BELIZE:

STATUTORY INSTRUMENT

NO. 51 OF 2012

BELIZE AGRICULTURAL HEALTH AUTHORITY (PREVENTION, CONTROL AND ERADICATION OF BOVINE TUBERCULOSIS) REGULATIONS, 2012

ARRANGEMENT OF REGULATIONS

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No. 51 of 2012

REGULATIONS made by the Minister, after consultation with the Belize Agricultural Health Authority, in exercise of the powers conferred upon him by sections 61 and 86 of the Belize Agricultural Health Authority Act, Chapter 211 of the Substantive Laws of Belize, Revised Edition 2000-2003; and all other powers thereunto him enabling.

(Gazetted 21st April, 2012).

Citation.

1. These Regulations may be cited as the

BELIZE AGRICULTURAL HEALTH AUTHORITY (PREVENTION, CONTROL AND ERADICATION OF BOVINE TUBERCULOSIS) REGULATIONS, 2012.

Interpretation.

2. In these Regulations -

"**accredited veterinarian**" means a veterinarian recognized and approved by the Authority to conduct sanitary activities and other functions under these Regulations;

"**biosecurity management system**" means a system approved by the Authority for the protection of the economy, environment and public health from negative impacts associated with bovine tuberculosis;

"**bovine producer**" includes the owner or keeper of cattle whose activities include breeding, cow-calf operations, fattening or milk production;

"**bovine tuberculosis**" means an infectious and contagious zoonotic disease caused by *mycobacterium bovis* which is characterized by a progressive and chronic course;

"**bovine tuberculosis free certificate**" means a certificate issued under regulation 8;

"**cattle**" means *bos indicus*, *bos taurus* and water buffalo;

"**compartment**" means an animal subpopulation contained in one or more establishments under a common biosecurity management system with a distinct health status with respect to a specific disease for which required surveillance, control and biosecurity measures are applied for the purpose of international trade;

"**diagnostic test**" means the test under regulation 14;

"**epidemiological surveillance**" means the process under regulation 25;

"**establishment**" means the place where cattle is kept;

"**exposed animal**" means cattle that has had contact with other cattle that is infected with bovine tuberculosis;

"**free herd**" means a herd that is free from bovine tuberculosis;

"**infected animal**" means an animal in which the presence of *mycobacterium bovis* is confirmed or in which epidemiological studies, field and laboratory tests, show evidence of the presence of *mycobacterium bovis*;

"**in vitro comparative assay**" includes the Gamma Interferon Assay, used as a complementary test to quickly distinguish positive animals due to the production of γIFN specific to *mycobacterium bovis* and *M.avium* in blood plasma;

"**negative animal**" means an animal that has been subjected to one or more official tuberculosis diagnostic tests producing negative results;

"**OIE**" means The World Organization for Animal Health;

"**OIE Terrestrial Code**" means the most up-to-date version of the Terrestrial Animal Health Code as approved and published by the OIE from time to time;

"**official veterinarian**" means a professional employee of the Authority who performs a function under these Regulations;

"**PCR**" means Polymerase Chain Reaction;

"**PPD**" means Purified Protein Derivative;

"**production unit**" includes a ranch, farm, stable, corral or other establishment that houses cattle;

"**Programme**" means the National Bovine Tuberculosis Programme pursuant to regulation 5;

"**slaughterhouse**" means premises used for the slaughter of animals as well as a facility for the production of animal products, movement of an animal or lair for aging animals.

Competent authority.

3. (1) The Authority is designated as the competent authority for the implementation of these Regulations.

(2) The Authority may collaborate with stakeholder organizations, the government and members of the cattle industry.

Notifiable animal disease.

4. (1) Pursuant to section 35(a) of the Act bovine tuberculosis is a notifiable animal disease in Belize.

(2) A person who suspects or has diagnostic evidence of the presence of bovine tuberculosis in cattle whether the cattle is alive or dead shall notify the Authority within twenty-four hours of the suspicion or evidence of bovine tuberculosis.

General provisions of the National Bovine Tuberculosis Programme.

5. (1) The National Bovine Tuberculosis Programme is hereby established for implementation in accordance with these Regulations.

(2) The Programme consists of measures to prevent, diagnose, control or eradicate bovine tuberculosis in cattle regardless of breed or purpose of production.

(3) The measures under subregulation (2) include the protection of zones, districts, communities or free herds through the strict control of animal movement, coordinated among stakeholders.

(4) The Authority may designate a Programme Coordinator to coordinate activities of official veterinarians and accredited veterinarians.

Declaration of health status and free herd certification.

6. The Authority may declare Belize or a zone, region or district within Belize as free from bovine tuberculosis where Belize, that zone, region or district within Belize conform to the following requirements -

(a) that *mycobacterium bovis* infection in domestic cattle is notified in accordance with regulation 4.;

(b) that an on-going awareness programme is in place to encourage reporting of all cases suspected of bovine tuberculosis;

(c) that regular and periodic testing of cattle demonstrates that *mycobacterium bovis* infection is not present in at least ninety-nine percent of the herds and ninety-nine percent of the cattle in Belize, the zone, region or district for at least three consecutive years;

(d) that a surveillance programme is in place to detect bovine tuberculosis in cattle in Belize, or that zone, region or district through *ante-mortem* and post-mortem inspections, the procedures of which are in accordance with Chapter 6.2 of the OIE Terrestrial Code;

(e) if the surveillance programme under paragraphs *(b)* and *(d)* has demonstrated that *mycobacterium bovis* infection is not present in at least ninety-nine percent of the herds and ninety-nine percent of the cattle for at least five consecutive years, surveillance may be maintained through *ante-mortem* and *post-mortem* inspections as stipulated in paragraph *(d)*;

(f) that cattle introduced into Belize, or a particular zone, region or district, where cattle free from bovine tuberculosis already exists, is accompanied by a certificate from an official veterinarian of the exporting country attesting that the cattle is from a country, zone, region or herd free from bovine tuberculosis or comply with the relevant provisions in Chapter 11.6 of the OIE Terrestrial Code.

Application for bovine tuberculosis free certificate.

7. (1) A bovine producer may apply in writing to the Authority for certification that the cattle in a compartment or herd is free from bovine tuberculosis.

(2) A bovine producer applying under subregulation (1) shall satisfy the Authority that the cattle in the compartment or herd -

(a) shows no sign of bovine tuberculosis or lesion at *ante-mortem* or *post-mortem* inspections for at least three consecutive years;

(b) are at least six weeks of age at the time the first tuberculin test was taken, the result of which is negative;

(c) was subject to at least two tuberculin tests carried out at a minimum interval of six months (the first test being performed at least six months after the slaughter of the last infected cattle);

(d) conforms to one of the following conditions -

(i) if the annual percentage of infected herds is more than one percent of all herds in the country, zone, region or district during the last two years, two tuberculin tests shall be conducted twice annually, the results of which is negative to ensure the continuing absence of bovine tuberculosis;

(ii) if the annual percentage of his herds confirmed as infected with bovine tuberculosis is more than zero point one percent but not more than one percent of all herds in the country, zone, region or district during the last two years, a tuberculin test shall be conducted annually, the result of which is negative to ensure the continuing absence of bovine tuberculosis;

(iii) if the annual percentage of herds confirmed as infected with bovine tuberculosis is not more than zero point one percent of all herds in the country, zone, region or district during the last four years, a tuberculin test shall be conducted every three years, the results of which is negative to ensure the continuing absence of bovine tuberculosis; or

(iv) if the annual percentage of herds confirmed as infected with bovine tuberculosis is not more than zero point one percent of all herds in the country, zone, region or district during the last six years, a tuberculin test shall be conducted every four years, the results of which is negative to ensure the continuing absence of bovine tuberculosis.

(e) are protected from contact with wildlife reservoirs of bovine tuberculosis and are managed under a common biosecurity plan protecting the animal from being infected with *mycobacterium bovis*.

(3) Where cattle is introduced into the compartment, for the purpose of subregulation (2) the bovine producer shall submit verification that the cattle come from a free herd.

(4) The Authority may waive the condition under subregulation (3) if prior to importation, the cattle -

(a) was isolated for at least ninety days;

(b) was subjected to at least two tuberculin tests with negative results that were carried out at six-month intervals; and

(c) the second tuberculin test under paragraph (b) was performed during the thirty days prior to entry into the compartment.

(5) A female cattle shall not be tested if, that animal is more than seven months pregnant or less than 45 days *post partum*, the information of same is to be recorded on the tuberculosis field form as set out in the *Schedule*.

Schedule.

(6) The Authority shall publish in the Gazette the free status recognition of Belize, a zone or herd within Belize.

Grant of bovine tuberculosis free certificate. Second Schedule.

8. Subject to the conditions of these Regulations, the Authority may grant a bovine tuberculosis free certificate in the form set out in the *Second Schedule* if it is satisfied that –

(a) the tuberculin test is conducted by an official veterinarian or an accredited veterinarian;

(b) the herd of the bovine producer is a free herd;

(c) the provisions of regulation 7(2) is met;

(d) adjacent herds must have tested negative within the twelve months prior to the application for certification.

Duration, cancellation, etc.

9. (1) The duration of a bovine tuberculosis free certificate granted under Regulation 8 is valid for one year and may be subject to renewal.

(2) The Authority may suspend or cancel a bovine tuberculosis free certificate granted under these Regulations for any of the following reasons:

(a) where the Authority detects that cattle is tested positive to the tuberculin test;

(b) where tuberculosis infected animals are suspected by the Authority at a slaughterhouse and are confirmed by bacteriology test at a laboratory;

(c) where animals introduced into the herd do not originate from free herds;

(d) where there is epidemiological evidence that the herd is infected;

(e) where there is failure to maintain the conditions for which the bovine tuberculosis certificate was granted; or

(f) for a breach of these Regulations.

(3) Where the Authority suspends or cancels a bovine tuberculosis free certificate it shall inform the holder of that certificate.

Renewal, re-certification, etc.

10. (1) A bovine producer may within thirty days of the date of expiration of the bovine tuberculosis free certificate, apply to the Authority for a renewal.

(2) Where a bovine producer makes an application pursuant to subregulation (1), he shall also satisfy the Authority that not more than thirty days prior to the expiration of the bovine tuberculosis free certificate, a caudal fold test and comparative cervical test is conducted in accordance with regulations 15 and 16, respectively, which yield negative results.

(3) A bovine producer may apply to the Authority for a re-certification at any time after the conditions under Regulation 9(2), which caused the suspension or cancellation, as the case may be, no longer exist.

(4) Where a bovine producer makes an application pursuant to subregulation (3), he shall also meet the following re-certification criteria -

(a) all animals that entered the herd in the twelve months immediately before the application, originated from a free herd;

(b) a caudal fold tuberculin test conducted by an official veterinarian or by an accredited veterinarian yielded negative results in all animals from six months of age or older;

(5) For the purpose of this regulation, the Authority may conduct epidemiological investigation to determine or verify that the herd is not infected or that the ground for which the bovine tuberculosis free certificate was suspended or cancelled no longer exists.

Aggrieved persons.

11. Any person who is aggrieved by the decision of the Authority to grant, refuse, cancel or suspend a bovine tuberculosis free certificate, may within twenty one days, apply to the Minister for a review of the decision of the Authority.

Programme evaluation.

12. (1) The Authority may conduct inspection to verify compliance by the bovine producer with the requirements for the health status of each animal and shall issue a statement on the change of status according to the findings of the inspection visit.

(2) The Authority, in consultation with stakeholders shall submit to the Minister an annual report on the evaluations of the Programme, and its operations in the country, zone, region and district.

Animal identification.

13. For the purpose of the Programme, the following shall apply -

(a) an animal tested positive to the tuberculin test shall bear a permanent "T" mark on the left masseter muscle;

(b) the *Belize Agricultural Health Authority (Animal Identification) Regulations* shall also apply to cattle under these Regulations; S.I. 77 of 2011.

(c) the corresponding information relating to each animal identified shall be registered in the official document of diagnostic tests.

Diagnosis and tuberculinization.

14. (1) The diagnosis of bovine tuberculosis shall be conducted through tuberculinization.

(2) Pursuant to subregulation (1), the following tuberculin tests authorized by the Authority shall be administered by an official veterinarian or accredited veterinarian on cattle that is at least six weeks of age or older, as necessary -

(a) caudal fold test;
(b) comparative cervical test;
(c) simple cervical test.

(3) The tuberculin registered and authorized by the Authority for the Programme are –

(a) bovine PPD, which is prepared with *Mycobacterium bovis strain* AN5, containing a minimum of 3,250 IU per 0.1 ml dose, and to be used for the caudal, comparative cervical and simple cervical tests;

(b) Avian PPD, which is prepared with *Mycobacterium avium* strain D4, containing 2,000 IU per 0.1 ml dose and to be used in the comparative cervical test and where the avian

PPD tuberculin is used it shall contain Ponceau red dye to distinguish it from the bovine PPD that has no dye;

(c) the tuberculin shall be transported in a manner that –

(i) it maintains the cold chain at a temperature between 4°C and 8°C,

(ii) it is protected from direct sunlight during use in the field,

(iii) the lot number and the expiry date of the product is verified,

and once the vial is opened, the remaining contents shall be discarded if not used on the same day.

(4) The Authority shall ensure that in conducting the tuberculin test the equipment conforms to the following specifications -

(a) graduated disposable 1ml sterile syringes, with 0.1 ml graduations;

(b) hypodermic, disposable, sterile needles (24-29 gauge x 0.5 to 1.5 cm in length) is used per animal;

(c) a metallic or plastic calibrated caliper (in mm) shall be used for the comparative cervical test.

(5) The Authority shall ensure that for the administration of any type of test, other management activities including branding, castration, deworming, vaccination, treatments shall not be performed at least 48 hours before or

at least 78 hours after the administration of tuberculin so that the validity of the results are not affected.

Caudal fold test.

15. (1) The caudal fold test shall be administered by an official veterinarian or accredited veterinarian when the bovine tuberculosis status of the herd or lot of animals is unknown or as a substitute for the simple cervical test and the results of the test shall be recorded and shared with the interested party.

(2) The management techniques for the administration of tuberculin in the caudal fold test shall consist of –

(a) restraint of the animal;

(b) cleaning of site where the biologic will be applied;

(c) intra dermal insertion of the needle administering 0.1 ml of tuberculin (a small bleb shall appear at the site of injection); and

(d) in the case that no bleb appears, a repeated injection on the opposite caudal fold.

(3) The caudal fold test shall be interpreted by the official veterinarian or accredited veterinarian as follows –

(a) the same veterinarian that applied the tuberculin shall read the results, through observation and palpation of the site of injection, seventy-two hours (± six hours) after the injection is administered; and

(b) the veterinarian shall also ensure that he is reading the same animals tested and recorded on the field form.

(4) The reactions to the caudal fold test are classified as follows –

(a) negative, when no change is observed or palpated at the injection site; or

(b) positive, when any thickening, redness, warmth, pain or necrosis is visible or palpable or any change however minimal, is noted at the site of injection.

Comparative cervical test.

16. (1) The comparative cervical test is the test authorized to confirm or otherwise establish that an animal is positive to the caudal fold test.

(2) The comparative cervical test -

(a) may be used once within ten days or sixty days after the caudal fold test injection;

(b) may be applied by an official veterinarian;

(c) shall not be used in herds in which the presence of tuberculosis has been confirmed through isolation of *mycobacterium bovis* from samples obtained from animals slaughtered; and

(d) shall only be conducted where the official veterinarian is in possession of documentation and results of the caudal fold test.

(3) For the application of tuberculin for the comparative cervical test, the following practices shall apply -

(a) two quadrangular areas of at least 5 cm per side of the animal shall be shaved;

(b) the tuberculin shall be injected on the medial third part of the neck;

(c) the dorsal site shall be 10 cm beneath the crest;

(d) the ventral site shall be approximately 10 cm below the dorsal site;

(e) the test shall be administered using the intra dermal injection of 0.1 ml of avian PPD in the shaved dorsal site and 0.1 ml of bovine PPD on the ventral site;

(f) prior to injection, a fold of skin shall be lifted at the centre of the shaved site and the thickness of this fold shall be measured using the calipers;

(g) the readings obtained shall be recorded on the comparative cervical test forms (readings be rounded to the nearest 0.5mm);

(h) the test shall be read seventy-two hours (± six hours), measuring the thickness with the calipers at the site of injection and the measurements shall be written down on the field form for the comparative cervical test according to the procedures approved by the Authority and subtracting the value of the first reading from the value of the second reading and rounding the final result as follows -

(i) from 6.2 it decreases to 6.0;
(ii) from 6.3 it increases to 6.5;
(iii) from 6.7 it decreases to 6.5; and
(iv) from 6.8 it increases to 7;

(i) when the measurements are finalized the results obtained for avian PDD as well as

bovine PPD shall be graphed and the intersection point shall give the result of the test;

(j) the results shall be interpreted according to the official graph for the comparative cervical test as set out in the OIE Terrestrial Code; and

(k) where the reaction of an animal is classified according to the graph as suspect in two consecutive tests, it shall be classified as positive to the test.

Simple cervical test.

17. (1) The simple cervical test may be used to test infected, exposed animals or as a screening test.

(2) For the application of tuberculin in the simple cervical test, the following practices shall apply -

(a) a quadrangular area should be shaved at least 5 cm per side;

(b) the tuberculin shall be injected on the medial third part of the neck approximately 10 cm below the crest;

(c) the test is administered through the intra dermal injection of 0.1 ml bovine PPD;

(d) the same veterinarian that applies the injection shall conduct the reading;

(e) the reading is done by observation and palpation of the site of injection, seventy-two hours (± six hours) after injection.

(3) The reactions to the simple cervical test are classified as -

(a) negative, when no change is observed or palpable on the skin at the site of injection; or

(b) positive, when any thickening, redness, warmth, pain or necrosis or any change, however minimal, is visible or palpable at the site of injection.

(4) The simple cervical test may be substituted by a caudal fold test after -

(a) obtaining a negative simple cervical test in all the animals tested in the herd, or

(b) obtaining no positive laboratory result in animals that test positive,

but the animals that test positive to the caudal fold test shall not be subjected to the comparative cervical test.

Bacteriology, histopathology and molecular biology analysis.

18. (1) The sampling methods for bacteriology, histopathology and molecular analysis shall be carried out as follows -

(a) specimens for tuberculosis lesions (caseous or calcified) may be taken from any organ showing these typical lesions;

(b) lymph node samples shall be taken preferably from the head region (retropharyngeal, mandibular and parotid), cervical, mediastinum and tracheobronchial nodes;

(c) other organs subject to sampling are lungs, spleen, liver, kidneys, bone marrow, ovaries, uterus, testicles and mammary glands; and

(d) if the animal is positive on the tuberculin test but on *post mortem* does not show granulomatous lesions, suggestive of infection, all of the following may be sent to the laboratory -

(i) lymph nodes from the head region(retropharyngeal, mandibular or parotid);

(ii) tracheobronchial lymph nodes; and

(iii) mediastinum lymph nodes.

(2) The samples for histopathology must be fixed in 10% formalin and the size of tissues should be approximately 2cm x 2cm in a ratio of one part tissue to nine parts of formalin.

(3) All samples taken under this regulation shall be submitted so that it arrives within ten days of its collection to the laboratory and be accompanied with a completed requisition form.

(4) In the laboratory, samples shall be tested using bacteriology, histopathology or molecular diagnostic assays or any combination of tests, as applicable.

Diagnosis.

19. (1) In conducting histopathologic diagnosis by the Authority -

(a) staining shall be performed with Haematoxylin-Eosin stain to identify any morphologic changes as well as granulomatous lesions;

(b) Ziehl Nielsen staining shall be performed to identify the presence of acid fast bacilli;

(c) Carbol Fuchsin stain may be utilized to stain suspicious smears.

(2) The histopathology results shall be interpreted by the Authority as follows -

(a) suggestive of tuberculosis, when granulomatous lesions of bovine tuberculosis are observed (characterized by necrotic lesions or calcified by mineralization, multinucleated epithelial cells and ganglial cells Longhans and Macrophages);

(b) compatible with bovine tuberculosis, when acid fast bacilli are present intra or extra cellularly, in addition to the granulomatous lesions characteristic to bovine tuberculosis;

(c) negative, when no characteristic lesions of bovine tuberculosis are observed, no acid fast bacilli are seen, when a differential diagnosis confirms another disease or when no lesions are observed indicative of any disease. Differential diagnosis may be indicated.

(3) The Authority may conduct Bacteriologic diagnosis by –

(i) direct exam such as Ziehl Nielsen or Carbol Fuchsin stains shall be used to identify the presence of acid fast organisms; if specimen is positive, the bacilli appear red in colour;

(ii) indirect exam such as culture, isolation and identification of *Mycobacterium bovis* spp. is performed by inoculation of suspicious samples to cellular cultures of Middlebrock 7H10, Middlebroke 7H11,

Stonebrink with sodium pyruvate, and Lowenstein Jensen; typing must be performed using biochemical methods.

(4) Where an official veterinarian or accredited veterinarian conducts a bacteriologic diagnosis he shall –

(i) collect specimens of not more than 2cm x 2cm for bacteriologic studies;

(ii) place the specimens in a saturated borate solution in a 1:1 ratio and

(iii) send the specimens to the laboratory within seven days of collection.

(5) The laboratory technician shall immediately process specimens submitted under subregulation (4).

(6) The techniques applicable in conducting molecular biology diagnosis shall be performed by the Authority only on post mortem samples as follows –

(a) PCR shall be –

(i) performed within seventy-two hours of collection, on fresh tissue samples that show typical tuberculosis lesions; and

(ii) used as a preliminary diagnostic tool prior to bacterial isolation.

(b) Oligonucleotide typing (spoligotyping) –

(i) may be utilized on fresh tissue compatible or suggestive to bovine tuberculosis or with microbial isolates; or

(ii) may be used as an alternative diagnostic tool for the typing of bovine tuberculosis.

Gamma Interferon Assay.

20. (1) Notwithstanding regulation 14, the Authority may utilize in vitro comparative assay.

(2) The in vitro comparative assay may be used to detect the presence of gamma interferon in plasma derived from sensitized lymphocytes, where the sensitized lymphocytes are derived from simulation with avian and bovine PPD, and the detection of gamma interferon production is conducted using a sandwich ELISA with monoclonal antibodies against bovine gamma interferon.

(3) The results of in vitro comparative assay test are reported as either positive or negative to *mycobacterium bovis* or *M.avium* depending on the established cutoff value where any value equal or greater than 0.500 is considered positive.

Management of cattle, compartment or production unit infected with bovine tuberculosis.

21. (1) A bovine producer who owns an animal infected with bovine tuberculosis among its cattle shall ensure that the compartment, or dairy production unit or other establishment is managed by an accredited veterinarian for the purpose of reducing the prevalence of bovine tuberculosis in the establishment through the replacement of animals from a calf rearing establishment until the disease is eradicated.

(2) The accredited veterinarian of a compartment or dairy production unit or other establishment under subregulation (1) is responsible for the management of the herd, including the activities within the calf rearing unit.

(3) For the purposes of this regulation, the animals in the herd shall be subjected to an initial test to determine prevalence and to identify infected animals, provided that the test shall not be conducted in a period greater than six months.

(4) The accredited veterinarian shall ensure that regulation 13*(a)* is complied with.

(5) Pursuant to section 57 if the Act, the Authority or an accredited veterinarian may dispose of positive animals in a programmed manner, by agreement with the bovine producer, taking into consideration age, level of production and the genetic quality of the cattle.

(6) The accredited veterinarian shall send the animals selected for slaughter to a slaughterhouse that is inspected by the Authority and provide monthly reports to the Authority on its activities under this regulation.

(7) Where the accredited veterinarian undertakes testing of a herd, the accredited veterinarian shall segregate cattle within the same installations, and test positive animals that remain in the herd and the negative animals every year.

(8) A bovine producer engaged in dairy production establishment which has been infected with bovine tuberculosis shall not move animals to other farms except where movement is to a controlled calf rearing unit with the same sanitary status operated by the same bovine producer and which has been authorized by the Authority, in which case the movement must be in compliance with the movement permit issued under the *Belize Agricultural Health Authority (Animal Identification) Regulations*.

S.I. No. 77 of 2011.

(9) A bovine producer who own cattle that is infected with bovine tuberculosis, if the bovine producer also owns a dairy production establishment, he shall –

(a) have a schedule of cleaning and disinfection for all the installations, using approved disinfectants; and

(b) apply sanitary measures for the control of rodents and other harmful wildlife.

(10) An accredited veterninarian shall not, in managing a calf rearing unit in herds affected by bovine

tuberculosis in specialized dairy production units, test a fémale animal if that animal is more than seven months pregnant or less than 45 days *post partum*.

(11) An accredited veterinarian shall move a calf that tested negative to the tuberculin test, to a controlled rearing unit.

(12) A bovine producer shall separate calves from the dam immediately after parturition, and shall keep the calves in individual pens and the bovine producer shall feed the calves with colostrum from cows negative to the tuberculin test or with colostrum substitute or pasteurized colostrum.

(13) The Authority shall test two to three-month old female calves with tuberculin and the calves that are negative shall be moved to a communal pen within the same installation, but isolated from the rest of the animals.

(14) The Authority shall test two to three-month old female calves with tuberculin and the calves that are positive shall be moved to a communal corral for segregation and disposal within the same installation, but the communal corral must be isolated from the other compartments.

(15) The Authority shall again test the female calves sixty days after a test under subregulation (13) and may move the female calves to a controlled calf rearing unit where the animals are to be placed in the "receiving corral" (occupied only by the lot of female calves that are entering with the same health status).

(16) The female calves up to six months of age that are tested positive to any of the tests and are identified under regulation 13, may only be moved to slaughter at an Authority-inspected slaughterhouse with the official document of the diagnostic test in a period of not more than ten days from the day of reading of the test.

(17) In the case of animals older than six months of age these shall be slaughtered or may be returned to the segregation unit of the herd of origin.

(18) Where an establishment has a controlled calf rearing unit, the accredited veterinarian shall submit to the Authority, a monthly report of activities conducted and work plan.

(19) A bovine producer shall implement a schedule of cleaning and disinfection in all the installations of the establishment and the controlled calf rearing unit. The hygiene must be approved by an accredited veterinarian with special emphasis between each lot of heifer calves that enter the receiving pen.

Management of controlled calf rearing unit.

22. (1) The accredited veterinarian who is managing a controlled rearing calf unit shall -

(a) ensure that the animals that enter the unit exclusively originate from a production unit that implement the sanitary measures for the control of bovine tuberculosis in their dairy herds;

(b) ensure that the production units as well as the herds are established within the same district and in the same phase of the Programme;

(c) ensure that the calves are isolated without any possibility of contact with any bovine, caprine, ovine, avian and swine production unit and the production of any other species in the area of the controlled calf rearing unit is prohibited;

(d) install a double perimeter fence with at least 6 m between the calf rearing unit and the production unit of other animals or species;

(e) have an accredited veterinarian at each calf rearing unit kept;

(f) have a loading chute, corral, feed storeroom, water, chute for the tuberculin testing, and an exclusive corral for the reception of heifer calves or heifers;

(g) ensure that a rearing calf unit kept in pursuance of these Regulations does not exceed the capacity of the installation;

(h) implement a schedule of cleaning and disinfection of installations and equipment in the reception pens upon entry and exit of each lot of cattle;

(i) ensure that all cattle in a controlled calf rearing unit are identified;

(j) conduct a tuberculin test on animals which have attained sexual maturity and where the test is negative, that animal may be used as replacement, or transferred to its herd;

(k) ensure that animals within a calf rearing unit that test positive to the tuberculin test are identified and that such animal is sent to slaughter in accordance with these Regulations; and

(l) ensure that access by persons by walking or by motor vehicles to a calf rearing unit is restricted and that the entry of personnel and motor vehicles are subjected to cleaning and disinfection before entering the controlled calf rearing unit.

(2) A bovine producer or other person who engages in movement of animals who desires to move a herd for re-entry into the herd of origin shall have in his possession the corresponding sanitary certificate issued by the Authority before he proceed with the movement.

(3) An accredited veterinarian shall monitor and control the movements referred to under subregulation (2) and shall ensure that the transporting vehicle is sealed.

(4) A person under subregulation (2) shall house the animals in such a manner that there is no contact with the segregated animals of the infected herd.

(5) A bovine producer who keeps a calf rearing unit shall ensure that the programming in the milking room is such that animals of different sanitary status do not coincide.

Tests after exposure, slaughter, etc.

23. (1) A bovine producer who owns exposed animal shall keep the infected herd at the farm under quarantine and the exposed animal shall be tested sixty days after the exposure and a second test sixty days after the first test, and a third test shall be conducted one hundred and eighty days after the first test.

(2) A bovine producer who owns a positive animal shall have that animal slaughtered at a slaughterhouse approved by the Authority for that purpose immediately or not later than fifteen days after the Authority requires disposal of the animal.

(3) The circumstances leading to the slaughter of an animal under this regulation may be assessed for the purposes of compensation payable to the owner of the animal.

(4) An official veterinarian shall be present at a slaughter conducted under subregulation (2).

(5) Notwithstanding subregulation (2), the Authority may authorize the slaughter of exposed or positive animals in another district provided that proper notice is given to the official veterinarian or accredited veterinarian in the district where the animal is to be slaughtered.

(6) A bovine producer who owns the herd of origin of the exposed or positive animal should ascertain the slaughter and collate the verification from the veterinarian in charge at the slaughterhouse and keep a record of the slaughter for at least one year after slaughter.

(7) The official veterinarian of the district of origin shall submit a report of movement for slaughter to the official veterinarian of the district where the slaughterhouse is located where such movement is for slaughter.

(8) The official veterinarian of the district where the slaughterhouse is located shall submit monthly reports of inspection results to the Authority.

Importation requirements.

24. (1) A person desiring to import cattle into Belize shall have among the importation documentation an official certificate that attests to the origin of the animal from a country, zone or region with bovine tuberculosis status recognition by the Authority.

(2) An importer of cattle shall have the relevant official animal identification information from the exporting country.

(3) In accordance with subregulation (2), the Authority, may establish with international scientific support, the sanitary requirements for regionalization or compartmentalization in country, zones or regions in which a prior quantitative or qualitative risk analysis showed an insignificant risk, provided that it does not contravene the

provisions of these Regulations or any other regulations made under the Act.

(4) Where it is known that cattle originating from a country, zone or region officially recognized by Belize as a country, zone or region with herd infected with bovine tuberculosis, the cattle in transit to Belize or that are under retention at an entry point into Belize as well as the cattle that are already in Belize, shall be quarantined in authorized sites.

(5) The Authority may conduct epidemiological investigation before it determines that the importation should be denied and the return of the cattle to the country, zone or region of origin or be slaughtered at the expense of the owner or importer.

(6) The procedures to evaluate the regionalization under subregulation (3) by the Authority are as follows -

(a) expressed request from the exporting country or from the country's official veterinary services;

(b) provide the additional information requested, as the case may be, with documentary evidence;

(c) epidemiological analysis conducted by the Authority on the information submitted by the exporting country, but the Authority may request additional information or information for technical support;

(d) personnel from the Authority shall conduct a technical visit to evaluate and verify the information submitted;

(e) once the corresponding risk analysis has been conducted, a decision shall be made and where

it is favorable, the import requirements shall be established in accordance with these Regulations;

(f) where there is a change in sanitary status or non-compliance with these Regulations, the Authority shall modify the import requirements or the equivalency granted;

(g) the Authority may re-test live animals to verify the official test results of the exporting country through the diagnostic tests established in these Regulations.

Epidemiological surveillance.

25.(1) A bovine producer, livestock producer, veterinarian, investigator, slaughterhouse inspector, laboratory personnel and any other person involved with the production and commercialization of animals shall report to the Authority all cases of bovine tuberculosis.

(2) The Authority shall implement epidemiological surveillance through the systematic ongoing collection, collation, and analysis of information generated by activities of the programme and the timely dissemination of information so that action can be taken.

(3) In the Programme, epidemiological surveillance of tuberculosis shall be carried out as follows –

(a) an official veterinarian and accredited veterinarian shall submit a monthly report of results obtained in the tuberculin testing of cattle.

(b) notwithstanding paragraph (a), where the result of a tuberculin test is positive, the official veterinarian or accredited veterinarian, as the case may be shall submit to the Authority and

to the official veterinarian of that district, such a finding within twenty-four hours of that result.

(c) the official veterinarian or accredited veterinarian responsible for the inspection of cattle at a slaughterhouse is responsible for the collection and submission of samples of granulomas of animals during routine slaughter as well as of animals identified as positive or suspected.

(d) the official veterinarian or accredited veterinarian shall maintain records of the suspected cases and shall inform the official veterinarian in that district in accordance with these Regulations for reporting;

(e) the laboratory technician in official and accredited laboratories shall conduct diagnostic assays on the samples from slaughterhouses and they shall inform the Authority within twenty-four hours of test results; and

(f) an investigation that implicates the use of *mycobacterium bovis* must be previously evaluated and authorized by the Authority.

(4) A complete epidemiological investigation, in accordance with Programme guidelines, shall be conducted by an accredited veterinarian on all animals diagnosed with bovine tuberculosis.

(5) An epidemiological investigation of a free herd shall be conducted by an official veterinarian or an accredited veterinarian.

Quarantine measure.

26. (1) The Authority shall inform the owner of the herd or lot of animals in writing of the Authority's intention to

quarantine a herd or lot of animals, the reason for the quarantine, and the procedure for the herd or lot of animals' removal into quarantine.

(2) The Authority shall impose a precautionary quarantine in any of the following cases –

(a) where the official veterinarian or accredited veterinarian detects animals positive to the caudal fold test and the comparative cervical test was not conducted within ten days of the caudal fold test and a release from quarantine shall be upon a negative result to the comparative cervical test of the animals that tested positive to the caudal fold test;

(b) where the official veterinarian or accredited veterinarian detect animals positive or suspected to the comparative cervical test and in the case of positive or suspect animals sent to slaughter, quarantine shall be lifted once these animals are slaughtered and no suggestive lesions are found, a negative laboratory result and all the animals in the herd or lot is tested with negative results to the caudal fold test;

(c) where the accredited veterinarian has found a herd or lot of animals with lesions at routine slaughter and the histopathology result is suggestive of or compatible with bovine tuberculosis;

(d) a herd or lot of animals that originates from an infected herd or lot;

(e) a herd or lot of animals determined to have had contact with an infected herd or lot;

(f) a herd or lot of animals adjacent to an infected herd or lot of animals; or

(g) where the owner of a herd does not have the caudal fold test performed in his entire herd within one hundred and twenty days of test notification.

(3) For the purpose of subregulation (2) (c) to (g), the Authority shall lift the precautionary quarantine when all the animals in the herd or lot test negative to the caudal fold test.

(4) The Authority shall implement definitive quarantine in any of the following cases –

(a) where a herd or lot of animals infected with *mycobacterium bovis* is confirmed by culture and typing; or

(b) when the Authority determines that the presence of *mycobacterium bovis* is indicated through epidemiological studies which include field tests, *post mortem* lesions, histopathology results compatible or suggestive of infection or by PCR or Gamma interferon.

(5) A bovine producer who owns exposed cattle in herds under definitive quarantine must keep the exposed animals in the herd until depopulation or completion of tests for the lifting of quarantine.

(6) A bovine producer who owns exposed cattle may with authorization from the Authority move the animals to quarantine fattening units within the same zone, region or district, if the exposed animal has tested negatively and officially identified.

(7) The Authority may lift a definitive quarantine, where three consecutive tuberculin tests with negative results

has been conducted on all the animals in the herd that are six weeks of age or older and the bovine producer is compliant with all other quarantine measures.

(8) The bovine provide shall provide to the Authority, proof that the tests under subregulation (7) was conducted at intervals of at least sixty days.

(9) The Authority may, in writing, lift a quarantine when the bovine producer or owner of herd or lot of animals has complied with all the sanitary measures stipulated in these Regulations.

(10) The Authority or an accredited veterinarian shall conduct another tuberculin test for epidemiological surveillance purposes twelve months after the last test, which determined the quarantine lift.

(11) A person intending to move a herd or lot of animals that was under definitive quarantine shall notify the Authority of the movement of animals out of the herd and the Authority shall record movement during this period.

(12) An accredited veterinarian may, in the case of dairy cattle registered in the Programme for the management of a dairy production unit affected by bovine tuberculosis place the herd under containment according to the results obtained in the tuberculin tests.

Disinfection.

27. (1) A bovine producer shall disinfect the slaughterhouse, production unit, establishment or any location where the animal is kept whenever a reactor is detected.

(2) Organic matter found in a production unit shall be removed with soap and water followed by mechanical cleaning and application of approved disinfectants.

(3) All chemical disinfectants used in the Programme shall be approved and registered by the Authority.

(4) The following disinfectants are recommended disinfectants approved by the Authority –

(a) Phenol;
(b) Other disinfectants as approved by the Authority under subregulation (3).

Contingency funds.

28. The Authority may make agreements with other parties for the creation of contingency funds to quickly implement the necessary sanitary measures to decrease the prevalence or eradicate bovine tuberculosis in a specified zone, region or district.

Evaluation of compliance.

29. The Authority shall conduct periodic evaluations of the Programme according to procedures developed for this purpose.

Fees.

30. (1) The Authority may charge a bovine producer a fee of $10.00 per animal for testing and services relating to testing for bovine tuberculosis.

(2) Notwithstanding subregulation (1), or any other Regulations which provides for testing in relation to bovine tuberculosis or the application of ear tags under the regulations relating to cattle identification, where more than one service is to be performed on an animal the fee to be charged is $10.00.

Penalties.

31. A person who contravenes these Regulations commits an offence and is liable on summary conviction to a fine not exceeding five thousand dollars or to imprisonment for a period not exceeding two years or to both fine and imprisonment.

FIRST SCHEDULE
(Regulation 7)

Form of Bovine Tuberculosis Field Control Form

[INSERT FORM HERE]

SECOND SCHEDULE
(Regulation 8)

Form of Bovine Tuberculosis Free Herd Certificate

[INSERT CERTIFICATE HERE]

MADE by the Minister responsible for Agriculture, after consultation with the Belize Agricultural Health Authority, this 11 day of April, 2012.

(GASPAR VEGA)
Minister responsible for Agriculture

BAHA NATIONAL BOVINE TUBERCULOSIS PROGRAMME

TUBERCULOSIS FIELD CONTROL FORM

HERD TB STATUS _____

COMPARATIVE CERVICAL TEST

TFC No _____

DISTRICT	COMMUNITY	COORDINATES
FARMER	FARM LOCATION	TELEPHONE: CELL:

PREVIOUS TEST DATE _____		SUMMARY	TB	BB	DATE INJECTED _____ Time _____	DATE READ Time _____
REASON FOR TEST		No. NEGATIVE			TUBERCULIN	
TYPE	ID	No. SUSPECT			DOSE 0.1ML 0.2ML	APPROVED BY
TAG(S)	EAR TAG ( )				LOT No. _____ EXPIRY	
BEEF ( )		No. REACTOR			LOT No. _____ Expiry	ACCREDITED VMO ( )
DUAL PURPOSE ( )	OTHER _____					OFFICIAL VMO ( )
		No. TESTED			Expiry Date	NAME DVM
		No. HERD			Animal _____	
					Owner _____	SIGNATURE DVM

IDENTIFICATION NO	BREED	SEX	AGE MONTHS		INITIAL READING	72 HOURS READING	DOSE GIVEN	MUSCLE	OBSERVATION
				A					
				B					
				A					
				B					
				A					
				B					
				A					
				B					
				A					
				B					
				A					
				B					
				A					
				B					
				A					
				B					
				A					
				B					

Tuberculosis Free Herd Certificate

Establishment Identification Number: _____

This is to certify that the herd owned by:

_____

First Name Middle Name Surname

_____

Address

has met all requirements for free herd, as of _____

Subject to Regulation 9, valid from _____ to _____

_____ _____

Director of Animal Health
BAHA

District Vet. Officer
BAHA

Printed in Belize by the Government Printer

26. Quarantine measure.
27. Disinfection.
28. Contingency funds.
29. Evaluation of compliance.
30. Fees.
31. Penalties.