
Potash (K <sub>2</sub> O) .....		Copper (Cu) .....	
Iron (Fe) .....		Manganese (Mn) .....	
Magnesium (Mg) .....		Molybdenum (Mo) .....	
Neutralising value expressed in terms of calcium oxide .....	%		
Names of herbicides and pesticides found .....			% and
I am of opinion that (8) .....			

The analysis was made in accordance with the Fertilizers and Feeding Stuffs Regulations.

As witness my hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,

*(Signature and address of analyst)*



SECOND SCHEDULE FORM 1 (CONT.)

- (1) Statements made in the certificate are to be confined to matters which are necessary to verify compliance with the Act.
- (2) Here insert the name of the inspector who submitted the sample for analysis; and also the mode of transit, i.e. “by hand”, “by registered post”, etc. as the case may be.
- (3) Here insert the name or description applied to the material.
- (4) Here insert the distinguishing mark on the sample.
- (5) Here insert either “statutory statement”, “copy of statutory statement”, “copy of particulars marked on the material”, or “copy of particulars indicated by a mark on or indicated by a mark applied to the material”, as the case may be.
- (6) Here insert the particulars contained in the statutory statement, or particulars marked on or indicated by a mark applied to the material, or as the case may be.
- (7) Insert relevant results under the appropriate headings, i.e. percentage or parts per million.
- (8) Here enter information as follows:
  - (a) If the material was sold under a name mentioned in the first column of Part I of the First Schedule, state whether it accords with the meaning given in the second column; and if not, in what respect.
  - (b) If the composition of the material agrees with or does not differ by more than the limits of variation from the statement of particulars contained in the statutory statement, or the particulars marked on or indicated by a mark associated with the material, state that the particulars are correct within the limits of variation.
  - (c) If the composition of the material differs by more than the limits of variation from the particulars contained in the statutory statement, or the particulars marked on or indicated by a mark associated with the material, state the difference between the amount found and the amount stated, and that the difference is outside the limits of variation; and that the difference is to the prejudice of the purchaser, if such is believed to be the case.

(These notes and the numbers referring to them are for guidance only and do not form part of the certificate.)

FORM II

CERTIFICATE OF ANALYSIS OF FEEDING STUFF (1)

I, the undersigned, agricultural analyst for the Belize Government, in pursuance of the provisions of the \_\_\_\_\_, hereby certify that I received on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, from (2) \_\_\_\_\_ one part of a sample of (3) \_\_\_\_\_ for analysis; which was duly sealed and fastened up and marked (4) \_\_\_\_\_ and was accompanied by a (5) \_\_\_\_\_

as follows: (6)

and also by a signed statement that the sample was taken in the prescribed manner; and that the said part has been analysed by me or under my direction, and I declare the results of analysis to be as follows: (7)

	%	
	ppm	units/kg or IU/kg
Oil .....		Vitamin A .....
Protein: Total, including .....		Vitamin D2 .....
Protein equivalent of urea .....		Vitamin D3 .....
Protein equivalent of urea .....		Vitamin E .....
Fibre .....		Other vitamins or pro .....
Sugar .....		Vitamins .....
Salt (NaCl) .....		Permitted antioxidant (8) .....
Phosphoric acid (P <sub>2</sub> O <sub>5</sub> ) .....		Permitted colourant (8) .....
Calcium (Ca) .....		(9) .....
Copper (Cu) .....		(10) .....
Magnesium (Mg) .....		

Molybdenum (Mo) .....

Selenium (Se) .....

Iron (Fe) .....

Iodine (I) .....

Cobalt (Co) .....

Manganese (Mn) .....

Zinc (Zn) .....

(11) Analysis for oil was completed on  
and I am of opinion that (12)

The analysis was made in accordance with the Fertilizers and Feeding Stuffs  
Regulations.

As witness by my hand this                      day of                      20                      .

*(Signature and address of analyst)*

(1) Statements made in the certificate are to be confined to matters which  
are necessary to verify compliance with the Act.

(2) Here insert the name of the inspector who submitted the sample for  
analysis; and also the mode of transit, i. e. “by hand by registered post or as the  
case may be.

(3) Here insert the name or description applied to the material.

(4) Here insert the distinguishing mark on the sample and the date of  
sampling shown thereon.

(5) Here insert either “statutory statement”, “copy of statutory statement”,  
“copy of particulars marked on the material” or “copy of particulars indicated  
by a mark applied to the material”, or as the case may be.

(6) Here insert the particulars contained in the statutory statement, or  
particulars marked on or indicated by a mark applied to the material, or  
as the case maybe.

(7) Insert relevant results under the appropriate headings, i.e. percentage,  
parts per million or units/kg or IU/kg.

(8) Here indicate whether the antioxidant or colourant is an antioxidant  
listed in Part I *of the table to the Fifth Schedule or a colourant listed in*

## SECOND SCHEDULE FORM 11 (cont.)

*Part II of the table to the Fifth Schedule.*

(9) Here indicate the presence of any emulsifier, stabiliser or binder not listed in *Part III of the table to the Fifth Schedule.*

(10) Here insert the name and estimated percentage of any ingredient found in the sample, being an ingredient deleterious to animals of any description or to human beings.

(11) In the case of a sample of any feeding stuff containing oil insert the date of completion of the oil analysis.

(12) Here enter information as follows:

- (a) If the material was sold under a name mentioned in the first column of Part II, state whether it accords with meaning given in the second column; and if not, in what respect.
- (b) If the composition of the material agrees with or does not differ by more than the limits of variation from the statement of particulars contained in the statutory statement, or the particulars marked on -or indicated by a mark associated with the material, state that the particulars are correct within the limits of variation.
- (c) If the composition of the material differs by more than the limits of variation from the statement of particulars contained in the statutory statement, or the particulars marked on or indicated by a mark associated with the material, or as the case may be, state the difference between the amount found and the amount stated, and that the difference is outside the limits of variation, and that the difference is to the prejudice of the purchaser if such is believed to be the case.
- (d) If the material is not suitable for use as a feeding stuff having regard to the Act, state in what respect.

(These notes and the numbers referring to them are for guidance only and do not form part of the certificate.)

## THIRD SCHEDULE

## METHODS OF ANALYSIS OF FERTILIZERS

(In this Schedule a “decimal” system had been adopted for the numbering of divisions and sub-divisions. Main divisions are given numbers which precede a decimal point. Each sub-division into which a main division is first divided is distinguished by a digit immediately following the decimal point. For example, the main division 5 is divided into three sub-divisions numbered 5.1, 5.2, and 5.3 respectively. Succeeding digits indicate further sub-division with the result that, for example, the sub-division numbered 5.1 may itself be divided into sub-divisions numbered 5.11, 5.12, 5.13 etc. and those sub-divisions may be further divided in the same way (thus, 5.111, 5.112, 5.113 etc.) and so on.

The main Divisions in the Schedule are as follows:

1. Preparation of the sample for analysis.
2. Determination of moisture.
3. Determination of Nitrogen.
4. Determination of Phosphoric acid.
5. Determination of Potash.
6. Determination of neutralising value in liming materials.
7. Determination of magnesium in lime and ground limestone.
8. Determination of boron.
9. Determination of cobolt.
10. Determination of copper.
11. Determination of iron.
12. Determination of magnesium.
13. Determination of manganese,
14. Determination of molybdenum.

NOTE: Reference to “water” mean distilled water. All reagents used should be of analytical quality.

## **1. Preparation of the sample for analysis**

With some materials, fine grinding may lead to loss or gain of moisture, and allowance for this may be made. Grinding should be as rapid as possible and unnecessary exposure to the atmosphere avoided. Grinding in a laboratory mill is usually quicker than grinding in a mortar although the latter is permissible.

### **1.1 Procedure**

For solid fertilizers, weigh the whole sample and then empty on to a smooth dry surface. Remove, and allow for in the calculation of results, any obvious extraneous matter e.g. metallic particles which may be present in samples of basic slag.

#### **1.11 Dry Powdered and Granulated Fertilizers**

Grind the sample as finely as possible. Mix thoroughly and take a representative portion of about 250 g. Transfer to a non-corrodible container provided with an air-tight closure.

#### **1.12 Crystalline Fertilizers. e.g. Sulphate of potash and Nitrate of Soda**

Grind the sample as finely as possible. Mix, withdraw a portion for analysis and transfer to a non-corrodible container provided with an airtight closure.

#### **1.13 Hoof Meal**

In the case of hard samples of hoof meal which cannot be ground in the “as received” condition, determine the moisture in the sample by the method described in paragraph 2. Then grind the dried portion in a mill and transfer to a non-corrodible container provided with an air-tight closure. Determine the moisture in this prepared sample and calculate the result of analysis of this sample to the “as received” condition.

**1.14 Fertilizers in a Moist Condition**

Mix the sample well and withdraw a portion for moisture determination. Determine the moisture in this portion by the method described in paragraph 2. (In the case of fertilizers in which ammonia is lost on heating or of fertilizers containing soluble phosphoric acid, the sample should be dried either by placing it in a desiccator over calcium chloride or silica gel, or alternatively by passing dry air at room temperature over the sample until it is in a suitable condition for grinding and sieving). For subsequent analysis, dry a further portion under similar conditions and grind this dried portion in a mortar or mill. Mix thoroughly and transfer to a non-corrodible container provided with an air-tight closure. Determine the moisture in a portion of this prepared sample. Calculate the results of analysis of the sample to the "as received" condition.

**1.13 Liquid Fertilizers**

Shake to mix thoroughly, ensuring that any insoluble matter is thoroughly dispersed immediately before drawing a portion of the sample for analysis.

**2. Determination of Moisture**

Weigh to the nearest mg. about 5 g. of the sample, heat at 1000C for two to three hours, cool in a desiccator and weigh. Reheat for another hour, cool and reweigh. If the difference in weight exceeds 10 mg, continue the heating and cooling procedure until a weight constant within 2 mg is attained. Calculate the total loss of weight as a percentage of the original weight and regard as moisture.

**3. Determination of Nitrogen**

The relevant methods of analysis are described in the following paragraphs.

3.3 Total nitrogen (organic and ammoniacal) in the absence of nitrates.

3.4 Total nitrogen (organic, ammoniacal and nitrate) in the presence of nitrates.

### 3.1 Reagents

Aluminium ammonium sulphate.

Devarda's alloy - finely powdered - not less than 80% to pass through a sieve having apertures of about 0.25 mm square.

Indigo carmine standard solution - Cautiously add 40 ml concentrated sulphuric acid to 1 g indigo carmine (B.P. quality) and stir until dissolved. Pour the solution into 800 ml water, cool and dilute to 1 litre. Adjust the strength of the solution to comply with the following test:

Add 20 ml to a solution of 4 mg potassium nitrate in 20 ml water. Add rapidly 40 ml concentrated sulphuric acid and heat to boiling point; the blue colour is just discharged in one minute.

Boric acid Indicator Solution - Add 5 ml of indicator solution (0.1 % methyl red and 0.2% bromocresol green in alcohol) to 1 litre saturated boric acid solution.

Paraffin Wax.

Sodium sulphate or potassium sulphate - anhydrous.

Sodium hydroxide solution, 5% w/v - Dissolve 50 g sodium hydroxide in water and dilute to 1 litre.

Sodium hydroxide solution, 50% w/v - Dissolve 500 g sodium hydroxide in water and dilute to 1 litre.

Sulphuric acid, concentrated (d = 1.84) - Nitrogen free.

Sulphuric acid, 10% v/v - To 500 ml water cautiously add 100 ml concentrated sulphuric acid. Cool and dilute to 1 litre.

Sulphuric acid, 50% v/v - To 500 ml water cautiously add 500 ml concentrated sulphuric acid. Cool and dilute to 1 litre.

Sulphuric acid (or hydrochloric acid), 0.2 N.



**3.2 Test for absence of Nitrates**

Shake 5 g of the sample with 80 ml water in a 100 ml volumetric flask. Add 1 g aluminium ammonium sulphate, dilute to 100 ml. Shake well and filter into a dry beaker. Dilute 1 ml of the filtrate with 8 ml water. Add 1 ml indigo carmine solution and 10 ml concentrated sulphuric acid. Heat to boiling point. If blue colour is not discharged, regard the sample as free from nitrates.

**3.3 Total Nitrogen (organic and ammoniacal) in the absence of Nitrates**

3.31 Weigh to the nearest mg. about 2 g of the sample (or such an amount as shall contain not more than 250 mg nitrogen) and transfer to a kjeldahl flask. Add 25 ml concentrated sulphuric acid, approximately 0.5 g copper sulphate and 5 mg selenium and 10 g anhydrous sodium sulphate or potassium sulphate. Heat gently over a small flame until frothing ceases and the liquid is practically colourless. Continue to heat for a further two hours. Avoid local overheating. If frothing is excessive, add about 0.5 g paraffin wax.

Dissolve the cooled digest in water, and make up to a total volume of about 250 ml. Taking precautions against loss of ammonia, add sufficient sodium hydroxide solution to neutralise the acid and 10 ml in excess; mix well and connect immediately to a distillation apparatus. Distil into 10 ml of boric acid Indicator solution, diluted with 20 ml water controlling the rate of distillation so that not less than 150 ml distils in thirty minutes. Titrate the distillate against the standard 0.2 N acid solution. Carry out a similar determination using all the reagents omitting only the sample. Calculate the total nitrogen content of the sample. 1 ml 0.2 N acid = 0.0028 g nitrogen.

**3.4 Total nitrogen (organic, ammoniacal and nitrate) in the presence of nitrate**

Weigh to the nearest mg. about 2 g of the sample (or such an amount as shall

contain not more than 250 mg nitrogen), transfer to a 500 ml Kjeldahl flask, add 3 g Devarda alloy and wash down the inside wall of the flask with 50 ml water. Close the flask with a rubber stopper provided with funnel and a delivery tube connected with 2 “U”-tubes (with bulbs) in series, each containing 10 ml 10% sulphuric acid. Add 5 ml 50% sodium hydroxide solution through the tap funnel. Allow to stand for thirty minutes and then heat up just below boiling point for sixty minutes. Cool, add 20 ml 50% sulphuric acid through the tap funnel, such that the sides of the flask are washed down by the acid. Remove the rubber stopper, wash the contents of the “U”-tubes into the Kjeldahl flask, add 30 ml concentrated sulphuric acid and heat until all the water has boiled off. Heat gently over a small flame until the solution is clear and then heat for a further two hours. If frothing is excessive add 0.5 g paraffin wax. Cool, carefully dilute with water, cool and transfer quantitatively to 250 ml volumetric flask. Dilute to 250 ml, mixing well and transfer an aliquot of 100 ml to a 500 ml distillation flask. Add 200 ml water and 500/c sodium hydroxide solution, until the solution is neutral, cooling during the addition. Add an additional 10 ml 50% sodium hydroxide, quickly close the distillation flask and distil about 150 ml into 10 ml boric acid/indicator solution diluted with 20 ml water. Titrate the distillate against the standard 0.2 N acid solution. Carry out a similar determination using all the reagents omitting only the sample. Calculate the total nitrogen content of the sample. 1 ml 0.2 N acid - 0.0028 g nitrogen.

#### 4. Determination of Phosphoric acid

For the purposes of the Act, Part IV, “phosphoric acid” means  $P_2O_5$  (molecular weight 142.04).

Phosphoric acid shall be determined by the spectrophotometric, (vanadium phosphomolybdate) method.

The spectrophotometric method compares the amount of light transmitted by the solution to that by a solution of known phosphoric acid content. The determination is carried out differentially in order to increase the accuracy. Preferably an instrument with a monochromator giving a source of light with a

wavelength of 420 nm is required; alternatively a filter instrument can be used.

#### **4.1 Spectrophotometric (Vanadium Phosphomolybdate) Method**

##### **4.11 Reagents**

Calcium oxide - finely ground.

Hydrochloric acid, concentrated (d-1.18).

Nitric acid, concentrated (d-1.42).

Potassium dihydrogen phosphate solution (stock phosphate solution) -

Dissolve in water 1.917 g potassium dihydrogen phosphate previously dried at 105°C for 1 hour and dilute to 1 litre.

Potassium dihydrogen phosphate solution (standard phosphate solution)

Dilute 50 ml stock solution to 250 ml with water. (1 ml - 0.2 mg phosphoric acid, P<sub>2</sub>O<sub>5</sub>).

Sodium hydroxide, N.

Vanado-molybdate reagent - Dissolve separately 20 g ammonium molybdate and 1 g ammonium vanadate in water, mix, acidify with 140 ml concentrated nitric acid and dilute to 1 litre.

##### **4.12 Total phosphoric acid in fertilizers**

###### **4.121 Dissolution of the sample**

###### **4.1211 In the absence of organic matter**

Weigh to the nearest mg. about 5 g of the sample into a 400 ml beaker, add 100 ml water and stir thoroughly. Boil the mixture, add slowly to the boiling solution 10 ml concentrated hydrochloric acid in a thin stream, and then 10 ml concentrated nitric acid; boil gently for ten minutes, cool, transfer to a 500 ml volumetric flask and dilute to the mark with water. Mix well and filter the solution through a dry filter paper into a dry flask, discarding the first 10 or 20 ml. Retain the rest of the filtrate.

**4.1212 In the presence of organic matter**

Weigh to the nearest mg. about 5 g of the sample into a capsule or dish of about 5 cm in diameter; add 1 g calcium oxide and mix well with a stout platinum wire or thin glass rod. Calcine the mixture at a temperature not exceeding 500°C to destroy the organic matter. Allow the capsule or dish to cool and transfer the contents to a 400 ml beaker; add 100 ml water, stir thoroughly and heat to boiling point. Add slowly to the boiling solution 10 ml concentrated hydrochloric acid, and then 10 ml concentrated nitric acid, and boil gently.

If the solution is clear, continue to boil gently for ten minutes, then cool, transfer to a 500 ml volumetric flask, and dilute to the mark.

If the solution shows the presence of carbonaceous matter, filter the solution, wash the insoluble matter with a little water, and then transfer the filter paper containing the insoluble matter to the capsule or dish and calcine until all the carbon is destroyed. Allow to cool and transfer the contents to the filtrate; heat to boiling point and gently boil for ten minutes. Then cool, transfer to a 500 ml volumetric flask and dilute to the mark. Filter.

**4.122 Procedure****4.1221 Standardisation of instrument**

From a burette, measure into a series of 100 ml volumetric flasks 25.0, 26.0, 27.0, 28.0, 29.0, 30.0, and 31.0 ml of the standard phosphate solution (i.e. 5.0, 5.2, 5.4, 5.6, 5.8, 6.0 and 6.2 mg phosphoric acid). Add 25 ml of the vanado-molybdate reagent to each flask and dilute to 100 ml with water making sure that the temperature of the reagent and the dilution water is 20°C. Shake and allow to stand for ten minutes.

Set the spectrophotometer to the correct wavelength, circa 420 nm, fill two 1 cm cells with the 5.0 mg solution and check the extinction of the cell. If there is a small difference, select the cell with the smaller reading as the standard

reference cell.

Determine the apparent extinction at 20°C (correct for cell differences) of the 5.2, 5.4, 5.6, 6.0 and 6.2 mg phosphoric acid solutions referred to the 5.0 mg phosphoric acid solution as standard.

Plot a calibration graph of scale reading against known phosphoric acid content.

#### **4.1222 Analysis of sample**

Successively dilute a portion of the solution prepared according to paragraph 4.1211 or paragraph 4.1212 so that the final volume of about 25 ml contains between 5.5 and 6.2 mg phosphoric acid, taking care that the dilution water is at a temperature of 20°C.

Transfer this final volume to a 100 ml volumetric flask, add 25 ml of the vanado-molybdate reagent (at a temperature of 20°C), dilute to the mark, mix, and allow to stand for ten minutes. At the same time transfer 25 ml of the standard phosphate solution (at 20°C) into a second 100 ml volumetric flask. Add 25 ml of the vanado-molybdate reagent (at 20°C), dilute to the mark, mix, and allow to stand for ten minutes.

Measure the difference in extinction at 20°C between the two solutions and estimate the phosphoric acid content of the volume of the unknown solution from the calibration graph.

Calculate the phosphoric acid content of the sample from known dilution factors and the weight of the sample.

NOTE: Prepare a fresh reference standard for each series of readings on the instrument.

## 5. Determination of Potash

For the purposes of the Act, “potash” means potassium oxide ( $K_2O$ ) Potash in all kinds of fertilizers may be determined by the flame photometric method.

### 5.1 Flame Photometric Method

The determination of potash by this method depends on the measurement of the characteristic radiation emitted from a flame into which a solution of the sample is sprayed. The chosen radiation lie in the spectral range 766-770 nm. These radiations may be isolated by either a monochromator or the use of a suitable filter.

#### 5.11 Reagents

Ammonia solution, 30% v/v - Dilute 30 ml concentrated ammonia solution (d-0.88) with water to 100 ml.

Ammonium oxalate solution - saturated aqueous solution.  
Hydrochloric acid, concentrated (d-1.18).

Potassium dihydrogen phosphate solution (stock potash solution) -  
Dissolve in water 5.779 g potassium dihydrogen phosphate previously dried for one hour at 105°C and dilute to 1 litre.

Potassium dihydrogen phosphate solution (standard potash solutions) -  
Dilute 50 ml stock solution to 1 litre with water. This solution contains 100 ppm potash ( $K_2O$ ).

#### 5.12 Potassium salts

If the salts contain calcium, iron, aluminium or other interfering substances, the procedure described in paragraph 5.13 should be used instead of the following procedure.

Weigh to the nearest mg. about 2.5 g of the sample and transfer to a 400 ml beaker. Add 5 ml concentrated hydrochloric acid 50 ml water and bring the contents to the boiling point, breaking down with a stirring rod any crystals or lumps. Dilute the solution with water to about 100 ml and boil gently for a few minutes. Cool the solution to 20°C, transfer to a 250 ml volumetric flask, and dilute to the mark. Mix and filter through a dry filter paper. Successively dilute so that the final solution contains approximately 16 ppm potash and determine the potash in the filtrate by the method described in paragraph 5.15.

### **5.13 Potash in mixed fertilizers containing little or no organic matter**

Weigh to the nearest mg. about 2.5 g of the sample and transfer to a 400 ml beaker. Add 50 ml of water and 5 ml concentrated hydrochloric acid and evaporate to dryness on a water bath. Add 125 ml water and 50 ml ammonium oxalate solution. Boil the contents for thirty minutes. If necessary, a small quantity of a potassium-free anti-foaming agent may be added. Cool the liquid, add a slight excess of ammonia solution and cool to 20°C. Transfer to a 250 ml volumetric flask, and dilute to the mark. Mix the solution and filter through a dry filter paper. Successively dilute so that the final solution contains approximately 16 ppm potash in the filtrate by the method described in paragraph 5.15.

### **5.14 Potash in mixed fertilizers containing organic matter**

Weigh to the nearest centigram about 10 g of the sample and gently incinerate at a temperature not exceeding 500°C in order to destroy the organic matter. Grind the residue to eliminate lumps, add 50 ml of water, 10 ml of concentrated hydrochloric acid, and evaporate to dryness on a water bath. Boil the residue for thirty minutes, with 125 ml water and 50 m ammonium oxalate solution. Cool the solution, add a slight excess of ammonia solution, cool to 20°C, transfer to a 500 ml volumetric flask and dilute to the mark. Mix the solution and filter through a dry filter paper. Successively dilute so that the final solution contains approximately 16 ppm potash and determine the potash in the filtrate by the method described in paragraph 5.15.

## **5.15 Determination of Potash by Flame Photometry**

### **5.151 Calibration of instrument**

From the standard potash solution, prepare a set of accurate dilutions containing 10, 12, 14, 16, 18 and 20 ppm potash. Set the sensitivity of the flame photometer so that 100 scale divisions (full scale deflection) is equivalent to 20 ppm. potash solution. Spray the 10, 12, 14, 16, and 18 ppm potash solutions three times. Take the median reading (not the mean), and construct a calibration graph. After spraying each different strength solution, again spray the 20 ppm solution to ensure that the sensitivity of the flame photometer has not changed.

### **5.152 Analysis of sample**

Reset the instrument at 100 scale divisions (full scale deflection) with 20 ppm potash solution. Spray the diluted fertilizer solution prepared in accordance with paragraph 5.12, 5.13 or 5.14 and read from the graph the approximate potash content of the solution.

Prepare two further dilutions of the standard potash solution to contain respectively 1 ppm more and 1 ppm less potash than the estimated potash content of the diluted solution of the sample. Successively spray the low standard solution, the diluted solution of the sample, and the high standard solution. Repeat this operation twice more. Take the median result of each set of three readings and calculate the potash content of the sample solution and hence of the fertilizer from the proportionality of the radiation given by the sample solution and that given by the two standard solutions containing respectively 1 ppm more and 1 ppm less potash than the predicted potash content.

NOTE: It is essential that the flame photometer should be set up in a vibration-free position and in a dust-free atmosphere.

Dilute standard solutions should be freshly prepared.



## **6. Determination of neutralising value in liming materials**

### **6.1 Reagents**

Hydrochloric acid, 0.5 N.

Phenolphthalein indicator solution - Dissolve 0.25 g phenolphthalein in 150 ml industrial methylated spirit and dilute with water to 250 ml.

Sodium hydroxide, 0.5 N - carbonate free.

### **6.2 Prepare the sample as described in paragraph 1.11**

### **6.3 Procedure**

Weigh to the nearest mg. about 500 mg of the sample prepared according to paragraph 6.2 and transfer to a 300 ml flask. Add 50 ml 0.5 N hydrochloric acid, cover the flask with a glass and boil the contents gently for five minutes. Cool the mixture, add two or three drops of the phenolphthalein indicator solution and titrate with 0.5 N sodium hydroxide solution. Calculate by difference the volume of 0.5 N hydrochloric acid required to neutralise the sample. Express the result as percentage by weight of calcium oxide (CaO). 1 ml 0.5 N hydrochloric acid 0.01402 g calcium oxide (CaO).

## **7. Determination of magnesium in lime and ground limestone**

### **7.1 Reagents**

Ammonia solution, 25% v/v - Dilute 30 ml concentrated ammonia solution (d-0.91) with water to 100 ml.

Ammonium chloride solution - Dissolve 330 g ammonium chloride in water and dilute to 1 litre.

Ammonium persulphate solution - Dissolve 10 g ammonium persulphate in water and dilute to 100 ml. Store in a cool dark place for not more than one week.

Buffer solution - Dissolve 6.75 g ammonium chloride, 62 mg magnesium sulphate ( $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ ) 93 mg disodium ethylenediamine-tetra-acetate dihydrate and 57 ml ammonia solution (d-0.88) in water and dilute to 100 ml.

Calcium standard solution - Dissolve 2.5 g calcium carbonate in 125 ml 0.5 N hydrochloric acid and dilute to 1 litre.

EDTA solution, 0.025 M - Dissolve 10 g disodium ethylenediaminetetra-acetate dihydrate in 800 ml water containing 55 ml N sodium hydroxide solution. Dilute 20 ml standard calcium solution with 30 ml water. Add 1 ml buffer solution and 200 mg Mordant Black 11; titrate with the EDTA solution to a blue end point and adjust the strength of this solution so that 1 ml is equivalent to 2.5 mg calcium carbonate ( $\text{CaCO}_3$ ).

Hydrochloric acid, 0.5 N.

Hydrogen peroxide, 6% v/v (20 volume).

Mordant Black 11 indicator (colour index No. 14645) - Mix 200 mg Mordant Black 11 and 50 g sodium chloride uniformly and together grind to pass through a sieve having apertures of about 0.3 mm square.

Murexide indicator - Mix 200 mg Murexide and 100 g sodium chloride uniformly together and grind to pass through a sieve having apertures of about 0.3 mm square. Protect this mixture from light.

Sodium hydroxide, N.

## 7.2 Procedure

Weigh to the nearest mg. about 1 g finely ground sample and add 50 ml 0.5 N hydrochloric acid. Transfer to a conical flask, cover with a glass and boil for 3 minutes. Add 2 ml hydrogen peroxide solution, reboil, cool, add 1 ml ammonium chloride solution, a slight excess of 25 % ammonia solution and 1 ml ammonium persulphate solution. Remove the excess ammonia by boiling and filter the precipitate, if any, on a small paper and wash with two portions each of 10 ml

hot water. Wash the precipitate off the paper with not more than 50 ml water, and boil with 50 ml 0.5 N hydrochloric acid. Cool the solution, add 1 ml ammonium chloride solution, a slight excess of dilute ammonia and 1 ml ammonium persulphate solution and remove the excess of ammonia by boiling. Filter and wash with hot water. Add the filtrate and washings to the filtrate and washing from the first precipitation, cool and dilute the whole to 200 ml.

If no precipitate forms on the addition of the ammonia and persulphate solutions, remove the excess of ammonia by boiling, add 6 ml ammonium chloride solution, cool and dilute to 200 ml.

If the amount of the precipitate is small, omit the second precipitation but add 6 ml ammonium chloride solution to the filtrate and washings before cooling and diluting to 200 ml.

Dilute 20 ml of the solution to 50 ml and add 3 ml 25% ammonia solution. Then add 200 mg Mordant Black 11 indicator and titrate with EDTA solution to a blue end point.

Dilute a further 20 ml of the solution to 50 ml and add 7 ml N sodium hydroxide. Then add 200 mg Murexide indicator and titrate with EDTA solution to a violet end point.

Calculate the magnesium content from the difference between the two titrations.  
1 ml EDTA solution = 0.608 mg magnesium.

## **8. Determination of Boron**

For levels above 1,000 ppm, boron is determined by titration as boric acid and for levels up to 1,000 ppm by the carmine spectrophotometric method.

## **8.1 Titrimetric Method**

### **8.11 Reagents**

Calcium oxide.

Hydrochloric acid, 50% v/v - Dilute 50 ml concentrated hydrochloric acid (d = 1.18) with water to 100 ml.

Hydrochloric acid, 0.5 N.

Lead nitrate solution - Dissolve 10 g lead nitrate in water and dilute to 100 ml.  
Mannitol.

Methylated indicator solution - Dissolve 0.025 g methyl red in 5 ml 90% industrial methylated spirit with the aid of 0.5 ml 0.1 N sodium hydroxide. Dilute to 250 ml with 50% industrial methylated spirit.

Sodium carbonate.

Sodium hydroxide, 0.5 N.

Sodium hydroxide, 0.05 N - Prepare from a 50% solution which has been allowed to settle. Use boiled and cooled water for dilution. Store in a polythene bottle protected from the atmosphere by a guard tube and fitted with a syphon for withdrawing the solution.

### **8.12 Dissolution of the sample**

#### **8.121 In the absence of organic matter**

Weigh to the nearest mg. about 2 g of the sample, if it contains 0.5% or less of boron, and 1 g if it contains from 0.5 - 1.0% of boron. Transfer to a 400 ml beaker. Add 100 ml water and some phenolphthalein indicator. Add sodium carbonate to make the solution slightly alkaline and boil gently. Keep the boiling solution just alkaline by further additions of sodium carbonate until all the ammonia which may be present has been evolved. Cool the solution, add 12 ml 50% hydrochloric acid.

### 8.122 In the presence of organic matter

Weigh to the nearest mg. about 2 g of the sample, if it contains 0.5% or less of boron, and 1 g if it contains from 0.5 - 1.0% of boron. Place in a silica dish, add 0.2 g calcium oxide each 1 g of the sample, for moisten with water, mix thoroughly, evaporate the mixture to dryness and ignite gently in a muffle furnace at 450°C. Allow the washing to proceed for about three hours. Cool. Moisten with 10 ml 50% hydrochloric acid, warm on a water bath for fifteen minutes, covering the dish with a watch glass. Transfer to a 400 ml beaker, add a few drops of phenolphthalein indicator and dilute to about 120 ml with water.

### 8.13 Procedure

To the solution prepared in accordance with paragraph 8.121 or 8.122, add 20 ml lead nitrate solution for each 12%  $P_2O_5$  in the sample if 2 g of the sample have been used and 10 ml lead solution for each 12%  $P_2O_5$  in the sample if 1 g of the sample has been used. Heat just to boiling, remove from source of heat and make just alkaline by adding solid sodium carbonate. Stand on a water bath for five minutes. Cool, transfer to a 200 ml volumetric flask and dilute to the mark with water. Mix and filter through a 24 cm Whatman No. 42 (or equivalent) filter paper, rejecting the first 10 - 20 ml of the filtrate. Transfer 100 ml of the filtrate to a 250 ml beaker. Add a few drops of methyl red indicator and acidify the solution with 0.5 N hydrochloric acid. Heat almost to boiling and stir vigorously to remove carbon dioxide, adding a little more 0.5 N hydrochloric acid if the colour changes to orange or to yellow. Neutralise to methyl red with 0.5 N sodium hydroxide and make just acid with 0.5 N hydrochloric acid. Cover with a watch glass and boil gently for five minutes to expel any remaining carbon dioxide. Cool rapidly.

Place the electrodes of potentiometric titration apparatus in the beaker and adjust the pH to 6.3 by adding 0.05 N sodium hydroxide solution. Add 10 g mannitol and titrate with 0.005 N sodium hydroxide solution to final pH of 6.3. Add a further quantity of mannitol and continue the titration to a pH of 6.3. Further additions of mannitol should not alter the pH. Let x ml of 0.05 N sodium

hydroxide be used for the titration after the addition of the mannitol.

Allow a standard value of 0.1 ml 0.05 N sodium hydroxide solution as “blank” value.

Calculate Boron: % Boron in sample  $\frac{0.1082 (x - 0.1)}{\text{Weight of sample taken}}$

## 8.2 Spectrophotometric (Carmines) Method

### 9.2 Reagents

Boric acid (stock boron solution - Dissolve 1.905 g boric acid in water and dilute to 1,000 ml at 20°C. 1 ml = 0.333 mg boron.

Boric acid (standard boron solution) - Dilute 10 ml stock solution with water to 100 ml at 20°C. Transfer 5, 10, 15, 20 and 25 ml of this dilute solution to 100 ml volumetric flasks and dilute to the marks with water.

These standards will contain 5, 10, 15, 20, 25 ug of boron per 3 ml.

Calcium oxide.

Establish the calibration graph as follows:

Measure amounts of standard cobalt solution corresponding to 0, 3, 6, 9, 12, 15 ug of cobalt into a series of 100 ml beakers and proceed as described above commencing at “Add 15 ml sodium citrate solution.” Measure the extinctions to the solutions, and construct a graph relating the extinctions to the number of micrograms of cobalt.

## **10. Determination of Copper**

Copper may be determined by the diethyldithiocarbamate spectrophotometric method or, alternatively, by the atomic absorption spectrophotometric method.

### **10.1 Diethyldithiocarbamate spectrophotometric method**

#### **10.11 Reagents**

Ammonia solution, approximately 6 N - This may be prepared by passing gaseous ammonia into distilled water, or by purifying ammonia solution as described for EDTA-citrate solution below.

Carbon tetrachloride, redistilled.

Copper sulphate, stock solution - Dissolve 0.393 g copper sulphate,  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ , in 100 ml 2 N sulphuric acid and dilute to 1 litre at 20°C with distilled water.

Copper sulphate standard solution - Dilute 5 ml stock solution to 250 ml with 2 N sulphuric acid at 20°C immediately before use. 1 ml = 2 ug copper.

EDTA-citrate solution - Dissolve 20 g ammonium citrate and 5 of the disodium salt of ethylenediamine-tetra-acetic acid (EDTA) in distilled water and dilute to 100 ml. To purify, add 0.1 ml sodium diethyldithiocarbamate solution and extract with carbon tetrachloride. Add a further quantity of sodium diethyl dithiocarbamate solution to ensure that it is in excess.

Sodium diethyldithiocarbamate solution - Dissolve 1 g sodium diethyl dithiocarbamate in distilled water and dilute to 100 ml; Filter the solution if it is not clear. Store the solution in the dark in a refrigerator and discard after seven days.

Sodium hydroxide, 0.1 N.  
Sulphuric acid, 2 N.

Thymol blue indicator solution - Dissolve 0.1 g thymol blue in 2.15 ml 0.1 N sodium hydroxide and dilute to 100 ml with water.

### **10.12 Dissolution of the sample**

Prepare a solution of the sample as described in paragraph 9.2.

### **10.13 Procedure**

Transfer to a separating funnel a suitable aliquot (containing not more than 50 ug of copper) of the solution prepared in accordance with paragraph 9.2. Add 10 ml EDTA-citrate solution, 2 drops of thymol blue indicator solution and ammonia solution until the mixture is coloured green or bluish-green.

Cool the mixture, add 1 ml sodium diethyldithiocarbamate solution and, from a burette, 15 ml carbon tetrachloride. Stopper the funnel, shake vigorously for two minutes and allow the layers to separate. Place a piece of cotton-wool in the stem of the funnel and run off the carbon tetrachloride layer into a dry spectrophotometer cell. Avoid undue exposure of the solution to light.

Simultaneously with the test determination, carry out a blank determination on all the reagents used.

Measure immediately the extinctions of the test and blank solutions at a wavelength of 436 nm, using carbon tetrachloride in the comparison cell. Read from a previously prepared calibration graph the number of micrograms of copper corresponding to the observed extinctions of the test and blank solutions, and so obtain by difference the net measure of copper in the sample.

Establish the calibration graph as follows:



To a series of separating funnels transfer 10 ml EDTA-citrate solution and the following amounts of standard copper solution and 2 N sulphuric acid:

Copper solution...	0	1	2.5	5	10	15	20	25 ml
2 N sulphuric acid	25	24	22.5	20	15	10	5	0 ml

Proceed as for the test solution, as described above, commencing at “2 drops of thymol blue . . .”. Measure the extinctions of the solutions and construct a graph relating the extinctions to the number of micrograms of copper.

## 10.2 Atomic absorption spectrophotometric method

### 10.21 Apparatus

Atomic absorption spectrophotometer.  
Copper hollow-cathode lamp.

### 10.22 Reagents

Copper sulphate standard solution - Dissolve 0.393 g copper sulphate  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ , in 0.5 N hydrochloric acid and dilute to 100 ml with 0.5 N hydrochloric acid, 1 ml = 1 mg copper. Dilute this solution as required.  
Hydrochloric acid, 0.5 N.

### 10.23 Procedure

Set up the instrument using the line at 324.7 nm. Prepare from the standard copper solution a series of solutions in 0.5 N hydrochloric acid, containing between 0 and 10 ppm copper. Dilute a suitable aliquot of the sample solution, prepared in accordance with paragraph 9.2, with 0.5 N hydrochloric acid to produce a standard volume of solution containing between 0 and 10 ppm copper. Prepare a blank solution from which only the sample has been omitted. Spray distilled water into the flame and zero the instrument. Spray successively, in

triplicate, the standard solutions, sample and blank, washing the instrument through with distilled water between each spraying. Record the absorbance reading or the peak high on the recorder if a recording instrument is used. Plot the mean reading obtained for each standard solution against its copper content. Determine the copper content of the sample and blank solutions from the graph and from the difference between them calculate the copper content of the sample.

If a large number of samples is being examined one or more standard solutions must be resprayed at intervals during the course of the analyses.

## 11. Determination of Iron

For levels up to 1% iron is determined by the o-phenanthroline spectrophotometric method and for levels above 1% by the titrimetric method with potassium dichromate.

### 11.1 o-Phenanthroline Method

#### 11.11 Reagents

Ammonium ferric sulphate solution (stock iron solution) - Dissolve 0.863 g ammonium ferric sulphate,  $\text{Fe}_2(\text{SO}_4)_3 \cdot (\text{NH}_4)_2\text{SO}_4 \cdot 24\text{H}_2\text{O}$ , in water containing 2 ml perchloric acid, and dilute to 100 ml at 20°C.

Ammonium ferric sulphate solution (standard iron solution) - Dilute 10 ml stock solution to 100 ml with water at 20°C immediately before use. 1 ml = 100 mg iron.

Bromophenol blue indicator solution - Dissolve 0.4 g bromophenol blue in 95% ethanol and dilute to 100 ml.

Hydrochloric acid, 50% v/v - Dilute 50 ml concentrated hydrochloric acid (d = 1.18) with water to 100 ml.

Hydrochloric acid, 20% v/v - Dilute 20 ml concentrated hydrochloric acid (d = 1.18) with water to 100 ml.

Nitric acid, 30% v/v - Dilute 30 ml concentrated nitric acid (d 1.42) with water to 100 ml.

o-Phenanthroline solution - Dissolve 0.25 g o-phenanthroline in 25% ethanol and dilute to 100 ml.

Quinol solution - Dissolve 1 g quinol in water and dilute to 100 ml.

Sodium citrate solution - Dissolve 25 sodium citrate in water and dilute to 100 ml.

### **11.12 Dissolution of the sample**

Prepare a solution of the sample as described in paragraph 9.2.

### **11.13 Procedure**

Transfer a suitable aliquot of the solution, prepared in accordance with paragraph 9.2, to a small flask, add a few drops of the bromophenol blue indicator solution, and titrate with sodium citrate solution until the colour changes from yellow to blue. Transfer another aliquot to a 25 ml volumetric flask, add 1 ml solution, 3 ml o-phenanthroline solution and an amount of sodium citrate solution equal to the above titration, and then dilute with water to 25 ml. Allow the solution to stand for 1 hour.

Carry out a blank determination on all the reagents used.

Measure the extinctions of the test and blank solutions at a wavelength of 510 nm using 4 cm or 1 cm cells according to the depth of colour with water in the comparison cell. Read the number of micrograms of iron equivalent to the observed extinctions of the test and blank solutions from a previously prepared

calibration graph, and so obtain the net measure of iron in the sample.

Establish the calibration graph as follows:

Measure amounts of standard iron solution corresponding to 0, 200, 300, 400, 500, 600 ug of iron into a series of 100 ml volumetric flasks. To each add 50 ml 20% v/v hydrochloric acid, and dilute to 100 ml with water. Using 5 ml aliquots, proceed as for the test solution, as described above commencing at "Transfer a suitable aliquot of the solution .....".

Measure the extinctions of the solutions and construct a graph relating the extinctions to the number of micrograms of iron.

## 11.2 Titrimetric Method

### 11.21 Reagents

Hydrochloric acid, concentrated (d = 1.18).

Hydrochloric acid, 30% v/v - Dilute 30 ml concentrated hydrochloric acid (d = 1.18) with water to 100 ml.

Mercuric chloride solution - Dissolve 5 g mercuric chloride in water and dilute to 100 ml.

Orthophosphoric acid, concentrated (d = 1.75).

Potassium dichromate, 0.1 N.

Sodium diphenylamine-4-sulphonate indicator solution - Dissolve 0.2 g sodium diphenylamine-4-sulphonate in water and dilute to 100 ml.

Stannous chloride solution - Dissolve 15 g stannous chloride dihydrate in 30% v/v hydrochloric acid and dilute to 100 ml with 30% v/v hydrochloric acid.

This solution should be prepared immediately before use.

Stannous chloride, dilute - Dilute 5 ml stannous chloride solution with 30% v/v hydrochloric acid to 50 ml.

Sulphuric acid, 16% v/v - To 50 ml water cautiously add 16 ml concentrated sulphuric acid ( $d = 1.84$ ). Cool and dilute to 100 ml.

### **11.22 Dissolution of the sample**

Prepare a solution of the sample as described in paragraph 9.2.

### **11.23 Procedure**

Transfer a suitable aliquot of the solution, prepared in accordance with paragraph 9.2, to a 500 ml flask and dilute or concentrate the solution to about 20 ml. Add concentrated hydrochloric acid so that the total amount of acid present is equivalent to about 5 ml concentrated hydrochloric acid.

Heat the solution to 70 - 90°C add the - stannous chloride solution drop wise until the yellow colour has almost disappeared. Continue the addition using diluted stannous chloride solution until the solution becomes colourless or slightly green and add one or two drops more. Cool the solution rapidly to room temperature, and add 10 ml mercuric chloride solution. A small, white 'silky' looking precipitate should form. (If no precipitate forms, insufficient stannous chloride has been added; on the other hand if the precipitate is grey or black too much stannous chloride has been added. In either case the solution must be discarded). Add 200 ml water, 10 ml 16% v/v sulphuric acid, 5 ml orthophosphoric acid and 6-8 drops of indicator. Titrate with 0.1 N potassium dichromate until the indicator changes from green to violet-blue. Calculate the amount of iron in the sample using the factor 1 ml 0.1 N potassium dichromate = 0.00559 g iron.

## 12. Determination of Magnesium

Magnesium may be determined by the pyrophosphate method or, alternatively, by the atomic absorption spectrophotometric method.

### 12.1 Pyrophosphate Method

#### 12.11 Reagents

Ammonia solution, (d = 0.91).

Ammonia solution, 5 % v/v - Dilute 5 ml concentrated ammonia solution (d = 0.91) with water to 100 ml.

Ammonium phosphate solution - Dissolve 20 g diammonium hydrogen phosphate,  $(\text{NH}_4)_2\text{HPO}_4$ , in water and dilute to 100 ml.

Ammonium oxalate solution - saturated aqueous solution.

Calcium wash solution - Dissolve 1 g oxalic acid,  $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$  and 2 g ammonium oxalate, in water and dilute to 1,000 ml.

Citric acid, monohydrate.

Hydrochloric acid, concentrated (d = 1.18).

Hydrochloric acid, 20% v/v - Dilute 20 ml concentrated hydrochloric acid (d = 1.18) with water to 100 ml.

Methyl red indicator solution - Dissolve 0.025 g methyl red in 5 ml 90% industrial methylated spirit with the aid of 0.5 ml 0.1 N sodium hydroxide. Dilute to 250 ml with 50% industrial methylated spirit.

Oxalic acid solution - Dissolve 10 g oxalic acid,  $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ , in water and dilute to 100 ml.

### 12.12 Dissolution of the sample

Prepare a solution of the sample as described in paragraph 9.2.

### 12.13 Procedure

Transfer a suitable aliquot (containing approximately 50 mg magnesium) of the solution, prepared in accordance with paragraph 9.2, to a 500 ml beaker, and add 5% v/v ammonia solution until a slight precipitate is formed. Add citric acid, in small portions, until the precipitate just dissolves, and then 1 g in excess. Heat the solution to 40°C, add 0.2 ml (4 drops) of methyl red indicator solution, Neutralise with 5% v/v ammonia solution, and 1 ml in excess. Add oxalic acid solution until the mixture is just acid, and then 10 ml in excess. Boil the solution for one to two minutes, add 50 ml saturated ammonium oxalate solution, dilute if necessary, to 200 ml with distilled water, boil for a further minute and heat on a water bath for at least an hour. Filter through a Whatman No. 40 (or equivalent) filter paper; wash the residue thoroughly with calcium wash solution. Combine the filtrate and washings, measure the volume, transfer to a beaker, and add, while stirring with a glass rod (avoid touching the sides of the beaker with the rod), 20 ml of ammonium phosphate solution. While stirring continuously throughout, neutralise the solution with ammonia solution, added drop by drop from a burette, and add 20 ml in excess, together with a further 10 ml of ammonia solution for each 100 ml of solution in the beaker, Set the beaker aside for at least four hours or, preferably, overnight. Filter through a No. 4 sintered-silica crucible, and wash the residue with cold 5% v/v ammonia solution, ensuring that any precipitate adhering to the sides of the beaker and the glass rod is transferred to the crucible. Dry the crucible and residue, transfer to a cool muffle furnace, slowly raise the temperature to 950°C, and heat at this temperature for a half to one hour. Allow the crucible to cool in a desiccator, and weigh. Calculate the weight of the precipitate to its equivalent of magnesium

by multiplying its weight by 0.2184.

## 12.2 Atomic absorption spectrophotometric method

### 12.21 Apparatus

Atomic absorption spectrophotometer.

Magnesium hollow-cathode lamp.

### 12.22 Reagents

Hydrochloric acid, 0.5 N.

Magnesium sulphate standard solution - Dissolve 1.013 g magnesium sulphate,  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ , in 0.5 N hydrochloric acid and dilute to 100 ml with 0.5 N hydrochloric acid, 1 ml = 1 mg magnesium. Dilute this solution as required.

Strontium chloride solution - Dissolve 15 g strontium chloride,  $\text{SrCl}_2 \cdot 6\text{H}_2\text{O}$ , in 0.5 N hydrochloric acid and dilute to 100 ml with 0.5 N hydrochloric acid.

### 12.23 Procedure

Set up the instrument using the line at 285.2 nm. Prepare from the standard magnesium solution a series of solutions, in 0.5 N hydrochloric acid, containing between 0 and 3 ppm - magnesium (see Note). Dilute a suitable aliquot of the sample solution, prepared in accordance with paragraph 9.2 with 0.5 N hydrochloric acid to produce a standard volume of solution containing 0 and 3 ppm magnesium (see Note). Prepare a blank solution from which only the sample has been omitted (see Note).

Spray distilled water into the flame and zero the instrument.

Spray successively, in triplicate, the standard solution, sample and blank, washing the instrument with distilled water between each spraying. Record the



absorbance reading, or the peak height on the recorder if a recording instrument is used. Plot the mean reading obtained for each standard solution against its magnesium content. Determine the magnesium content of the sample and blank solutions from the graph and from the difference between them calculate the magnesium content of the sample. If a large number of samples is being examined one or more standard solutions must be resprayed at intervals during the course of the analyses.

NOTE: If the sample contains phosphate add strontium chloride solution at the rate of 5 ml for each 50 ml of diluted sample solution, before adjusting to standard volume.

### **13. Determination of Manganese**

#### **13.1 Reagents**

Orthophosphoric acid, concentrated (d = 1.75).

Potassium periodate.

Potassium permanganate (stock manganese solution) - Dissolve 0.288 g potassium permanganate in 100 to 200 ml water, add 5 ml 25% v/v sulphuric acid and dilute with water to 1 litre at 20°C.

Potassium permanganate (standard manganese solution - Dilute 10 ml stock solution to 100 ml with water at 20°C immediately before use. 1. ml = 10 ug manganese.

Sulphuric acid, concentrated (d = 1.84).

Sulphuric acid, 25% v/v - To 50 ml water cautiously add 25 concentrated sulphuric acid (d = 1.84). Cool and dilute to 100 ml.

### 13.2 Dissolution of the sample

Prepare a solution of the sample as described in paragraph 9.2.

### 13.3 Procedure

Transfer to a small beaker a suitable aliquot (containing not more than 70 ug of manganese) of the solution prepared in accordance with paragraph 9.2. Evaporate just to dryness at a low heat on a hot-plate, cool, add 10 ml water, 1.5 ml orthophosphoric acid and 1.5 ml concentrated sulphuric acid. Warm until the residue is dissolved and evaporate on the hot-plate at a low heat until the solution just fumes. Cool, add 3 ml water, warm again and transfer the solution to a glass-stoppered tube calibrated 10 ml. Wash the beaker with two further 3 ml quantities of water, adding these to the contents of the tube. (If there is a precipitate, allow the solution to stand and withdraw an aliquot of the clear supernatant liquid). Add 0.5 g potassium periodate, adjust the volume of the solution to just above the 10 ml mark with water and heat the loosely stoppered tube in a boiling water bath for thirty minutes. Cool, and adjust the volume to the mark with water. Carry out a blank determination on all the reagents used.

Measure the extinction of the test and blank solutions at a wavelength of 526 nm, using 1 cm cells with water, in the comparison cell. Read from a previously prepared calibration graph the number of micrograms of manganese corresponding to the observed extinctions of the test and blank solutions, and so obtain by difference the net measure of manganese in the sample.

Establish the calibration graph as follows:

Measure the amounts of the standard manganese solution corresponding to 0, 10, 20, 30, 40, 50, 60, 70 ug manganese into a series of glass-stoppered tubes calibrated at 10 ml. To each add 1.5 ml orthophosphoric acid and 1.5 ml concentrated sulphuric acid, and proceed as described above for the test solution, commencing at "Add 0.5 g potassium periodate .....". Measure the

extinctions of the solution, and construct a graph relating the extinctions to the number of micrograms of manganese.

## **14. Determination of Molybdenum**

### **14.1 Reagents**

Ammonium molybdate (stock molybdenum solution) - Dissolve 1.840 g ammonium molybdate,  $(\text{NH}_4)_6\text{Mo}_7\text{O}_{24}\cdot 4\text{H}_2\text{O}$  in water and dilute 1,000 ml at 20°C.

Ammonium molybdate standard molybdenum solution) - Dilute 1 ml stock solution to 1,000 ml with water at 20°C immediately before use. 1 ml - 1 ug molybdenum.

Ammonium ferrous sulphate solution - Dissolve 4 g ammonium ferrous sulphate in water and dilute to 100 ml.

Hydrochloric acid, N.

Hydrochloric acid, 2 N.

Potassium thiocyanate solution - Dissolve 40 g potassium thiocyanate in water and dilute to 100 ml.

Sodium sulphate, anhydrous.

Solvent mixture - Mix equal volumes of carbon tetrachloride and 3-methylbutan-1-01.

Stannous chloride solution - Suspend 40 g stannous chloride dihydrate in 20 ml 6.5 N hydrochloric acid, add water to dissolve and dilute to 100 ml. Filter if turbid.

## 14.2 Dissolution of the sample

Prepare a solution of the sample as described in paragraph 9.2

## 14.3 Procedure

Transfer a suitable aliquot of the solution prepared in accordance with paragraph 9.2 to a 125 ml separating funnel, add 1 ml ammonium ferrous sulphate solution and sufficient N hydrochloric acid to bring the volume to 50 ml (see note), then add 1 ml potassium thiocyanate solution and mix.

Add 1 ml stannous chloride solution, and mix again. Add exactly 7 ml solvent mixture, shake vigorously for 2 minutes and allow to separate for fifteen minutes. Filter the lower layer through a 7 cm paper into a small stoppered tube.

If the lower layer is not bright or if filtration is difficult, filter through a small suitable column packed with anhydrous sodium sulphate, solid stannous chloride and plugged with cotton wool.

Carry out a blank determination on all the reagents used.

Measure the extinction of the test and blank solutions at a wavelength of 470 nm, using 1 cm cells with water in the comparison cell.

Read the number of micrograms of molybdenum equivalent to the observed extinctions of the test and blank solutions from a previously prepared calibration graph, and so obtain the net measure of molybdenum in the sample.

Establish the calibration graph as follows:

Measure amounts of the standard molybdenum solution corresponding to 0, 5, 10, 15, 20, 25 ug molybdenum into a series of 125 ml separating funnels. Add to each funnel 1 ml ammonium ferrous sulphate and 25 ml 2 N hydrochloric acid, dilute to 50 ml and proceed as for the test solution, as described above

beginning at “Then add 1 ml potassium thiocyanate solution and mix”. Measure the extinctions of the solutions at a wavelength of 470 nm and construct a graph relating extinction to the number of micrograms of molybdenum.

NOTE: The acidity of the final solution must not exceed 1.5 N with respect to hydrochloric acid; with more strongly acid conditions, fading of the colour will occur.

#### FOURTH SCHEDULE

##### METHODS OF ANALYSIS OF FEEDING STUFFS

(A “decimal” system has been adopted for the numbering of divisions and sub-divisions in this Schedule. It is explained at the beginning of the Schedule to these Regulations).

The main divisions in this Schedule are as follows:

1. Preparation of the sample for analysis.
2. Determination of moisture.
3. Determination of oil.
4. Determination of protein.
5. Determination of ammoniacal and urea nitrogen.
6. Determination of phosphoric acid.
7. Determination of fibre.
8. Determination of sugar.
9. Determination of salt.
10. Determination of ash.
11. Determination of calcium.
12. Determination of copper.
13. Determination of magnesium.

NOTE: References to “water” means purified water as defined in the British Pharmacopoeia. All reagents used should be of analytical quality.

## **1. Preparation of sample for analysis**

With some materials, fine grinding may lead to loss or gain of moisture, and allowance for this must be made. Grinding should be rapid as possible and unnecessary exposure to the atmosphere avoided. Grinding in a laboratory mill is usually quicker than grinding in a mortar although the latter is permissible.

1.1 If the sample is in a fine condition, mix thoroughly and transfer a portion of not less than 100 g to a non-corrodible container provided with an airtight closure.

1.2 If the sample is not finely ground, mix thoroughly and further grind a portion of not less than 100 g. Transfer the portion so prepared to a non-corrodible container provided with an airtight closure.

1.3 If the sample is appreciably moist or if for any reason the process of grinding and mixing are likely to result in loss or gain of moisture, take a sample immediately after the preliminary mixing procedure described in paragraph 1.2 or the preliminary grinding and mixing procedure described in paragraph 1.3 for the determination of moisture by the method described in paragraph 2. Determine also the moisture content in the finally prepared sample so that the results of the analysis may be corrected to correspond with the sample in its original condition as regards moisture.

## **2. Determination of Moisture**

Weigh to the nearest mg about 5 g of the sample, heat at 100°C for 2 to 3 hours, cool in a desiccator and weigh. Reheat for another hour, cool and reweigh. If the difference in weight exceeds 10 mg, continue the heating and cooling procedure until a weight constant within 2 mg is attained. Calculate the total loss of weight as a percentage of the original weight and regard as moisture.

### **3. Determination of Oil**

#### **3.1 Reagent**

Light petroleum boiling 40-60°C.

#### **3.2 Procedure**

3.21 For feeding stuffs not containing milk powder and/or oil or fat fortified milk powder.

Weigh to the nearest mg about 3 - 5 g of the sample; transfer to an extraction apparatus and extract with light petroleum for a period of at least four hours. Transfer the residue of the feeding stuff from the extraction apparatus to a small mortar, grind lightly and return it to the extraction apparatus. Wash out the mortar with a small quantity of light petroleum and add the washings to the contents of the extraction flask. Continue the extraction for at least another hour. The extract should be clear but if seen to include insoluble matter pour it through a filter paper or cotton wool plug into another weighed flask; wash the extraction flask and filter twice with light petroleum and add the washings to the contents of the second weighed flask. Remove the bulk of the solvent from the flask, dry at 100°C for two hours, cool and weigh. Reheat at 100°C for thirty minutes, cool and again weigh. The second weight should not differ by more than 1 or 2 mg from the first weight. Regard this light petroleum extract as oil.

Where a sample is presumed to have an oil content in excess of ten percent or where there is reason to believe that the whole of the oil will not be removed from the feeding stuff in a five hour extraction, place a fresh flask on the extraction apparatus and continue the extraction with a fresh quantity of light petroleum for at least a further hour. Filter and wash into a second weighed flask; dry and weigh as described in the preceding paragraph.

3.22 For milk powders, including oil or fat fortified milk powders, and feeding stuffs containing milk powder and/or oil or fat fortified milk powder.

**3.221 Reagents**

Ammonia solution (d = 0.91).

Diethyl ether, peroxide free.

Ethanol, 95% v/v.

Light petroleum, boiling range 40 - 60°C.

**3.222 Procedure**

Weigh, to the nearest 0.2 mg, 1 - 1.1 g of the feeding stuff and transfer to a fat extraction tube provided with a glass stopper and siphon tube.

Add 9 ml water, temperature 60 - 70°C, stopper the tube and shake vigorously until the sample is uniformly suspended. Cool to room temperature, add 1.5 ml ammonia solution, stopper and shake thoroughly. Add 10 ml ethanol, using some to rinse the stopper and collect the washings in the extraction tube.

Stopper the tube and shake thoroughly. Add 25 ml diethyl ether, using some to wash the stopper as before, stopper the tube and shake vigorously for ninety seconds. Cool the tube and remove the stopper cautiously so as to avoid loss of contents. Add 25 ml light petroleum, washing the stopper as before, stopper the tube and shake vigorously for ninety seconds. Allow to stand for fifteen minutes, or until the solvent layer separates cleanly. Remove the stopper, insert a tube and transfer the ethereal layer to a flask. Raise the siphon and, before removing it from the tube, wash it down with 15 ml of diethyl ether. Remove the siphon tube and rinse the tip with ether, collecting the rinsings in the flask. Add 1 ml ethanol to the tube, stopper, shake vigorously for ninety seconds, cool, remove the stopper, add 15 ml light petroleum and again shake for ninety seconds. Allow to stand for fifteen minutes or until the layer separates cleanly, fit the siphon tube and remove the solvent layer to the flask as before.

Carry out a third extraction with 15 ml diethyl ether followed by 15 ml light petroleum in the same way, collecting the solvent in the flask. Remove the



solvent from the flask by evaporating and dry the flask lying on its side at 100°C for two hours; cool in a desiccator and weigh. Reheat at 100°C for thirty minutes, cool and weigh. Add about 20 ml light petroleum to the flask and swirl gently to dissolve the oil, warming if necessary. Allow any residue to settle, then decant the supernatant solution taking care to retain any insoluble residue. Add another 20 ml light petroleum, swirl cautiously and decant as before. Repeat with further small quantities of light petroleum until all the oil has been removed from the flask. Reheat the flask, lying on its side, at 100°C for one hour, allow to cool and weigh. Record the difference in weights as the weight of oil.

#### **4. Determination of Protein**

Ascertain the percentage of nitrogen by the method described in paragraph 4.3, and calculate the percentage of protein by multiplying the result by 6.25.

##### **4.1 Nitrogen**

##### **4.2 Reagents**

Boric acid/indicator solution - add 5 ml of indicator solution (0.1% methyl red and 0.2% bromocresol green in alcohol) to 1 litre saturated boric acid solution.

Sodium hydroxide solution, 50% w/v - dissolve 500 g sodium hydroxide in water and dilute to 1 litre.

Sodium sulphate or potassium sulphate - anhydrous.

Sulphuric acid, concentrated (d = 1.84) - nitrogen free.

Sulphuric acid, (or hydrochloric acid), 0.2 N.

Paraffin wax.

Copper sulphate.

### 4.3 Procedure

Weigh to the nearest mg about 2 g of the sample (or such an amount as shall contain not more than 250 mg nitrogen) and transfer to a kjeldahl flask. Add 25 ml concentrated sulphuric acid, approximately 0.5 g copper sulphate, and 10 g anhydrous sodium sulphate or potassium sulphate. Heat gently over a small flame until frothing ceases and the liquid is practically colourless. Continue to heat for a further two hours. Avoid local overheating. If frothing is excessive, add about 0.5 g paraffin wax.

Dissolve the cooled digest in water, and make up to a total volume of about 250 ml. Taking precautions against loss of ammonia, add sufficient 50% sodium hydroxide solution to neutralise the acid and 10 ml in excess; mix well and connect immediately to a distillation apparatus. Distil into 10 ml of boric acid indicator solution, diluted with 20 ml water, controlling the rate of distillation so that not less than 150 ml distil in thirty minutes. Titrate the distillate against the standard 0.2 N acid solution. Carry out a blank test on the reagents. Express the result in terms of nitrogen. 1 ml 0.2 N = 0.0028 g nitrogen.

NOTE: Where there is reason to suspect that the sample contains nitrogen in the form of ammoniacal, nitrate or urea nitrogen, the appropriate determination should be made as described in paragraph 3.2, 3.4 of the Third Schedule or paragraphs 5.1, 5.2 of this Schedule and the amount so obtained deducted from the total nitrogen content. In the case of compound feeds containing urea, the deduction of the nitrogen content is unnecessary for the calculation of the protein content.

### 5.1 Determination of ammoniacal nitrogen

Weigh to the nearest mg about 5 g of the sample, transfer to a 250 ml volumetric flask, add 200 ml water and shake well to ensure solution of all water soluble matter. Dilute to 250 ml, filter and transfer 50 ml of the filtrate to a distillation flask. Add about 300 ml water and 20 ml 50% sodium hydroxide solution.

Distil into 10 ml boric acid indicator solution, diluted with 20 ml water, controlling rate of distillation so that not less than 150 ml distil in thirty minutes. Titrate the distillate against the standard 0.2N acid solution. Express the result in terms of ammonia nitrogen. 1 ml 0.2N acid - 0.0028 g nitrogen.

## **5.2 Determination of urea nitrogen**

### **5.21 Reagents**

Activated charcoal.

Carrez solution 1 - dissolve 21.9 g zinc acetate dihydrate in water and 3 ml glacial acetic acid and dilute to 100 ml with water.

Carrez solution 2 - dissolve 10.6 g potassium ferrocyanide in water and dilute to 100 ml.

4-Dimethylaminobenzaldehyde solution - dissolve a 2g 4-dimethylaminobenzaldehyde in 10 ml concentrated hydrochloric acid and dilute to 100 ml with propan-2-ol.

Hydrochloric acid, 0.01 N.

Sodium acetate solution - dissolve 136 g sodium acetate ( $\text{CH}_3\text{COONa} \cdot 3\text{H}_2\text{O}$ ) in water and dilute to 1 litre.

Urea standard solution - dissolve 1 g urea in water and dilute to 100 ml.

### **5.22 Procedure**

Weigh to the nearest mg about 5 g of the sample (or such an amount as shall contain not more than 250 mg urea) and transfer to a 250 ml volumetric flask. Add 150 ml 0.02 N hydrochloric acid, shake for thirty minutes then add 10 ml sodium acetate solution and mix well. Add 1 g activated charcoal (see note) to the flask and shake well, and stand for a further fifteen minutes. Add 5 ml Carrez solution 1, followed by 5 ml Carrez solution 2, mixing well between

additions. Dilute the volume with water and mix well. Filter a portion through a suitable dry filter paper into a clean dry 250 ml beaker. Transfer a 10 ml aliquot of the filtrate to a 50 ml flask, add 10.0 ml 4-dimethylaminobenzaldehyde solution, dilute to 50 ml with water, mix well and allow to stand for ten minutes. Determine the extinction of the solution at 435 nm using a 1 cm cell against a blank of 10 ml 4-dimethylaminobenzaldehyde reagent diluted to 50 ml with water. Calculate the urea content of the sample by reference to a calibration graph prepared at the same time as the test sample. (mg urea x 0.4665 = mg urea nitrogen).

Establish the calibration graph as follows:

Measure amounts of standard urea solution corresponding to 50, 100, 150, 200 and 250 mg of urea into a series of 250 ml volumetric flasks and proceed as described above commencing at "Add 150 ml 0.02 N hydrochloric acid ....". Measure the extinctions of the solution, and construct a graph relating the extinctions to the milligrams of urea.

NOTE: If the sample is highly coloured due to the presence of molasses the proportion of activated charcoal must be increased to 5 g. The final solution after filtering should be colourless.

## 6. Determination of Phosphoric Acid

For the purposes of Act Part IV "phosphoric acid" means  $P_2O_5$  (molecular weight 142.04). Phosphoric acid shall be determined by the spectrophotometric (vanadium phosphomolybdate) method.

### 6.1 Spectrophotometric (Vanadium Phosphomolybdate Method)

#### 6.11 Reagents

Calcium oxide - finely ground.

Hydrochloric acid, concentrated (d = 1.18)

Nitric acid, concentrated (d = 1.42).

Potassium dihydrogen phosphate solution (stock phosphate solution) -dissolve in water 1.917 g potassium dihydrogen phosphate previously dried at 105°C for one hour and dilute to 1 litre.

Potassium dihydrogen phosphate (standard phosphate solution) - dilute 50 ml stock solution to 250 ml with water 1 ml = 0.2 mg phosphoric acid ( $P_2O_5$ ).

Vanado-molybdate reagent - dissolve separately 20 g ammonium molybdate and 1 g ammonium vanadate in water, mix, acidify with 140 ml concentrated nitric acid and dilute to 1 litre.

## 6.12 Dissolution of the sample

Weigh to the nearest mg about 5 g of the sample into a capsule or dish; and 1 g calcium oxide, mix well and thoroughly wet with a little water. Dry the mixture and incinerate at a temperature not exceeding 500°C until completely charred. Cool, transfer the contents of the capsule or dish to a 250 ml beaker and add 10 ml water; then add slowly 12 ml concentrated hydrochloric acid, taking suitable precautions to avoid loss by effervescence, and finally 5 ml of concentrated nitric acid. Heat to incipient boiling and keep at this temperature for ten minutes. Dilute with about 10 ml of water, filter, transfer the insoluble matter to the filter paper with a minimum amount of water and wash twice with small volumes of water. Then transfer the filter paper and insoluble matter to the original capsule or dish and incinerate until all the carbon is destroyed. Combine the ash with the filtrate and heat to boiling point. Cool, transfer to 250 ml volumetric flask, dilute to the mark, mix well and filter. Discard the first 10 or 20 ml of the filtrate.

## 6.13 Procedure

### 6.131 Standardisation of instrument

From a burette measure into a series of 100 ml volumetric flask 25.0, 26.0, 27.0, 28.0, 29.0, 30.0 and 31.0 ml of the standard phosphate solution (i.e. 5.0, 5.2, 5.4, 5.6, 5.8, 6.0, and 6.2 mg phosphoric acid). Add 25 ml of the vanado-molybdate reagent to each flask and dilute to 100 ml with water making sure that the temperature of the reagent and the dilution water is 20°C. Shake and allow to stand for ten minutes.

Set the spectrophotometer to the correct wavelength, circa 420 nm, fill two 1 cm cell with the 5.0 mg solution and check the extinction of the cells. If there is a small difference, select the cell with the smaller reading as the standard reference cell.

Determine the apparent extinction at 20°C (corrected for cell differences) of the 5.2, 5.4, 5.6, 5.8, 6.0 and 6.2 mg phosphoric acid solution referred to the 5.0, mg. phosphoric acid solution as standard.

Plot a calibration graph of scale readings against known phosphoric acid content.

### 6.132 Analysis of sample

Successively dilute a portion of the solution prepared according to paragraph 6.12 so that the final volume of about 25 ml contains between 5.5 and 6.2 mg phosphoric acid, taking care that the dilution water is at a temperature of 20°C.

Transfer this final volume to a 100 ml volumetric flask, add 25 ml of the vanado-molybdate reagent (at a temperature of 20°C), dilute to the mark, mix, and allow to stand for ten minutes. At the same time transfer 25 ml of the standard phosphate solution (at 20°C) into a second 100 ml volumetric flask. Add 25 ml of the vanado-molybdate reagent (at 20°C), dilute to the mark, mix

and allow to stand for ten minutes.

Measure the difference in extinction at 20°C between the two solutions and estimate the phosphoric acid content of the volume of the unknown solution from the calibration graph.

Calculate the phosphoric acid content of the sample from known dilution factors and the weight of the sample.

NOTE: Prepare a fresh reference standard for each series of readings on the instrument.

## **7. Determination of Fibre**

### **7.1 Reagents**

Alcohol - industrial methylated spirit.

Diethyl ether.

Hydrochloric acid, 1% v/v - dilute 10 ml concentrated hydrochloric acid with water to 1 litre.

Light petroleum - boiling point 40 - 60°C.

Sodium hydroxide, 0.313 N - this solution must be free from sodium carbonate.

Sulphuric acid, 0.255 N.

### **7.2 Procedure**

Weigh to the nearest mg about 2.7 to 3.0 g of the sample, transfer to an extraction apparatus and extract with light petroleum. Alternatively, extract with light petroleum stirring, settling and decanting three times. Air dry the extracted sample and transfer to a dry 1,000 ml conical flask (see note). Add 200 ml 0.2555 N sulphuric acid measured at ordinary temperature and brought to boiling point, the first 30 or 40 ml being used to disperse the sample, and heat to boiling point within 1 minute. An appropriate amount of anti-foaming agent may be added if necessary. Boil gently for exactly thirty minutes, maintaining a constant volume

and rotating the flask every few minutes in order to mix the contents and remove particles from the sides.

Meantime, prepare a Buchner funnel fitted with a perforated plate by adjusting a piece of cut cotton cloth or filter paper to cover the holes in the plate so as to serve as a support for a circular piece of suitable filter paper. Pour boiling water into the funnel, allow to remain until the funnel is hot and then drain by applying suction. Care should be taken to ensure that the filter paper used is of such quality that it does not release any paper fibre during this and subsequent washings.

At the end of the thirty minutes boiling period, allow the acid mixture to stand for one minute and then pour immediately into a shallow layer of hot water under gentle suction on the prepared funnel. Adjust the suction so that the filtration of the bulk of the 200 ml is completed within ten minutes. Repeat the determination if this time is exceeded.

Wash the insoluble matter with boiling water until the washings are free from acid; then wash back into the original flask by means of a wash bottle containing 200 ml 0.313 N sodium hydroxide solution measured at ordinary temperature and brought to boiling point. Boil for thirty minutes with the same precautions as those used in the earlier boiling and treatment. Allow to stand for one minute and then filter immediately through a suitable filter paper. Transfer the whole of the insoluble material to the filter paper by means of boiling water, wash first with boiling water then with 1% hydrochloric acid, and finally with boiling water until free from acid. Then wash twice with alcohol and three times with ether. Transfer the insoluble matter to a dried weighed ashless filter paper and dry at 100°C to a constant weight. Incinerate the paper and contents to an ash at a dull red heat. Subtract the weight of the ash from the increase of weight on a paper due to the insoluble material, and report the difference as fibre.

NOTE: In the event of the sample containing 3% or more of calcium carbonate (chalk or limestone flour), it will be necessary to remove the calcium carbonate before digesting the sample with acid. This can be done at the stage in the



procedure when the portion taken for analysis has been extracted with light petroleum. The original weight taken for the determination should be such that the actual amount of feeding stuff free from calcium carbonate is between 2.7 and 3.0.

Transfer the air-dried extracted sample to a 1,000 ml conical flask, add a quantity of 196 hydrochloric acid more than sufficient to neutralise the calcium carbonate present and stir well. Allow to settle, decant off the supernatant liquid through a filter and wash the residue twice by decantation with water, passing the washings through the filter. Allow the residue and the filter to drain thoroughly. Bring 200 ml 0.255 N sulphuric acid (measured at ordinary temperature) to boiling point and use a portion of this to wash any particles on the filter back into the flask. Add the remainder of the acid to the flask and heat to boiling point within one minute. Continue the determination as described in paragraph 7.2.

## **8. Determination of Sugar**

For the purposes of the Act, Part IV, “sugar” means total reducing sugars after inversion expressed as sucrose.

Declarations of sugar are required only in respect of molasses, treacle molasses feeds and molassed beet pulp. It is necessary, therefore, as the first procedure, to “clean” the sugar from impurities, or from its absorbent body. The total reducing sugar content is then determined after inversion of the sucrose.

### **8.1 Reagents**

Fehling’s solution - mix equal volumes of a solution of copper sulphate and a solution of sodium potassium tartrate prepared as follows:

Copper sulphate solution - dissolve 69.28 g copper sulphate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ) in water and dilute to 1 litre.

Sodium potassium tartrate solution - dissolve 346 g sodium potassium tartrate

and 100 g sodium hydroxide in water and dilute to 1 litre.

NOTE: The strength of the Fehling's solution should be such that 10 ml is equivalent to 0.0525 g invert sugar. It should be checked by titrating with a solution of pure sucrose (inverted by the procedure described in the Note following paragraph 8.223) using the procedure described in paragraph 8.223.

Hydrochloric acid, N.

Methylene blue solution - dissolve 2.5 g methylene blue in water and dilute to 250 ml.

Phenolphthalein indicator solution - dissolve 0.25 g phenolphthalein in 150 ml industrial methylated spirit and dilute with water to 250 ml.

Potassium ferrocyanide solution - dissolve 106 g potassium ferrocyanide in water and dilute to 1 litre.

Potassium oxalate solution - dissolve 50 g potassium oxalate in water and dilute to 1 litre.

Sodium hydroxide, 10% w/v - dissolve 100 g sodium hydroxide in water and dilute to 1 litre.

Zinc acetate solution - dissolve 219 g zinc acetate and 30 ml glacial acetic acid in water and dilute to 1 litre.

## **8.2 Procedure**

### **8.21 Preparation of the sample**

#### **8.211 When the substance is in solid form**

Weigh to the nearest centigram about 10 g of the sample or a sufficient quantity

to contain about 2 g sugar. Grind in a mortar with hot water (temperature not to exceed 60°C) and transfer to a 500 ml volumetric flask using in all about 400 ml water. Shake the flask at intervals during thirty minutes. Add 5 ml potassium Qxalate solution to the contents of the flask, followed by 5 ml zinc acetate solution; mix well and then add 5 ml potassium ferrocyanide solution, make up with water to 500 ml at the correct temperature, mix well and filter. Determine the sugar in 100 ml of the filtrate by the method described in paragraph 8.22.

### **8.212 When the substance is in liquid form**

Weigh to the nearest mg about 5 g of the sample and wash with water into a 250 ml volumetric flask using about 200 ml water. To clear the solution add 5 ml zinc acetate solution. Mix, then add 5 ml potassium ferrocyanide solution, again mix, dilute to 250 ml, mix and filter. Determine the sugar in 25 ml of the filtrate by the method described in paragraph 8.22.

## **8.22 Determination of the sugar content**

8.221. Transfer the measured volume of filtrate obtained as described in paragraph 8.211 or paragraph 8.212 to a 300 ml beaker, add 15 ml N hydrochloric acid, dilute to 150 ml with water, cover with a watch glass and heat to boiling point. Continue to boil for two minutes, cool, add two or three drops of phenolphthalein indicator solution, just neutralise with 10% sodium hydroxide solution, transfer to a 200 ml volumetric flask and dilute to 200 ml. Filter if necessary.

### **8.222 Preliminary Estimation**

(This estimation is usually necessary where the percentage of sugar is unknown.)

- Transfer exactly 10 ml Fehling's solution to a 250 ml conical flask and add 20 ml water. Add from a burette approximately 10 ml of the filtrate prepared as described in paragraph 8.221, heat to boiling point and boil briskly for one minute. Add three drops of methylene blue solution and titrate from the burette at the rate of 1 ml per fifteen seconds until the blue colour is discharged, the

contents of the flask being kept boiling throughout the titration. Note the total number of ml required and call this X ml. This titration should not be outside the range of 15 - 40 ml otherwise the determination should be repeated using a more appropriate volume of the filtrate.

### **8.223 Exact Determination**

To a 10 ml Fehling's solution in a 250 ml conical flask add from a burette (X - 1) ml of the filtrate prepared as described in paragraph 8.221, together with sufficient water to make a total volume of 60 ml. Heat to boiling point, boil briskly for one and a half minutes and add three drops of methylene blue solution. Titrate from the burette at the rate of approximately 0.25 ml per fifteen seconds until the blue colour is discharged, the contents of the flask being kept boiling briskly throughout the titration which must not take more than one and a half minutes. Then the total number of ml used in the determination equals the sugar equivalent of 10 ml Fehling's solution.

10 ml Fehling's solution = 0.0525 g invert sugar.

Not more than 1 ml of filtrate should be required for the completion of the titration. If more than 1 ml is required, then the determination should be repeated using a more closely calculated volume of filtrate for the original addition. The time taken from the initial boiling point until the end of the titration should be about three minutes. If this time is exceeded by more than about twenty seconds, the titration should be repeated.

The total copper reducing power should be calculated as invert sugar and multiplied by 0.905 give sucrose.

NOTE: The Fehling's solution may be standardised as follows:

Dissolve 2.375 g sucrose (dried at 100°C) in about 100 ml water in a 300 ml beaker, add 15 ml N hydrochloric acid and sufficient water to give a volume of 150 ml. Heat to boiling point, boil for two minutes, cool, add two or three

drops of phenolphthalein solution, just neutralise with 10% sodium hydroxide solution, transfer to a 500 ml volumetric flask and dilute to 500 ml. Then follow the procedure described in paragraph 8.223.

1 ml of this solution - 0.00475 g sucrose = 0.005 g invert sugar, i.e., 10 ml Fehling's solution = 10.5 ml of this standard invert sugar solution.

## **9. Determination of Salt**

### **9.1 Reagent**

Calcium oxide - finely ground - this reagent must be free from chloride.

### **9.2 Procedure**

Weigh to the nearest mg about 5 g of the sample, mix with 1 g calcium oxide and wet with water to a thick paste. Dry the mixture, grind to a fine powder and heat to a temperature not exceeding 500°C until all the organic matter has been thorough charred. Extract the residue with repeated portions of hot water, filter, cool the filtrate and dilute to 250 ml in a volumetric flask. Determine the chloride in an aliquot part of the filtrate and express the result in terms of sodium chloride (NaCl).

## **10. Determination of Ash**

Weigh to the nearest mg from 2 to 5 g of the sample, incinerate at a temperature not exceeding 500°C until the carbon has been destroyed. Cool, weigh and regard as ash.

## **11. Determination of Calcium**

Calcium may be determined by the oxalate method or, alternatively, by the atomic absorption spectrophotometric method.

## 11.1 Oxalate Method

### 11.11 Reagents

Ammonia solution, 2% v/v dilute 25 ml concentrated ammonia solution (d = 0.91) with water to 1 litre.

Ammonium acetate solution - dissolve 500 g ammonium acetate in 500 ml water.

Ammonium oxalate solution - saturated aqueous solution.

Bromocresol green indicator solution - dissolve 0.05 g bromocresol green in 20 ml ethanol and dilute with water to 100 ml.

Citric acid - monohydrate.

Hydrochloric acid, 50% v/v - dilute 50 ml concentrated hydrochloric acid (d - 1.18) with water to 100 ml.

Potassium permanganate, 0.1 N.

Sulphuric acid, 20% v/v - cautiously add 100 ml concentrated sulphuric acid (d - 1.84) to 400 ml water, and, while hot, add 0.1 N potassium permanganate drop by drop until a faint pink colour persists.

### 11.12 Dissolution of the sample

Weigh to the nearest mg, about 5 g of the sample into a platinum or silica basin and incinerate at a temperature not exceeding 500°C until all the organic matter has been destroyed. Allow to cool moisten the ash with water and cautiously add 10 ml 50% v/v hydrochloric acid, avoiding loss by use of a cover glass. Wash the cover glass with water, adding the washings to the basin and evaporate

to dryness. Continue heating for at least one hour to dehydrate any silica which may be present. Cool, add 20 ml water and 10 ml 50% v/v hydrochloric acid, bring to the boil and filter into a 250 ml volumetric flask. Wash the basin the filter with hot water collecting the washings in the flask. Cool, make up to volume and mix.

### 11.13 Procedure

Transfer an aliquot of the filtrate, containing about 40 mg Ca, to a 400 ml beaker and add water to make the volume approximately 150 ml. Add sufficient bromocresol green indicator, 1 - 2 g citric acid, and ammonium acetate solution drop by drop until the colour changes to yellow-green (pH 4.0). Bring the solution to the boil and while boiling, slowly add with stirring 20 ml boiling ammonium oxalate solution. Digest the mixture at boiling point for fifteen minutes, allow to cool and stand for at least four hours. Decant the supernatant liquid through a sintered glass crucible (porosity 4). Wash down the sides of the beaker with hot water, stir up the calcium oxalate precipitate and allow to settle. Decant the supernatant liquid through the sintered glass crucible. Transfer the precipitate to the sintered glass crucible with 2% v/v ammonia solution and wash the beaker and crucible with 2% v/v ammonia solution until the washings are free from chloride. Remove the crucible and carefully rinse the outside with water, discarding the rinsings. Transfer the bulk of the precipitate to the original beaker and wash the remainder through with hot 20% v/v sulphuric acid, adding the washings to the beaker. Add 70 - 80 ml boiling water and mix to dissolve the precipitate. Heat the contents to 75 - 80°C and titrate with 0.1 N potassium permanganate until a faint pink colour persists for thirty seconds, transferring the crucible to the beaker towards the end of the titration.

1 ml 0.1 N  $\text{KMnO}_4$  = 2.0 mg calcium

## 11.2 Atomic Absorption Spectrophotometric Method

### 11.21 Apparatus

Atomic absorption spectrophotometer.

Calcium hollow-cathode lamp.

### 11.22 Reagents

Calcium stock solution - dry calcium carbonate at 105°C for one hour. Transfer 2.497 g into a 1 litre volumetric flask using approximately 100 ml water. Add slowly with swirling 60 ml N hydrochloric acid. When all the calcium carbonate has dissolved, dilute to 1 litre with water. 1 ml = 1 mg calcium.

Calcium dilute solution - dilute 20 ml calcium stock solution to 200 ml. 1 ml = 100 ug calcium.

Calcium working standard solutions - add 10 ml releasing agent to each of six 100 ml volumetric flasks. Measure 0, 3, 6, 9, 12, 15 ml dilute calcium solution (1 ml = 100 ug calcium) into the flasks and dilute to 100 ml with water. The flasks contain 0, 3, 6, 9, 12, 15 ug Ca per ml respectively.

Lanthanum oxide solution (releasing agent) - wet 117.3 g lanthanum oxide,  $\text{La}_2\text{O}_3$ , low in calcium with water. Add 350 ml concentrated hydrochloric acid (d - 1.18) slowly, and shake until all the lanthanum oxide is dissolved. Allow to cool and dilute to 1 litre with water.

### 11.23 Procedure

Set up the instrument using the line at 422.7 nm. Use a fuel rich flame. Add releasing agent and wafer to a suitable aliquot of the sample solution, prepared in accordance with paragraph 11.12 to produce a standard volume of solution to contain between 5 and 10 ug of calcium per ml and 10% v/v releasing agent. Prepare a blank solution from which only the sample has been omitted. Spray water into the frame and zero the instrument. Spray successively, in triplicate, the standard solutions, sample and blank, washing the instrument through with water between each spraying. Plot the mean reading obtained for each standard solution against its calcium content. Determine the calcium content of the sample and blank solutions from the graph and from the difference



between them calculate the calcium content of the sample. If a number of samples is being examined, one or more standard solutions must be resprayed at intervals during the course of the analyses.

## **12. Determination of Copper**

Copper may be determined by the diethyldithiocarbamate spectrophotometric method or alternatively by the atomic absorption spectrophotometric method.

### **12.1 Diethyldithiocarbamate Spectrophotometric Method**

#### **12.11 Reagents**

Ammonia solution, approximately 6 N - this may be prepared by passing gaseous ammonia into distilled water, or by purifying ammonia solution as described for EDTA-citrate solution below.

Carbon tetrachloride, redistilled.

Copper sulphate, stock solution - dissolve 0.393 g sulphate,  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ , in 100 ml 2 N sulphuric acid and dilute to 1 litre at 20°C with distilled water.

Copper sulphate standard solution - dilute 5 ml stock solution to 250 ml with 2 N sulphuric acid at 20°C immediately before use. 1 ml = 2 mg copper.

EDTA-citrate solution - dissolve 20 g ammonium citrate and 5 g of the disodium salt of ethylenediamine-tetra-acetic acid (EDTA) in distilled water and dilute to 100 ml. To purify, add 0.1 ml sodium diethyldithiocarbamate solution and extract with carbon tetrachloride. Add a further quantity of sodium diethyldithiocarbamate solution to ensure that it is in excess.

Sodium diethyldithiocarbamate solution - dissolve 1g sodium diethyldithiocarbamate in distilled water and dilute to 100 ml. Filter the solution if it is not clear. Store the solution in the dark in a refrigerator and discard after

seven days.

Sodium hydroxide, 0.1 N.

Sulphuric acid, 2 N.

Thymol blue indicator solution - dissolve 0.1 g thymol blue in 2.15 ml 0.1 N sodium hydroxide and dilute to 100 ml with water.

### **12.12 Preparation of sample**

Grind the sample to pass a stainless steel sieve having apertures about 1 mm square. With some materials, fine grinding may lead to loss or gain of moisture, and allowance for this must be made. Grinding should be as rapid as possible and unnecessary exposure to the atmosphere avoided.

A moisture determination should be carried out on the sample “as received” and again on the sample after grinding, before analysis.

### **12.13 Dissolution of the sample**

Weigh to the nearest mg about 10 g of the sample into a silica basin, cover with a silica clock glass, and place in a cool muffle furnace. Raise the temperature to  $450 + 10^{\circ}\text{C}$ , and allow to wash overnight; a slow movement of air through the furnace during the initial stages of ashing is desirable. In the case of high-fat materials, care must be taken to avoid ignition of the sample.

When all the organic matter has been destroyed, cool, add 10 ml 50% v/v hydrochloric acid, and evaporate to dryness on a water bath. Extract the soluble salts from the residue with two successive 10 ml portions of boiling 2 N hydrochloric acid, decanting the solution each time through the same Whatman No. 451 (or equivalent) filter paper into a 50 ml volumetric flask. Then add 5 ml 50% hydrochloric acid and about 5 ml 30% v/v nitric acid to the residue in the basin, and take the mixture to dryness on a hot-plate at low heat. Finally,

add a further 10 ml boiling 2 N hydrochloric acid to the residue and filter solution through the same paper into the flask. Dilute the combined extracts to the mark with distilled water, washing the filter paper in the process.

**12.14 Procedure**

Transfer to a separating funnel a suitable aliquot (containing not more than 50 ug of copper) of the solution prepared in accordance with paragraph 12.13. Add 10 ml EDTA-citrate solution, two drops thymol blue indicator solution and ammonia solution until the mixture is coloured green or bluishgreen. Cool the mixture, add 1 ml sodium diethyldithiocarbamate solution and, from a burette, 15 ml carbon tetrachloride. Stopper the funnel, shake vigorously for two minutes and allow the layers to separate. Place a piece of cotton-wool in the stem of the funnel and run off the carbon tetrachloride layer into a dry spectrophotometer cell. Avoid undue exposure of the solution to light.

Simultaneously with the test determination, carry out a blank determination on all the reagents used.

Measure immediately the extinctions of the test and blank solutions at a wavelength of 436 nm, using carbon tetrachloride in the comparison cell. Read from a previously prepared calibration graph the number of the micrograms of copper corresponding to the observed extinctions of the test and blank solutions, and so obtain by difference the net measure of copper in the sample.

Establish the calibration graph as follows:

To a series of separating funnels transfer 10 ml EDTA-citrate solution and the following amounts of standard copper solution and 2 N sulphuric acid-

Copper solution .....	0	1	2.5	5	10	15	20	25 ml
2 N sulphuric acid ...	25	24	22.5	20	15	10	5	0 ml

Proceed as for the test solution, as described above, commencing at “two drops thymol blue . . . .”. Measure the extinctions of the solutions and construct a graph relating the extinctions to the number of micrograms of copper.

## **12.2 Atomic Absorption Spectrophotometric Method**

### **12.21 Apparatus**

Atomic absorption spectrophotometer.

Copper hollow-cathode lamp.

### **12.22 Reagents**

Copper sulphate standard solution - dissolve 0.393 g copper sulphate,  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ , in 0.5 N hydrochloric acid and dilute to 100 ml with 0.5 N hydrochloric acid. 1 ml - 1 mg copper. Dilute this solution as required.

Hydrochloric acid, 0.5 N.

### **12.23 Procedure**

Set up the instrument using the line at 324.7 nm. Prepare from the standard copper solution a series of solutions, in 0.5 N hydrochloric acid, containing between 0 and 10 ppm copper. Dilute a suitable aliquot of the sample solution, prepared in accordance with paragraph 12.13, with 0.5 N hydrochloric acid to produce a standard volume of solution containing between 0 and 10 ppm copper. Prepare a blank solution from which only the sample has been omitted. Spray distilled water into the flame and zero the instrument. Spray successively, in triplicate, the standard solutions, sample and blank, washing the instrument through with distilled water between each spraying. Record the galvanometer deflection, or the peak height on the recorder if a recording instrument is used. Plot the mean reading obtained for each standard solution against its copper content. Determine the copper content of the sample and blank solutions from

the graph and from the difference between them calculate the copper content of the sample.

If a large number of samples is being examined one or more standard solutions must be resprayed at intervals during the course of the analyses.

### 13. Determination of Magnesium

Magnesium may be determined by the pyrophosphate method or, alternatively, by the atomic absorption spectrophotometric method.

#### 13.1 Pyrophosphate Method

##### 13.11 Reagents

Ammonia solution, (d-0.91).

Ammonia solution, 5% v/v - dilute 5 ml concentrated ammonia solution (d - 0.91) with water to 100 ml.

Ammonium oxalate solution - saturated aqueous solution.

Ammonium phosphate solution - dissolve 20 g diammonium hydrogen phosphate,  $(\text{NH}_4)_2\text{HPO}_4$ , in water and dilute to 100 ml.

Calcium wash solution - dissolve 1 g oxalic acid,  $(\text{COOH})_2 \cdot \text{H}_2\text{O}$  and 2 g ammonium oxalate in water and dilute to 1,000 ml.

Citric acid - monohydrate.

Hydrochloric acid, concentrated (d = 1.18).

Hydrochloric acid, 20% v/v - dilute 20 ml concentrated hydrochloric acid (d - 1.18) with water to 100 ml.

Methyl red indicator solution - dissolve 0.025 g methyl red in 5 ml 90% industrial

methylated spirit with the aid of 0.5 ml 0.1 N sodium hydroxide. Dilute to 250 ml with 50% industrial methylated spirit.

Oxalic acid solution - dissolve 10 g oxalic acid,  $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ , in water and dilute to 100 ml.

### 13.12 Dissolution of the sample

Prepare a solution of the sample as described in paragraph 12.13.

### 13.13 Procedure

Transfer a suitable aliquot (containing approximately 50 mg magnesium) of the solution, prepared in accordance with paragraph 12.13, to a 500 ml beaker, and add 5% v/v ammonia solution until a slight precipitate is formed. Add citric acid, in small portions, until the precipitate just dissolves, and then 1 g in excess. Heat the solution to  $50^\circ\text{C}$ , add 0.2 ml (four drops) methyl red indicator solution. Neutralise with 5% v/v ammonia solution, and add 1 ml in excess. Add oxalic acid solution until the mixture is just acid, and then 10 ml in excess. Boil the solution for one to two minutes, add 50 ml saturated ammonium oxalate solution, dilute if necessary, to about 200 ml with distilled water, boil for a further minute, and heat on a water bath for at least one hour. Filter through a Whatman No. 40 (or equivalent) filter paper, wash the residue thoroughly with calcium wash solution.

Combine the filtrate and washings, measure the volume, transfer to a beaker and add, while stirring with a glass rod (avoid touching the sides of the beaker with the rod), 20 ml ammonium phosphate solution. While stirring continuously throughout, neutralise the solution with ammonia solution added drop by drop from a burette and add 20 ml in excess, together with a further 10 ml ammonia solution for each 100 ml of solution in the beaker. Set the beaker aside for at least four hours or, preferably, overnight.

Filter through a No. 4 sintered silica crucible and wash the residue with cold

5% v/v ammonia solution, ensuring that any precipitate adhering to the sides of the beaker and the glass rod is transferred to the crucible. Dry the crucible and residue, transfer to a cool muffle furnace, slowly raise the temperature to 950°C, and heat at this temperature for a half to one hour. Allow the crucible to cool in a dessicator and weigh. Calculate the weight of the precipitate to its equivalent of magnesium by multiplying its weight by 0.2184.

## 13.2 Atomic Absorption Spectrophotometric Method

### 13.21 Apparatus

Atomic absorption spectrophotometer.

Magnesium hollow-cathode lamp.

### 13.22 Reagents

Hydrochloric acid, 0.5 N.

Magnesium sulphate standard solution - dissolve 1.013 g magnesium sulphate,  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ , in 0.5 N hydrochloric acid. 1 ml = 1 mg magnesium. Dilute this solution as required.

Strontium chloride solution - dissolve 15 g strontium chloride,  $\text{SrCl}_2 \cdot 6\text{H}_2\text{O}$ , in 0.5 N hydrochloric acid and dilute to 100 ml with 0.5 N hydrochloric acid.

### 13.23 Procedure

Set up the instrument using the line at 285.2 nm. Prepare from the standard magnesium solution a series of solution, in 0.5 N hydrochloric acid, containing between 0 and 3 ppm magnesium (see note). Dilute a suitable aliquot of the sample solution, prepared in accordance with paragraph 12.13, with 0.5 N hydrochloric acid to produce a standard volume of solution containing between

0 and 3 ppm magnesium (see note). Prepare a blank solution from which only the sample has been omitted (see note). Spray distilled water into the flame and zero the instrument. Spray successively, in triplicate, the standard solutions, sample and blank, washing the instrument through with distilled water between each spraying. Record the galvanometer deflection, or the peak height on the recorder if a recording instrument is used. Plot the mean reading obtained for each standard solutions against its magnesium content. Determine the magnesium content of the sample and blank solutions from the graph and from the difference between them calculate the magnesium content of the sample. If a large number of samples is being examined one or more standard solutions must be resprayed at intervals during the course of the analyses.

NOTE: If the sample contains phosphate add strontium chloride solution, at the rate of 5 ml for each 50 ml diluted sample solution, before adjusting to standard.

#### FIFTH SCHEDULE

##### PERMITTED ADDITIVES AND PROVISIONS RELATING TO THEIR USE

1. Subject to the following provisions of this Schedule, no material intended for use as a feeding stuff shall contain-
  - (a) any other antioxidant other than an antioxidant of a name and description specified in Part I of the Table in this Schedule nor any added antioxidant of name and description so specified in proportions which, taking account of any such antioxidant which is normally present, exceed 150 parts per million in whole feeding stuffs either separately or in combination with other antioxidants so specified;
  - (b) any added colourant other than a colourant of a name specified in Part II of the Table to this Schedule nor in the case of material intended for use as a feeding stuff for poultry any added colourant of a name specified in section A of the said Part II of the Table to this Schedule in propor-



tions, which, taking account of any such colourant which is naturally present, exceed eighty parts per million in the whole feeding stuff either separately or in combination with other colourants so specified;

- (c) any added emulsifier, stabiliser or binder other than an emulsifier, stabiliser or binder of a name or description specified in Part III of the Table to this Schedule;
- (d) any added vitamin D2 or vitamin D3, save that material intended for use as a feeding stuff for any animal of a kind specified in the second column of.
  - (i) Section A Part IV of the Table to this Schedule may contain vitamin D2 or D3 (but not both added) in proportions which taking account of any such vitamin which is naturally present, do not exceed those specified in the third column thereof in relation to kind of animal;
  - (ii) Section B of the said Part IV may contain vitamin D3 in proportions which taking account of any vitamin D3 which is naturally present, do not exceed those specified in relation thereto in the third column thereof in relation to the kind of animal.
- (e) any added substance of a description specified in the first column of Part V of the Table to this Schedule in proportions which, taking account of any such substance which is naturally present, exceed those specified in relation thereto in the second column of the Table;
- (f) any added copper save that intended for use as a feeding stuff-
  - (i) for pigs may contain copper (whether naturally present or added) in proportions not exceeding one hundred parts per million;

- (ii) for any other kind of animal other than pigs or sheep may contain copper (whether naturally present or added) in proportions not exceeding fifty parts per million;
- (iii) for sheep (whether natural or added) not exceeding twenty-five parts per million;
- (g) any added urea save that intended for use as a feeding stuff for bulls, cows, steers, heifers, calves, sheep or goats may contain urea.

2. If the material is intended for mixing with other materials before use as a feeding stuff and it contains any added substance mentioned in Part I, II, IV or V of the Table to the Schedule or added copper in proportions which, taking account of any substance or copper which is naturally present, do not exceed in each case five times the maximum content specified in relation to the substance in paragraph 2 above or in the Table below, that material may be imported into Belize or sold or processed with a view to sale for use as a feeding stuff if it is marked with the following statement "Feeding Stuffs Regulations. This feeding stuff may only be used for (X) up to a quantity of (Y) grammes per kilogramme." The statement shall be completed by inserting at (X) the kind and, if appropriate the age group of the animal for which the material is intended and at (Y) by inserting such a figure that if the statement is put into effect, the material used as a feeding stuff will comply with the preceding provisions of this Schedule. In this statement they may be substituted for the words "grammes per kilogramme; the symbol "lb per cwt" or "lb per ton".

3. If the material containing any added iron, iodine, cobalt, manganese, selenium, zinc, vitamins (other than vitamins A, D or E) or pro-vitamins, in conformity with the provisions of this Schedule is marked with a statement, additional to the statutory statement required by section 4, containing the name and statement of the total amount present (whether naturally present or added) if any iron, iodine, cobalt, manganese, selenium, zinc, vitamins (other than vitamins A, D or E) or pro-vitamins respectively it shall be marked in a manner specified in section 4.

4. The drugs mentioned in Part VI to this Schedule shall be permitted drugs for the purposes of this Schedule.

TABLE

PART I

PERMITTED ANTIOXIDANTS

<i>Name</i>	<i>Chemical Description</i>
Octyl gallate .....	Octyl 3, 4, 5-trihydroxybenzoate
Dodecyl gallate .....	Dodecyl 3, 4, 5-trihydroxybenzoate
N-propyl gallate .....	N-propyl 3, 4, 5-trihydroxybenzoate
BHA .....	Mixture of 3- and 2-tertbutyl 4-hydroxyanisole
BHT .....	2, 6-di (tert-butyl)-4-methylphenol
Ethoxyquin .....	6-ethoxy-1,2-dihydroxy-2, 2-4-trimethylquinoline

## PART II

## PERMITTED COLOURANTS

<i>Section A</i>	<i>Section B</i>
Capasanthin .....	Patent Blue V
Lycopen .....	Curcumin
Beta-8,-apo-carotenal .....	Amaranth
Ethyl ester of beta-8-apocarotenoic acid	Tartrazine
Lutein .....	Orange G
Cryptoxanthin .....	Green S
Violaxanthin .....	Indigo carmine
Canthaxanthin .....	Brilliant Black (Black PN)
Zeaxanthin .....	Carmoisine
	Ponceau 4R
	Sunset Yellow FCF
	Brown KF
	Red 6B

## PART III

## PERMITTED EMULSIFIERS, STABILIZERS AND BINDERS

Lecithin, alginic acid, sodium alginate, potassium alginate, ammonium alginate, calcium alginate, 1,2-dihydroxypropyl alginate, agar-agar, carragen, carob seed flour, tamarind seed flour, guar, guar gum, guar seed flour, gum tragacanth, gum arabic, sorbitol, mannitol, glycerol, pectin, methyl cellulose, carboxymethyl cellulose, hydroxy-propyl-methyl cellulose, ethyl methyl cellulose, sodium,

potassium or calcium salts of food fatty acids derived from edible oils and fats, or from distilled food fatty acids, mono and di-glycerides of food fatty acids, mono- and di-glycerides of food fatty acids esterified with the following acids:

acetic, lactic, citric, tartaric and mono-acetyltartaric and dicetyl-tartaric, sucrose esters of food fatty acids, sucro-glycerides of mono- and diglycerides of food fatty acids, polyglycerol esters of the nonpolymerised fatty acids, propylene glycolesters of the food fatty acids, sodium stearoyl-2-lactylate, calcium stearoyl-2-lactylate, lignosulphonates, koalin, bentonites and other montmorillonite c lays, silica, silicates, gelatine, sodium hexametaphosphate, sorbitan esters, polyoxethylene sorbitan esters, disodium ethylenediamine tetraacetate, vermiculite and esters of polyethylene glycol.

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PART IV

VITAMINS D

<i>Vitamin</i>	<i>Kind of Animal</i>	<i>Maximum content (International Units per kilogramme in the whole feeding stuff)</i>
SECTION A		
	Pigs	2,000
	Piglets	10,000 in milk replacer feeds only
Vitamin D2	Cattle	4,000
or	Calves	10,000 in milk replacer feeds only
Vitamin D3	Sheep	4,000
	Lambs	10,000 in milk replacer feeds only
	Horses	4,000
	Other kinds except poultry	2,000

## SECTION B

Vitamin D3	Laying hens	3,000
	Poultry other than laying hens	2,000

Note: In this part of the table “milk replacer feed” means a manufactured feed used as a substitute for natural milk.

## PART V

## TRACE ELEMENTS

<i>Elements</i>	<i>Maximum Contents</i> <i>(Part per million in whole feeding stuff)</i>
Iron .....	1,250
Iodine .....	40
Cobalt .....	10
Manganese .....	250
Zinc .....	250
Molybdenum .....	2.5
Selenium .....	0.5

PART VI

PERMITTED DRUGS

Amprolium  
Sulphaquinoxaline

NOTE 1: In the case of material of any description specified in the first column of Part II of this Schedule, the Statutory Statement shall contain the particulars, or in the case of any feed supplement the instructions as to handling or use, specified in relation to that material in the second column hereof and also, where there has been added in the course of manufacture or preparation for sale-

- (a) any copper or magnesium, a statement of the total present (whether naturally present or added) or any copper (if present in excess of fifty parts per million) or magnesium (if present in excess of 0.5 %);
- (b) any antioxidant or colourant, either the words “contains permitted antioxidant” or “contains permitted colourant” as appropriate, or the name of the antioxidant or colourant;
- (c) any vitamin A, D or E, the name of the vitamin and a statement of the total amount present (whether naturally present or added) and an indication of the period during which that amount will remain present;
- (d) any trace element named in Part V of the Fifth Schedule, a statement of the total amount of trace elements present (whether naturally present or added);

any amount referred to-

- (i) in sub-paragraph (a) above shall be expressed as a percentage by weight (unless the amount present is less than 0.1% by weight in which case it shall be expressed in parts per million);

- (ii) in sub-paragraph (c) above shall be expressed in international units per kilogramme or units per kilogramme;
- (iii) in sub-paragraph (d) above shall be expressed in parts per million.

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SIXTH SCHEDULE

MANNER OF TAKING, DIVIDING, MARKING, SEALING AND  
FASTENING OF SAMPLES

Sections 9 (1) and (2)

PART I

PROVISIONS APPLICABLE TO BOTH FERTILIZERS AND FEEDING  
STUFFS

**A. General Provisions**

1. In the case of material in any form of package, only unopened packages which appear to the inspector to be the original packages of the material shall be selected for the purpose of the sample.
2. Samples shall not be drawn from any part of the sampled portion which appears to have been damaged.
3. An inspector who proposes to take a sample shall satisfy himself that the conditions in which the material is stored are not such as may cause deterioration of the material and that the material appears not to have been



contaminated by any other material.

4. In every case the sampling shall be done quickly as possible, consistent with due care, and the material shall not be exposed any longer than is necessary.

**B. Provisions applicable where the fertilizer or feeding stuff is in solid condition.**

5. It shall be assumed that the sampled portion is composed of separate approximately equal parts and the number of such parts is equivalent to-

- (a) the number of packages to be selected in accordance with paragraph 1 (a) of Part II of this Schedule; or
- (b) the number of portions, where the sampled portion is in bulk, to be taken in accordance with paragraph 1 (b) of this Schedule.

The packages or portions shall be selected on the basis of at least one from each assumed approximately equal part and shall be drawn at random.

6. Where material in packages which an inspector has reasonable cause to believe has been purchased, not for resale in the course of trade but for the purpose of use as a fertilizer or feeding stuff, as the case may be, has been delivered to the purchaser and is to be sampled but some of the consignment is no longer present the number of packages to be selected shall be calculated as if not less than the whole consignment were still present.

7. Notwithstanding anything in these Regulations, a sampling spear shall not be used if objection is raised thereto prior to taking of the sample on the ground that the material is unsuitable.

**Provisions applicable where the fertilizer or feeding stuff is in a liquid or semi-liquid condition**

- 8.
- (a) In bottles or containers each not containing more than one quart. The number of bottles or containers to be selected shall be taken at random in accordance with the appropriate scale for solid fertilizers in paragraph 1 (a) of Part II of this Schedule. The entire contents of the selected containers shall be emptied into a clean dry vessel and well mixed. From this mixture a sample of between one and two litres shall be drawn.
  - (b) In containers of more than one litre and not more than 200 litres. The number of containers to be selected shall be taken at random in accordance with the appropriate scale for solid fertilizers in paragraph 1 (a) of Part II of this Schedule. The selected containers shall be well shaken. An approximately equal portion of liquid shall then be taken immediately from each of the selected containers and emptied into a clean dry vessel. From this mixture a sample of between one and two litres shall be taken immediately after the mixture has been thoroughly mixed.
  - (c) In a bulk container or containers containing more than 200 litres.
    - (i) If the liquid is homogenous, about one litre shall be drawn from a convenient outlet in the container, into a clean dry vessel, after running off sufficient of the liquid to ensure removal of any residues in the outlet.
    - (ii) If the liquid is not homogenous the contents must be stirred thoroughly and the sampling proceed as in sub-paragraph (i).
    - (iii) When the sampled portion consists of two or more containers,

a sample from each, drawn in the manner described in subparagraph (i) or (ii), as appropriate, shall be placed in a clean dry vessel. After thorough mixing of a sample of about one litre shall be transferred to a clean dry vessel.

TABLE

Quantities of liquid or semi-liquid fertilizers or semi-liquid fertilizers and feeding stuffs to be withdrawn in accordance with sub-paragraph (c) (iii)

<i>Where the sampled portion</i>	<i>Quantity to be withdrawn</i>
does not exceed 5,000 litres	not less than one litre
does not exceed 50,000 litres	not less than two litres
exceeds 50,000 litres	not less than ten litres

PART II

PROVISIONS APPLICABLE TO SOLID FERTILIZERS

1. (a) Where the fertilizer is in packages, a number of packages shall be selected in accordance with the following table:

	<i>No. of packages to be selected for sampling each package</i>
Where the sampled portion consists of up to three packages .....	3
Where the sampled portion consists of more than three but not more the twenty packages .....	4
Where the sampled portion consists of more than twenty but not more than sixty packages .....	6

*No. of packages to be  
selected for sampling  
each package*

Where the sampled portion consists of more than sixty but not more than one hundred packages...	8
Where the sampled portion consists of more than one hundred but not more than four hundred packages	10
Where the sampled portion consists of more than four hundred packages .....	20

Where the number of packages has been selected in accordance with the sub-paragraph either-

- (i) the selected packages shall be emptied separately on a clean surface and well mixed with a shovel and one shovel full taken from each and the shovelful so taken then be thoroughly mixed;
- (ii) when the material is of suitable nature, a portion shall be taken from each selected package by means of a closed sampling spear and the separate portions so taken shall be thoroughly mixed.

From the mixture so obtained, the sample shall be drawn in the following manner-

Heap the material to form a “cone”, flatten the cone and quarter it. Reject two diagonally opposite quarters, mix the remainder and continue quartering and rejection until the remainder is from 500 g to 1,000 g in weight. Alternatively the reduction in size of the gross sample by the quartering method may be effected by the use of a mechanical device known as a sample divider or riffle.

(b) In bulk-

Where the fertilizer is in bulk, a number of portions shall be taken by a shovel or a closed sampling spear as follows:

Where the sampled portion does not exceed 100 kg .....	not less than 1 per 25 kg or part thereof
Where the sampled portion exceeds 100 kg but does not exceed 1,000 kg .....	not less than 6
Where the sampled portion exceeds 1,000 kg but does not exceed 10,000 kg .....	not less than 20
Where the sampled portion exceeds 25,000 kg .....	not less than 40

The portions, according to whether they have been taken by a shovel or spear, shall be treated in the manner described in paragraph 1(a) and the sample drawn in the manner described in that paragraph.

Where the fertilizer is in a coarse condition the shovelsful shall be crushed immediately and the final sample after quartering amount of about 1,000 to 1,500 g. Where the fertilizer is bulky or uneven in character special attention must be made to ensure representative sampling.

PART III

PROVISIONS APPLICABLE TO SOLID FEEDING STUFFS

1. The sample shall be taken in the manner prescribed for a fertilizer in paragraphs 1 (a) or 1 (b) of Part II in this Schedule, where the feeding stuff is in the state of small lumps or meal.

2. Where the feeding stuff is in the form of cake, whether in bags or bulk.

A number of cakes shall be selected from the different parts of the sampled portion equivalent to the number of portions taken in accordance with paragraph 1 (b) of Part II of this Schedule. The selected cakes shall be broken by a cake breaker or in some other manner so that the whole will pass through a sieve with meshes one and a quarter inch square and then shall be thoroughly mixed. From the mixture so obtained, a sample of not less than 3 kg shall be drawn in the manner described in paragraph 1 (a) of Part II of this Schedule.

3. Where the feeding stuff is in the form of feed blocks or mineral blocks. One block shall be selected irrespective of the size of the sampled portion. From this block a sample of 500 g to 1,000 g shall be taken in any manner.

4. Where the feeding stuff consists of particles grossly differing sizes before the final sample is taken any lumps shall be crushed (and for this purpose may be separated from other materials) and then the whole thoroughly remixed. From the mixture a sample of 500 g to 1,000 g shall be drawn.

5. Where a portion of the feeding stuff is unsuitable for feeding purposes. Where any appreciable portion of the feeding stuff appears to be mouldy, or is otherwise apparently unsuitable for feeding purposes, separate samples shall be drawn of the unsuitable portion and of the residue of the feeding stuff, respectively, and in the case of unsuitable cakes, the sample may consist of several large pieces representative thereof.

#### PART IV

##### DIVISION, MARKING, SEALING AND FASTENING OF SAMPLE

1. Where the sample has been taken in the prescribed manner the person taking the sample shall divide it into three parts, as nearly equal as possible, in the following manner:

(a) *In the case of dry or powered substances:*

The samples, drawn as prescribed in the foregoing paragraphs, shall be thoroughly mixed on a sheet which will adequately protect the sample from accidental contamination and divided into three approximately equal parts. Each of these parts shall be placed in a clean dry glass or plastic bottle with a close fitting lid so that the original composition of the fertilizer or feeding stuff may be preserved. In the case of materials which undergo change or pick up moisture on exposure to air, the bottle shall have an airtight closure, Each of the said parts shall be so secured and sealed that the bottle containing it cannot be opened without breaking the seal, or alternatively the bottle containing the part of the sample cannot be removed without breaking the seal or the envelope.

(b) *In the case of substance in a liquid or semi-liquid condition.*

The sample, drawn as described in the foregoing paragraphs, shall be thoroughly mixed and at once divided into three similar and approximately equal parts by pouring successive portions into three glass or plastic bottles with airtight stoppers.

2. Each of the parts shall be sealed and initialled by the person taking the sample. It may also be sealed or initialled by the person on whose premises the sample was taken, or his representative. Each part shall be marked with the name of the material the sampling and some distinguishing reference in such a manner that the particulars so marked can be seen without breaking the seal or seals.

**CHAPTER 211**

36/2000.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(CITRUS CERTIFICATION) REGULATIONS****ARRANGEMENT OF REGULATIONS**

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SCHEDULE 1

SCHEDULE 2

SCHEDULE 3

SCHEDULE 4

SCHEDULE 5

SCHEDULE 6

SCHEDULE 7

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**CHAPTER 211**

36/2000.

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(CITRUS CERTIFICATION) REGULATIONS**  
**[Sections 35, 86 and 88]**

*[8th April, 2000.]*

**WHEREAS**, nursery owners and the Government have acknowledged a serious threat facing the citrus industry in Belize;

**AND WHEREAS**, if unchecked, plant diseases such as the Citrus Tristeza Virus (CTV) will kill citrus trees throughout the country;

**AND WHEREAS**, it has become expedient to establish a mandatory certification programme for citrus, to consist of a registration system for nurseries to ensure that they follow certain procedures designed to prevent the spread of CTV and other graft and seed transmissible diseases, and a tag system of citrus trees, to permit tracing of the source and movement of each citrus tree sold in Belize;

**NOW, THEREFORE** it is hereby provided as follows:

Short title.

1. These Regulations may be cited as the

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(CITRUS CERTIFICATION) REGULATIONS.**

Interpretation.

2. (1) In these Regulations, unless the context otherwise requires:

“Belize Citrus Certification Programme” or “BCCP” means the mandatory programme outlined in these Regulations and the, Guidelines, applicable to all

persons propagating citrus in Belize;

“Board” means the Citrus Control Board established under the Citrus (Processing and Production) Act, or acting as its authorized representative, the Citrus Research and Education Institute (CREI) of the Belize Citrus Growers Association; CAP. 255.

“budwood” means a portion of a stem or branch with a vegetative bud or buds used in propagation for budding or grafting;

“budwood bundle” means an individually wrapped package of budwood cut from a single parent tree or from a group of quick multiplication block trees originating from a single parent tree;

“certified” means grapefruit, oranges, all other fruit of the genus citrus, and all citrus relatives;

“clone” means an asexually reproduced cultivar or variety, or a group of genetically uniform trees that have been propagated vegetatively from a single parent tree;

“graft and seed transmissible disease” means any disease agent spread by seed, vegetative and micro propagation, including known viruses, viroids, bacteria, spiroplasma, and other pathogens;

“FAO” means the Food and Agricultural Organisation;

“grower” means a person who cultivates citrus, on a large or small scale, for his or her own use or for commercial purposes;

“Guidelines” means the guidelines for growers and nursery owners outlining the requirements of the BCCP;

“Minister” means the Minister of Agriculture, Fisheries and Cooperatives;

“nursery” means any place where citrus trees are propagated;

“owner” means a person receiving rent for land, whether on his or her own account or as agent or representative for any other person, or the occupier of such land, meaning the person in actual occupation of any land;

“pre-multiplication blocks” means specially designated nursery propagation under protected conditions made to rapidly multiply supplies of budwood for multiplication blocks tree production;

“multiplication blocks” means specially designated nursery propagations under protected conditions made to rapidly multiply supplies of budwood for citrus tree production;

“seed” means a genetic reproduction unit following sexual recombination, which is used for the production of rootstocks for citrus propagation.

CAP. 211. (2) The Belize Agricultural Health Authority established under the Belize Agricultural Health Authority Act shall be the principal certifying agency pursuant to the Belize Agricultural Health Authority Act and in that capacity hereby delegates to the Board the power to administer these Regulations, so that, however, if any fees and penalties are to be paid to the Board, the Board shall pay to the Belize Agricultural Health Authority such portion of such fees or penalties as may be mutually agreed between the two entities and if the Board is required to issue any certificate or maintain any documents whatsoever, the Belize Agricultural Health Authority shall have the power to inspect such certificates and documents and to take whatever action it deems necessary as provided under the Belize Agricultural Health Authority Act.

Nursery  
registration.

3. (1) Every owner of a nursery in Belize intending to produce citrus trees shall register that nursery with the Board in accordance with the BCCP.

(2) Each nursery site shall be separately registered and assigned a nursery registration number.

(3) Registration shall be granted only to nurseries meeting the requirements specified in these Regulations and the Guidelines.

4. (1) For any nursery already in existence at the commencement of these Regulations, the owner shall have two years from that date to relocate or modify the nursery to meet the requirements for registration, and to register such nursery under the BCCP.

Registration of nurseries already in existence.

(2) After the time period referred to in subregulation (1) above has elapsed, no owner shall continue to operate any nursery not registered under the BCCP.

5. No person shall establish anew nursery on a site which may be contaminated with run-off water from other citrus plantings in the vicinity, or which has previously been planted with citrus, unless the Board certifies that the site meets the requirements specified in the Guidelines.

Rules for establishing new nurseries.

6. (1) Any person wishing to register a nursery shall for –

Application for registration.

(a) submit a Nursery Application Form as set out in the Schedule 1 hereto;

Schedule 1.

(b) pay the non-refundable fee specified in Schedule 7 hereto;

Schedule 7.

(c) sign a declaration agreeing to comply with the Guidelines.

(2) An application for an already existing nursery shall be submitted no more than two years after the commencement of these Regulations.

(3) An application for a new nursery shall be submitted at least two months before any sowing or planting is intended to commence at the site.

Application for re-registration.

7. An application for re-registration shall be made –

(a) in the same manner as the initial application, save and except that the fee shall be that specified in Schedule 7;

Schedule 7.

(b) at least two months before the-expiration of the current registration.

Inspection.

8. (1) Upon receipt of an application for registration or re-registration, the Board shall carry out an inspection of the nursery site, to determine whether it meets the requirements for registration under the BCCP.

Schedule 2.

(2) If the application is approved, the Board shall notify the applicant in writing an issue or reissue a Nursery Registration Certificate in the form set out in Schedule 2 hereto.

(3) Registration shall be valid for a period of time determined by the Board and as stated in the Guidelines.

Denial of registration and re-inspection.

9. (1) Where an application for nursery registration is denied, the Board shall issue a written notice to the applicant citing the reasons for the denial, and shall give the applicant an appropriate time frame to correct the problems cited in the notice.

(2) After the time frame referred to in subregulation (1) above has elapsed, the Board shall carry out a reinspection, approving the application if the problems have been corrected or denying the application if the problems have not been corrected.

(3) Where an application is not approved after the reinspection under subregulation (2) above, any further submission by an applicant wishing to register that nursery site shall be considered anew application and shall be accompanied by the non-refundable fee specified in Schedule 7 hereto.

Schedule 7.

10. A nursery registration certificate issued in respect of and any nursery pursuant to Regulation 8 (2) above may be suspended or cancelled by the Board where -

Suspension and cancellation of registration.

(a) an owner-

- (i) misrepresents any nursery stock as being certified;
- (ii) knowingly sells trees infected with a graft or seed transmissible disease;
- (iii) otherwise contravenes the provisions of these Regulations; or
- (iv) voluntarily requests such cancellation in writing.

(b) inspection by the Board reveals that the Guidelines are not being followed.

11. (1) Where nursery registration is suspended, the Board shall issue a written notice to the owner citing the reasons for the suspension, and shall give the owner an appropriate time frame to correct the problems cited in that notice.

Suspension of certificate and reinspection.

(2) After the time frame referred to in subregulation (1) has elapsed, the Board shall carry out a reinspection, reissuing the certificate if the problems

have been corrected.

Imported parent trees.

12. All parent trees shall be –

- (a) bearing citrus trees obtained as pathogen-free accessions from a clean stock programme that implements or complies with the FAO/IPGRI Guidelines for the Safe Movement of Citrus Germplasm or any other clean stock programme recommended by the Board;
- (b) tested for diseases specified in the Guidelines at intervals determined by the Board; and
- (c) maintained by the Board and at locations determined by the Board.

Local clones becoming parent trees.

13. (1) A local clone may become a parent tree upon recommendation by the Board, where it meets the requirements specified in the Guidelines.

(2) On selection of a local clone to become a parent tree, the Board shall collect appropriate propagating material and forward it as necessary to be treated and indexed to verify freedom from graft-transmissible diseases, and returned as a pathogen-free accession.

Testing of new parent tree accessions.

14. (1) For all new accessions of prospective parent trees, the Board shall carry out indexes specified in the Guidelines.

(2) Budwood testing negative to the diseases under subregulation (1) above may be conditionally released for propagation of quick multiplication block trees and certified citrus trees, but shall, be subject to recall and destruction



on the initiative of the Board, upon detection of a graft or seed transmissible disease.

15. (1) The cost of any actions taken under Regulation 12(b), 13(2), or 14(1) above borne shall be borne by the Board.

Costs of testing, by whom borne.

(2) The cost of any action taken under Regulation 14(2) shall be borne by the grower or nursery owner, but replacement budwood of the same type and amount as that originally provided shall be furnished free of charge by the Board.

16. (1) Every grower in Belize intending to produce citrus seed shall certify each prospective seed source tree in accordance with the BCCP.

Seed source tree certification.

(2) Each certified seed source tree shall be assigned a separate tree identification number.

17. (1) Any tree existing on the commencement of these Regulations may be certified by the Board as a seed source tree if it has borne fruit that is seed horticulturally true to type and has no evidence of bud mutations on the foliage.

Certification of already existing source trees.

(2) Application for certification of a tree referred to in subregulation (1) above shall be made

(a) within three months of the implementation date of the BCCP;

(b) in the same manner as application for a new seed source tree.

18. Any person wishing to apply for certification of a seed source tree under Regulation 16 or 17 above shall -

Application for certification of seed source trees.

- Schedule 4. (a) submit a Seed Source Tree Application Form as set out in Schedule 4 hereto at least eight months before the intended use of the seed;
- Schedule 7. (b) pay the non-refundable fee specified in Schedule 7;
- (c) sign a declaration agreeing to comply with the Guidelines.
- Application for recertification of seed source tree. 19. Application for re-certification shall be -
- (a) made in the same manner as the initial application;
- (b) submitted at least eight months before the expiration of the current certification.
- Inspection. 20. (1) Upon receipt of an application for certification or re-certification of a seed source tree, the Board shall carry out a visual inspection of the prospective seed source tree and the trees immediately surrounding it during fruiting to determine whether the requirements specified in the Guidelines are met.
- (2) If the inspection under subregulation (1) above is satisfactory, the Board shall collect buds from the prospective seed source tree and index them for the psorosis complex of viruses.
- (3) If the disease indexing under subregulation (2) above is negative, the Board shall approve the application and issue or reissue a Seed Source Tree Certificate in the form set out in Schedule 5 hereto.
- Schedule 5.

(4) Certification and re-certification shall be valid for four years.

21. (1) Where an application for certification of a seed source tree is denied, the Board shall issue a written notice to the applicant citing the reasons for the denial, and shall give the applicant an frame to correct the problems cited in the notice.

Denial of certification and reinspection.

(2) After the time frame referred to in subregulation (1) above has elapsed, the Board shall carry out a reinspection, approving the application if the problems have been corrected or denying the application if the problems have not been corrected.

(3) Where an application is not approved after reinspection under subregulation (2) above, any further submission by an applicant wishing to have that seed source tree certified by the Board shall be considered to be a new application and shall be accompanied by the non-refundable fee specified in Schedule 7 hereto.

Schedule 7.

22. Certification of a seed source tree maybe suspended and or canceled by the Board where-

Suspension and cancellation of certification.

(a) annual inspection by a representative of the Board during fruiting reveals evidence of-

(i) symptoms of graft-transmissible disease on the seed source tree or any of the trees immediately surrounding that tree;

(ii) careless handling of seeds collected from the seed source tree or the records thereof, likely to confuse the facts regarding identity of the seed

source tree;

(iii) an unacceptable degree of mutation on fruit and/or foliage of the seed source tree;

(iv) other violations determined by the Board and as specified in the Guidelines;

(b) indexing procedures as specified in the Guidelines indicate the presence of any seed borne disease;

(c) the certificate holder voluntarily requests cancellation in writing.

Reinspection.

23. (1) Where certification is suspended, the Board shall issue a written notice to the owner citing the reasons for the suspension, and shall give the owner an appropriate time frame to correct the problems cited in that notice.

(2) After the time frame referred to in subregulation (1) above has elapsed, the Board shall carry out a reinspection, reinstating the certification if the problems have been corrected or canceling the certification if the problems have not been corrected.

Handling of rootstock seed.

24. All rootstock seed from harvest shall undergo the handling procedures specified in the Guidelines prior to use.

Pre-multiplication blocks (P-MBs).

25. Pre-multiplication blocks, which may consist of field-grown or container grown citrus trees shall be-

(a) propagated under protected conditions;

- (b) propagated on vigorous rootstocks;
  - (c) separated from other propagations as specified in the Guidelines;
  - (d) identified with plainly visible, durable markers.
- 26. Trees within a pre-multiplication block from the same clone shall be separated by the gap specified in the Guidelines, with the block properly labeled with the clone and date on which it was budded. Trees within a P-MB.
- 27. (1) All budwood used for pre-multiplication blocks shall come from parent trees maintained by the Board, and bud cutting must be witnessed by an authorized representative of the Board. Budwood for P-MB.
- 28. (1) Pre-multiplication block trees- Time limits on use of budwood from P-MB trees.
  - (a) may serve as sources of budwood for production of quick multiplication block trees and certified citrus trees for a period determined by the Board;
  - (b) shall be tested for diseases specified in the Guidelines at intervals determined by the Board.
  - (c) shall be maintained by the Board and at locations determined by the Board.
- 29. Multiplication blocks, which shall consist of field-grown or container-grown citrus trees, shall be- Multiplication Blocks (MBs).
  - (a) propagated under protected conditions;

- (b) propagated on vigorous rootstocks;
- (c) separated from other propagations as specified in the guidelines;
- (d) identified with plainly visible, durable markers.
- Trees within a MB. 30. Trees within a multiplication block from the same clone shall be separated by the gap specified in the Guidelines, with the block properly labeled with the clone and date on which it was budded.
- Budwood for MBs. 31. (1) All budwood used for multiplication blocks shall come from pre-multiplication blocks or parent trees maintained by the Board, and bud cutting must be witnessed by an authorized representative of the Board.
- Schedule 3. (2) Any person acquiring or receiving a budwood bundle for the purpose of establishing a multiplication block shall complete the appropriate section of the Bud Cutting Form as set out in Schedule 3 hereto which accompanied the budwood bundle, retaining one copy and submitting the original to CREI within 30 days.
- Time limits on use of budwood from MB trees. 32. (1) Multiplication block trees -
- (a) may serve as sources of budwood for production of certified citrus trees for a period determined by the Board from bud cutting is witnessed by an authorized representative of the Board;
- (b) shall be tested for CTV at the expense of the owner at intervals determined by the Board.

(2) If no CTV is found upon testing under subregulation (1)(b) above, or if CTV is present at an incidence specified in the Guidelines and the CTV,-infected trees are removed from the multiplication block, the time period listed in subregulation 1(a) may be extended, at the discretion of the Board.

33. Multiplication block trees may be used as varietal block trees, or as certified citrus trees, if they are planted after the time period cited in Regulation 32(1)(a) or (2), as the case may be.

Use of MB trees as varietal block or certified citrus trees.

34. Certified citrus trees shall be propagated from budwood collected from multiplication block trees maintained by the Board or by an authorized representative, or pre-multiplication block trees or parent trees maintained by the Board.

Propagation of certified citrus trees.

35. Any nursery which intends to produce certified Citrus trees shall ensure that-

Nurseries propagating certified trees.

- (a) budwood is collected into budwood bundles;
- (b) each budwood bundle is accompanied by the Bud Cutting Form as specified in the Guidelines;
- (c) the source for initial budding is identified;
- (d) where rebudding is necessary, buds from the same bud source as the original bud are used.

36. Any person acquiring or receiving a budwood bundle for the purpose of producing certified citrus trees shall complete the appropriate section of the Bud Cutting Form specified in schedule 3, which accompanied the budwood bundle, retaining one copy and submitting the original to CREI within 30 days.

Bud Cutting Form.

- Tag for certified Citrus trees. Schedule 7. 37. After receipt of the completed Bud Cutting Form and upon payment of the non-refundable fee specified in Schedule 7, the Board shall issue and send to the nursery owner a tag labeled with the nursery registration number, the clone, the rootstock, and date of budding, to identify each certified citrus tree.
- Tree Movement Form. Schedule 6. 38. (1) Whenever a certified citrus tree leaves a nursery for purposes of sale or otherwise, the nursery owner shall submit a Tree Movement Form as set out in Schedule 6 hereto, to CREI within 30 days, retaining one copy and providing another copy to the person receiving the certified citrus tree.
- Varietal blocks. 39. Varietal blocks shall consist of a group of at least five trees originating from the same parent tree for horticultural evaluation purposes.
- Appeal body. 40. (1) There is hereby established an Appeal Body of four members, to consist of
- (a) one member selected by the Board of Directors of CREI;
  - (b) one member selected by the Management Committee of the Citrus Growers Association;
  - (c) one member selected by the Solicitor General, to provide legal and administrative expertise; and
  - (d) one member selected by the Board of Directors of the Belize Agricultural Health Authority.
- (2) The Appeal Body may adopt standing orders to regulate, its



own Meetings and procedures.

41. (1) Any person aggrieved by a decision of the Board under these Regulations, including but not limited to a decision to deny an application or to cancel a registration or certification, may file a written appeal with the Appeal Body within 30 days of the adverse decision. Appeals.

(2) The Appeal Body shall, within 30 days of the filing of the grounds of appeal, proceed to hear the appeal and make a determination in respect thereof.

42. (1) Fees specified in Schedule 7 shall be submitted to CREI, for and on behalf of the Belize Agricultural Health Authority. Fees. Schedule 7.

(2) Fees not paid within 30 days of billing shall be considered in default. A penalty of five percent of the unpaid balance shall be charged as determined by the Board and stated in the Guidelines.

(3) The Board shall, upon receiving any fee, issue a receipt to the grower or nursery owner who submitted the fee.

43. A person who contravenes the provisions of these Regulations commits an offence and shall be liable on summary conviction to a fine not exceeding two hundred and fifty dollars or to imprisonment for a term not exceeding six months, or to both such fine and imprisonment. Offences and penalties.

44. These Regulations shall come into force on the 27th day of March, 2000. Commencement.

**MADE** by the Minister of Agriculture, Fisheries and Cooperatives this 27th day of March, 2000.

**(DANIEL SILVA)**  
Minister of Agriculture,  
Fisheries and Cooperatives

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**SCHEDULE 1 (Reg. 6)**

**BELIZE CITRUS PROGRAMME (BCCP)  
NURSERY APPLICATION FORM (FORMAF)**

Tick correct/one: \_\_\_\_\_ New Application \_\_\_\_\_ Renewal

The undersigned grower (Applicant) is applying to be a participant or is a participant in the Belize Citrus Certification Program (BCCP), and agrees to:

- (1) carefully and completely read the Regulations and Guidelines supplied after payment of the registration fee;
- (2) abide by all requirements set forth and described in the said Regulations, including any future amendments thereto.

\_\_\_\_\_  
Date of Application/ Renewal

\_\_\_\_\_  
Name of Nursery

\_\_\_\_\_  
Printed Name of Applicant

\_\_\_\_\_  
Location of the Nursery

I hereby certify that this information is true and correct to the best of my knowledge and belief

\_\_\_\_\_  
(Signature Applicant)

\_\_\_\_\_  
(Mailing Address of Applicant)

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
Fax

\_\_\_\_\_  
E-mail of Applicant (if applicable)

Method of Payment:

Cash:\$ \_\_\_\_\_ Cheque: # \_\_\_\_\_ Credit Card: \_\_\_\_\_

NOTE: Application must be signed by the owner if applicant is a sole proprietorship, by a managing partner if a partnership, or by an executive officer, if a corporation.

**Retain a copy and submit the original to: BCCP c/o Citrus Research and Education Institute, P.O. Box 72, Dangriga, 9 Miles Stann Creek Valley Road (Telephone 0523535, Fax 05-23511)**

**SCHEDULE 2 (Reg. 8)**

**BELIZE CITRUS CERTIFICATION PROGRAMME (BCCP)  
NURSERY REGISTRATION CERTIFICATE (NRC)**

Name of Nursery: \_\_\_\_\_

\_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

City/Town: \_\_\_\_\_ District: \_\_\_\_\_

Assigned Nursery Registration Number \_\_\_\_\_

This nursery is authorized to store, offer for sale, or sell certified citrus trees in accordance with the Belize Citrus Certification Programme (BCCP) as set forth in the Regulations to section 15(f) of the Plant Protection Act, Chapter 178 of the Laws of Belize and Guidelines (i.e. The Plant Protection (Citrus Certification) Regulations, 2000).

The nursery owner or representative agrees to hold harmless, release, and forever discharge the BCCP, its agents, and employees from and waive any and all responsibility of same for any and all liability, claims, demands, actions, loss, and damage of any kind whatsoever sustained by reason of:

- (a) defects which develop and/or are discovered after the subject plant material(s) have matured.
- (b) latent defects or diseases in the plant material.
- (c) genetic or other defects which develop and/or manifests itself after budwood of the selection is sold to the nursery owner or representative.
- (d) genetic or other defects which develops and/or manifests itself

in the progeny of the selected plant material(s).

The nursery site and facilities have been inspected and found to meet the conditions required by the BCCP.

Registration valid from \_\_\_\_\_

Registration expires on \_\_\_\_\_

\_\_\_\_\_  
Signature of Nursery Owner  
or Representative

\_\_\_\_\_  
Signature of the BCCP  
Representative

**THIS CERTIFICATE MUST BE POSTED PROMINENTLY AT THE  
NURSERY SITE.**

**SCHEDULE 3 (Reg. 31 and 36)  
BELIZE CITRUS CERTIFICATION PROGRAMME (BCCCP)  
BUD CUTTING FORM (BCF)**

The purpose of this form is to record all bud cutting of certified budwood which is used to establish certified scion trees, varietal block trees, multiplication block trees, and certified citrus trees.

Check as appropriate:

- Buds are being cut to establish varietal block trees
- Buds are being cut to establish pre-multiplication block trees
- Buds are being cut to establish multiplication block trees
- Buds are being cut to establish certified citrus trees
- Buds are being cut to establish seed source trees

Left-hand portion, to be filled out by witness

Right-hand portion, to be filled out by the nursery receiving the buds. Submit the completed form within 30 days of receipt of buds.

Clone/Variety Identification number	No. of buds cut	Rebud*	Date Cut

Bud supplied by: \_\_\_\_\_  
(Nursery Name)

Signature: \_\_\_\_\_

Address: \_\_\_\_\_

Nursery Registration No.: \_\_\_\_\_

Witness: \_\_\_\_\_

(Name and Signature of BCCP Authorised  
Representative witnessing the bud cutting)

\*Rebud = check this column if the buds are being used to rebud previously budded rootstocks. The same clone/variety identification number must be used as was used initially.

Retain a copy and submit the original to: Belize Citrus Certification Programme  
c/o CREI, P.O. Box 72, Dangriga Town, or 9 mls Stann Creek Valley Rd./Tel:  
05-23535 Fax: 05-23511





**SCHEDULE 4 (Reg. 18)**  
**BELIZE CITRUS CERTIFICATION PROGRAMME (BCCP)**  
**SEED SOURCE TREE APPLICATION (STA)**

Date \_\_\_\_\_

In compliance with the BCCP, I apply for the following tree to be certified as a seed source tree:

Variety of Tree: \_\_\_\_\_

Location: Block, Row and Tree \_\_\_\_\_  
\_\_\_\_\_

Draw a map below to enable BCCP authorized personnel to locate the tree for evaluation.

Person Making Application: \_\_\_\_\_  
\_\_\_\_\_

(Name and Signature)

Nursery Name \_\_\_\_\_ Nursery Registration Number \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Retain a copy and submit the original to: BCCP, c/o Citrus Research and Education Institute, P.O. Box 72, Dangriga, 9 Miles Stann Creek Valley R6ad (Telephone 05-23535, Fax 05-23511)**

**SCHEDULE 5 (Reg. 20)**  
**BELIZE CITRUS CERTIFICATION PROGRAMME (BCCP)**  
**SEED SOURCE TREE CERTIFICATE (STC)**

In compliance with BCCP, the following tree was inspected as a seed source tree:

Variety of Tree: \_\_\_\_\_

Location:

Block, row and tree \_\_\_\_\_

Tick appropriate response upon inspection:

- | Yes | No  |   |
|-----|-----|---|
| ___ | ___ | Did the candidate tree exist upon implementation of the BCCP?   |
| ___ | ___ | If not, has the candidate tree been propagated from BCCP parent tree(s) or certified scion tree(s)?     |
| ___ | ___ | Is the candidate tree located in a satisfactory growing location?                                       |
| ___ | ___ | Is the candidate tree vigorous?   |
| ___ | ___ | Are fruit present on the candidate tree?  |
| ___ | ___ | Are the fruit true-to-type for the variety considering the exterior appearance?                         |
| ___ | ___ | Are the interior color, appearance and number of seeds consistent with that expected for the variety?   |
| ___ | ___ | Are the fruit tree of abnormality or mutation?  |
| ___ | ___ | Is the tree free of abnormalities of the foliage including variegation, rosetting, and leaf distortion? |
| ___ | ___ | Is the tree free of trunk abnormalities such as galls, bulging at the bud union, or bark scaling?       |
| ___ | ___ | Is the tree free of gummosis?   |
| ___ | ___ | Is the tree free of any evidence of infection by viruses or other graft transmissible diseases?         |



**SCHEDULE 6 (Reg. 38)  
BELIZE CITRUS CERTIFICATION PROGRAMME (BCCP)  
TREE MOVEMENT FROM (TM FORM)**

The purpose of this Tree Movement Form (TM Form) is to record the movement of certified citrus trees from the nursery where they were propagated or sold to their planting location.

Date \_\_\_\_\_

In compliance with the BCCP, I hereby state that the following certified citrus trees are going to be moved:

\_\_\_\_\_  
\_\_\_\_\_

Variety/Clone Identification Number/Date Cut/Rootstock/(Block or House)/  
(Row or Bench)/ MB No. (taken from Form BC completed when the buds  
were cut for these trees)

Number of Certified Citrus Trees being moved

\_\_\_\_\_

\_\_\_\_\_  
Name of Person or Farm receiving the trees

\_\_\_\_\_  
Address

Grove/Block location(s) where the Certified Citrus Trees are to be planted  
(contact CREI for the codes of the Grove/Block locations if this information is  
unknown):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I hereby certify that this information is true and correct to the best of my knowledge and belief.

Trees Supplied By: \_\_\_\_\_

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Signature)

Nursery Name and Registration No. \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Retain a copy and submit the original to: BCCP, c/o Citrus Research and Education Institute, P.O. Box, 72, Dangriga, 9 Miles Stann Creek Valley Road (telephone 05-23535, Fax 05-23511)**

**SCHEDULE 7 (Reg. 6, 7, 9, 18 and 21)**

**BELIZE CITRUS CERTIFICATION PROGRAMME (BCCP)  
FEES FOR SERVICES**

(1) **Application for:**

- (a) Nursery registration or re-registration ..... \$100.00  
 (b) Seed source tree certification or re-certification \$40.00

(2) **Tag for certified citrus tree: .....** \$0.10/tag

(3) **Testing for:**

- (a) CTV (ELISA)..... \$3.00 per tree or composite  
 sample of 5 trees from QMB trees
- (b) CTV (ELISA) for tree  
 older than 2 years ..... \$10 per tree
- (c) Citrus viroids (Citron/PAGE or PCR) \$10 per tree  
 Psorosis complex of viruses (biological) \$10 per tree  
 Tatterleaf virus \$10 per tree  
 Woody gall \$10 per tree  
 Citrus Variegated Chlorosis (CVC) \$10 per tree  
 Greening \$10 per tree  
 Stubborn \$10 per, tree

- (4) **Budwood:**
- (a) For certified citrus trees  
 production \$0.10 per eye  
 (\$5.00 minimum)
- (b) For multiplication block  
 trees production \$1.00 per eye

- (5) *Witnessing bud cutting:* \$5.00 per 1000 budeyes cut  
(\$5.00 minimum)
- (6) *Inspection of Multiplication  
Block trees:* \$5.00 per 100 trees
-



**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(RESTRICTED PLANTS) ORDER**

**ARRANGEMENT OF SECTIONS**

1. Short title.
2. Schedule.

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**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(RESTRICTED PLANTS) ORDER**  
*[Sections 2, 35, 86 and 88]*

45/1989.

*[29th April, 1989.]*

1. This Order may be cited as the Short title.

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(RESTRICTED PLANTS) ORDER.**

2. The plants set out in the Schedule to this Order are declared to be Schedule.  
restricted plants for the purposes of section 35 (d) of the Act.

## SCHEDULE

<i>Genus &amp; Species</i>	<i>Common Names</i>
<i>Chrisophyllum cainito</i>	Star Apple, Cainito
<i>Citrus aurantium</i>	Sour Orange
<i>Citrus paradisi</i>	Grapefruit, Pomelo
<i>Citrus reticulata</i>	Mandarin, Tangerine
<i>Citrus sinensis</i>	Sweet Orange
<i>Coffea arabica</i>	Coffee
<i>Eviaboytrya japonica</i>	Loquat
<i>Eugenia jambos</i>	Rose Apple
<i>Eugenia uniflora</i>	Suriname Cherry
<i>Fiscus cariba</i>	Higo, Fig.
<i>Malpighia glabra</i>	Wild Craboo, Barbados Cherry
<i>Manilkara acbras</i>	Raspberry
<i>Mangifera indica</i>	Mango
<i>Fiscus indica</i>	Cactus Fruit, Nopal
<i>Prunus salicina</i>	Plum
<i>Psiduim cattleianum</i>	Strawberry
<i>Psiduim guajava</i>	Guava, Guayaba
<i>Spondias mombin</i>	Hog Plum
<i>Spondias purpurea</i>	Plum, Ciruela
<i>Terminalia catapa</i>	Almond, Almendro
<i>Lycoperscion esculentum</i>	Tomato
<i>Capsicum sp.</i>	Peppers
<i>Carica papaya</i>	Papaya
<i>Achras sapota</i>	Sapodilla
<i>Theobroma cocoa</i>	Cocoa
<i>Passiflora edules</i>	Passion Fruit
<i>Citrullus lunatus</i>	Watermelon
<i>Cucurbita sp.</i>	Squash
<i>Cucums Melo</i>	Cantaloupe

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<i>Genus &amp; Species</i>	<i>Common Names</i>
<i>Musa sapientum</i>	Banana
<i>Zlighthia sapida</i>	Ackee
<i>Anacardium occidentale</i>	Cashew
<i>Persea americana</i>	Avocado
<i>Citrus aurantifolia</i>	Lime
<i>Citrus limon</i>	Lemon
<i>Fortunella spp.</i>	Kumquat
<i>Solanum melongena</i>	Eggplant
<i>Hibiscus esculentus</i>	Okra
<i>Annona cherimola</i>	Tulsi Cherimoya, Pox
<i>Annona muricata</i>	Soursap
<i>Annona squamosa</i>	Sweetsap, Custard Apple
<i>Averrhoa carambola</i>	Star Fruit, Carambola
<i>Colocarpum mammosum</i>	Mammey, Mamey Sapote
<i>Casimiroa edulis</i>	White Sapote
	Nectarine
	Peach
	Pear
	Grape
	Almond
	Pineapple
	Apple

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**CHAPTER 211**

12/1967.

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(RESTRICTED PLANTS) REGULATIONS****ARRANGEMENT OF SECTIONS**

1. Short title.
2. Interpretation.
3. Prohibition.
4. License.
5. Removal.
6. Permit.
7. Offence.

**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(RESTRICTED PLANTS) REGULATIONS**

12/1967.

*[Sections 2, 35, 86 and 88]*

*[4th March, 1967.]*

1. These Regulations may be cited as the Short title.

**BELIZE AGRICULTURAL HEALTH AUTHORITY  
(RESTRICTED PLANTS) REGULATIONS.**

2. In these Regulations – Interpretation.

“Act” means the Belize Agricultural Health Authority Act; CAP. 211.

“Authority” means the Belize Agricultural Health Authority;

“quarantine area” means any area declared to be a quarantine area by virtue of an order made under the Act;

“restricted plant” means any plant declared to be a restricted plant by virtue of an order made under section 35(d) of the Act.

3. No person shall sell or in any other manner dispose of to any other person, or cultivate or harvest any restricted plant in a quarantine area other than in accordance with the terms and conditions of a licence issued under the Act. Prohibition.

4. The Belize Agricultural Health Authority with the approval of the Minister issue a licence to any person to sell or dispose of to any other person or to Licence.

cultivate or harvest any controlled plant in an infected plant area subject to such conditions as he may deem necessary.

Removal.

5. No person shall remove any restricted plant from any place within a quarantine area to any other place whether within a quarantine area or not other than in accordance with the terms and conditions of a permit in writing issued by an officer of the Authority designated in that behalf.

Permit.

6. An officer of the Authority designated in that behalf may issue a permit in writing subject to such conditions as he may deem necessary to any person to remove any restricted plant from any place within a quarantine area to any other place whether within a quarantine area or not.

Offence.

7. Any person who fails to comply with the provisions of these Regulations or with the conditions of any licence or permit issued under these Regulations or with any order issued by any person under the provisions of these Regulations shall be guilty of an offence and liable, on summary conviction, to a fine not exceeding one hundred dollars.

**CHAPTER 211**

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(NOTIFIABLE PESTS) ORDER**

35/1979.  
14/1981.  
42/1983.  
95/1995.  
111/1999.

**ARRANGEMENT OF SECTIONS**

1. Short title.
  2. Sugar Cane Froghopper.
  3. Smut disease.
  4. Moko disease.
  5. Wee Wee ants.
  6. Citrus Tristeza virus.
  7. Pink Mealybug.
-

**CHAPTER 211**

35/1979.  
14/1981.  
42/1983.  
95/1995.  
111/1999.

**BELIZE AGRICULTURAL HEALTH AUTHORITY**  
**(NOTIFIABLE PESTS) ORDER**  
*[Sections 35, 86 and 88]*

*[7th March, 1981.]*

- |   |   |
|---|---|
| Short title.  | 1. This Order may be cited as the<br><br><b>BELIZE AGRICULTURAL HEALTH AUTHORITY<br/>(NOTIFIABLE PESTS) ORDER.</b>  |
| Sugar Cane<br>Froghopper.<br>CAP. 211.                | 2. The Sugar Cane Froghopper is hereby declared to be a notifiable pest within the meaning of section 35(a) of the Belize Agricultural Health Authority Act.          |
| Smut disease.<br>CAP. 211.                            | 3. The smut disease is hereby declared to be a notifiable disease within the meaning of the Belize Agricultural Health Act.   |
| Moko disease.<br>42/1983.<br>CAP. 211.                | 4. The moko disease is hereby declared to be a notifiable disease within the meaning of the Belize Agricultural Health Act.   |
| Wee Wee ants.<br>35/1979.<br>CAP. 211.                | 5. All those species of ants commonly known as Wee Wee ants or parasol ants are hereby declared to be pests within the meaning of the Belize Agricultural Health Act. |
| Citrus Tristeza<br>virus.<br>95 of 1995.<br>CAP. 211. | 6. (1) The citrus tristeza virus in its severe forms is hereby declare to be a notifiable disease within the meaning of the Belize Agricultural Health Act.           |



(2) The symptoms of the severe forms of the citrus tristeza virus are set out in the Schedule hereto. 95 of 1995. Schedule.

7. The Pink Mealybug, also known as the *Maconellicoccus Hirsutus* (Green), is hereby declared to be a notifiable pest within the meaning of section 35(a) of the Belize Agricultural Health Act. Pink Mealybug. CAP. 211.

**SCHEDULE**  
**[Paragraph 6]**

**SYMPTOMS OF SEVERE FORMS OF CITRUS TRISTEZA  
VIRUS**

1. Decline of citrus plants budded on Sour Oranges or other CTV-susceptible rootstocks, resulting in a combination of two or more of the following symptoms:-

- (a) General leaf yellowing, compact short upright branching, dieback of twigs, defoliation and heavy crop of small fruits.
- (b) Slow decline resulting in honeycombing or pinholing or inverse stem pitting on the inner surface of the bark with corresponding pegs (medullary rays of woods) on the outer surface of sour orange rootstock trunk.
- (c) Pronounced overgrowth of the trunk immediately above the bud union.
- (d) Quick decline of the trees associated with phloem necrosis, revealed as a brownish yellow discoloration in the innerbark when the region of the bud union is cut open.

2. Stem pitting of citrus plants budded on to any variety of rootstock resulting in—

- (a) Tree decline associated with stem pits, longitudinal grooves in the wood above and below the bud union giving the trunk a rope like appearance;

- (b) Production of small, juiceless, plenty fruits;
  - (c) Vein corking or vein bulging on the upper leaf surface of sweet orange cultivars.
-

**CHAPTER 211**

Ch. 122.  
3/1984.  
53/1996.  
12/1999.

**PLANTS, FRUITS AND VEGETABLES (IMPORTATION)  
REGULATIONS**

1. Short title.
2. Application.
3. Imports prohibited.
4. Conditions.
5. Powers of Search.
6. Powers to disinfect.
7. Arrival notification.
8. Exclusion of liability.
- 8:01. Expenses.
9. Mail.
10. Powers of the Minister.

**CHAPTER 211**

**PLANTS, FRUITS AND VEGETABLES (IMPORTATION)**  
**REGULATIONS**

*(Sections 35, 86 and 88)*

Ch. 122.  
3/1984.  
53/1996.  
12/1999.

1. These Regulations may be cited as the Short title.

**PLANTS, FRUITS AND VEGETABLES (IMPORTATION)**  
**REGULATIONS.**

2. (1) These Regulations shall not apply to the plants, fruits and vegetables specified in the Schedule hereto. Application.  
Schedule.

(2) Subject to the provisions of these Regulations, no plants, fruits or vegetables shall be imported into Belize except in accordance with the terms of a permit granted by the Chief Agricultural Officer. 12 of 1999.

3. Subject to the provisions of regulation 2 of these Regulations, no person shall import any fruit or any vegetable except- Imports  
prohibited.

(a) fruits or vegetables imported direct from the United Kingdom, Ireland, Canada, the United States of America or, provided a certificate of introduction is granted by an officer designated by the Belize Agricultural Health Authority after inspection, from Jamaica;

(b) fruits from the Australian States of Tasmania and Victoria, certified, in such manner as an

officer designated by the Belize Agricultural Health Authority may consider satisfactory, as being pest free;

3/1984.

(c) beet, cabbage, carrot, cucumber, cauliflower, lettuce, radish, turnips, or any other vegetable of which an officer designated by the Belize Agricultural Health Authority may from time to time by order published in the *Gazette* permit the importation from Central America or Mexico subject to the following conditions:

CAP. 49.

(i) that such vegetables are imported at such approved ports or places of entry under the Customs Regulation Act as may from time to time be appointed by the Chief Agricultural Officer by order published in the *Gazette* and also that such vegetables are declared by the importer solely for consumption as food;

3/1984.

(ii) that proof that such vegetables are the produce of Central America or Mexico is furnished to an officer designated by the Belize Agricultural Health Authority either by production of a certificate of origin signed by an officer of the Department of Agriculture or of the Customs Department in one of such countries, or in such other manner as the said

officer of the Belize Agricultural Health Authority may consider satisfactory;

(iii) that a certificate of introduction is granted by the said officer of the Belize Agricultural Health Authority after inspection;

(d) any plant of the citrus species, any coconut plant, tobacco seed, cotton plants, sugar cane plants or tomato seed except under a licence issued by the Belize Agricultural Health Authority; 3/1984.

(e) any foliage, fruit or rhizome of the banana plant or any plant of any other species of *Musa* except under a licence issued by the Belize Agricultural Health Authority; 3/1984.

(f) any earth or soil or dung of any description or any living plant not specifically mentioned in these Regulations or any package used in connection with any such living plant unless a certificate of introduction is granted by an officer of the Belize Agricultural Health Authority.

4. The officer issuing any certificate of introduction or licence under these Regulations may attach thereto such conditions as to disinfection as he may consider necessary. Conditions.

5. Any designated officer of the Belize Agricultural Health Authority who has cause to believe that any person, receptacle or carrier (vehicle, aircraft or Powers of Search. 3/1984.

ship) coming into Belize possesses, carries or contains any fruits and vegetables, plant pests or diseases, plant products, planting material, soil or non-plant articles that constitute a risk to the agriculture of Belize shall have the power to stop and without warrant, inspect, search and examine such persons, receptacles or carriers with the cooperation of the Customs Officers and seize, detain, destroy or otherwise dispose of such fruits and vegetables, plant pests or diseases, plant products, planting materials, soil or other articles, without liability to the Government of Belize for such seizure, detention, destruction or disposal:

Provided that the owner or importer of the above-mentioned things shall have the option of forthwith returning them to the country of origin.

Powers to  
disinfect.  
3/1984.

6. A designated officer of the Belize Agricultural Health Authority is hereby empowered to direct or authorise the disinfection, treatment and fumigation of buildings, vehicles, aircrafts or ships suspected of harbouring any pest or article likely to infect any plant with disease.

Arrival  
notification.  
3/1984.

7. It shall be the duty of the Comptroller of Customs to promptly notify the Belize Agricultural Health Authority of the arrival of any fruits and vegetables, plant products, planting material, soil or other articles affected by these Regulations, at the place of arrival and, further to hold such material in the custody of Customs until approval is given for its release by the Belize Agricultural Health Authority.

Exclusion of  
liability.  
3/1984.

8. No liability shall attach to the Government of Belize for the destruction of material brought into Belize in violation of these Regulations. The Government is in no way liable for any damage done, or delays incurred by treatments or other quarantine action deemed necessary and performed under these Regulations. All treatments shall be deemed to be performed at the sole risk of the importer.

Expenses; by  
whom to be met.  
53 of 1996.

8:01. All expenses incurred in, or incidental to, plant quarantine or other action deemed necessary and performed under these Regulations during the



process of importing into Belize or exporting out of Belize any plant, shall be paid in full by the consignee of such plant.

9. Any such products or articles as detailed in paragraphs 5 and 7 brought into Belize by mail shall be subject to these Regulations administered jointly by the Postal Authorities and the Belize Agricultural Health Authority.

Mail.  
3/1984.

10. Notwithstanding the provisions of these Regulations the Belize Agricultural Health Authority with the approval of the Minister, may from time to time by order published in the *Gazette* amend-

Powers of the  
Minister.  
3/1984.

- (a) the list of countries from which fruits and vegetables, plant products and planting material may be imported;
- (b) the list of plant species and products which may be imported;
- (c) the list of prohibited plant diseases and pests.

Such lists shall be available for inspection at the offices of the Belize Agricultural Health Authority and at all official ports of entry.

## SCHEDULE

Plants, fruits and vegetables imported by the Government or the Belize Agricultural Health Authority for the use of the Government or the Belize Agricultural Health Authority for experimental or other purposes.

Nuts other than peanuts.

Dried, canned, candied or other processed fruit.

Dried beans, peas and cereal grains.

Canned and processed vegetables.

Vegetable seeds other than tomato seeds.

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