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Farm animal welfare — Beef cattle

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This African Standard was prepared by ARSO Technical Committee ARSO/TC 23, *Live Animals*.

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ARSO Central Secretariat
International House 3rd Floor
P. O. Box 57363 — 00200 City Square
NAIROBI, KENYA

Tel. +254-20-2224561, +254-20-3311641, +254-20-3311608

E-mail: arso@arso-oran.org

Web: www.arso-oran.org

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ARSO Central Secretariat
International House 3rd Floor
P.O. Box 57363 — 00200 City Square
NAIROBI, KENYA

Tel: +254-20-2224561, +254-20-3311641, +254-20-3311608

E-mail: arso@arso-oran.org
Web: www.arso-oran.org

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Introduction

The purpose of this standard is to ensure that the rearing practices of the establishment provide greater confidence in consumers' expectations that the final products are safe and fit for human consumption. The handling and care of beef cattle should consider relevant aspects of safety, animal health and the environment, in order to minimize the physical and behavioural risk for the animal and the farmer.

Furthermore, animal welfare matters should adhere to access to wholesome and nutritious feed; appropriate environmental design; caring and responsible planning and management; skilled, knowledgeable, and conscientious animal care; and considerate handling, and transport. The five freedom principles of the animals welfare:

- Freedom from hunger and thirst.
- Freedom from discomfort.
- Freedom from pain, injury and disease
- Freedom from Fear and distress.
- 5-Freedom to express normal behaviour.

The purpose of this Standard is to provide for science-based husbandry practices that are in line with international best practice, in order to ensure that the welfare of animals in production systems is safeguarded."

"This standard is developed in accordance with international best practice, including the Five Domains models, in accordance with which animals should be managed:

Nutrition: Access to sufficient, nutritious, species-specific, balanced, varied, clean, and good quality water and food in the correct quantities.

Environment: Factors that enable a comfortable physical environment, such as mild temperatures, suitable substrate, space, fresh air, appropriate light intensity, low noise, normal environmental variability, and predictability.

Health: Factors that enable good humane health through the absence of disease, injury, and functional impairment, with an appropriate body condition.

Behaviour: The ability to exercise agency by means of varied, novel, engaging environmental challenges, as well as pleasant sensory inputs, available choices, movement, exploration, foraging, bonding, rearing young, playing, retreat, rest, and others.

Mental State: The mental state of the animal shall benefit from positive states, such as pleasure, satiety, comfort, vitality, reward, calmness, sociability, playfulness, confidence, and others, while avoiding negative states, such as thirst, hunger, discomfort, breathlessness, pain, debility, illness, frustration, boredom, helplessness, loneliness, depression, anxiety, fear, panic, exhaustion, and others.

Farm animal welfare — Beef cattle

1 Scope

This Committee Draft African Standard provides general principles of good humane practice and minimum requirements in the commercial or backyard rearing/ of beef cattle for food use.

Industry specific requirements for the different types of animals and different types of production system may be developed provided that it satisfies the minimum requirements set out in this standard.

Sentence not necessary in the scope

2 Normative references

There are no normative references to this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

abnormal behaviour

any behavioural change developed as a response to disease or poor management practice causing stress to the animal

3.2

beef cattle

bovine animal of genus *Bos* raised primarily for production of red-meat, while secondary uses include leather and beef by-products

3.3

authorized

that which has been permitted by the competent authority

3.6

competent authority

entity/agency who has the knowledge, expertise and authority as designated by law

3.7

cow

female animal in Genus *Bos* (*Bos indicus* and *Bos taurus*)

3.8

dehorning

removal of horns after they have already formed

3.9

disbudding

removal or destruction of horn buds, done in young animals whose horns have not yet formed

3.10

establishment

given due permission, a firm authorized to operate

3.11

farm owner

legal entity who is responsible for the management and general operation of the farm; the term maybe used interchangeably

3.12**farm technician**

certified trained personnel who is technically skilled and knowledgeable in the various aspects of specialized farm operation

3.13**farm worker**

trained personnel directly responsible for the rearing of animals (BAFS, 2017)

3.14**feed supplement**

refers to a feed ingredient or mixture of feed ingredients intended to supply the deficiencies in a ration or improve the nutritive balance or performance of the total mixture (BAFS, 2017)

3.15**feeds**

any single or multiple materials, whether processed, semi-processed or raw, which is intended to be fed directly to domesticated animals to meet the nutrient requirements in order to maintain life, promote growth, production and reproduction (BAFS, 2017)

3.16**forage**

anything grown on the ground intended for use as animal feed, whether for grazing, cut- and-carry, ensiling, or haying (BAFS, 2017)

3.17**gait**

way of walking or pace of the animals (BAFS, 2017)

3.18**ration**

total amount of feed given for one day (BAFS, 2017)

3.19**rearing**

act of raising of animals (BAFS, 2017)

3.20**vehicle**

any means of transporting large animals, including but not limited to trucks, tractors, trailers, trains, ferries, and ships (BAFS, 2017)

3.21**weaning**

process of complete withdrawal from the dam and withdrawal of milk feeding (BAFS, 2017)

3.22**humane**

act or practice that is exercised in a manner that shows compassion and benevolence, and inflicts the least pain and suffering possible

3.23**welfare**

how an individual animal is mentally and physically coping with the conditions in which such animal lives

3.24

humane

act or practice that is exercised in a manner that shows compassion and benevolence, and inflicts the least pain and suffering possible

3.25

farm operator

person who is in possession, custody, control or charge of an animal

3.26

castration

process of removal or destruction of the testicles, A steer is a castrated male calf raised for beef.

3.27

quarantine

process of physically separating animals exposed to, but not showing signs of infectious disease to monitor for signs of illness and prevent the spread of disease

3.28

isolation

process of physically separating animals that have been diagnosed with or are showing clinical signs of an infectious disease or new animals before introduced in a population

4 General skills and responsibilities of the farm operators and workers

4.1 The farm owner/operator and farm workers shall undergo training on the necessary knowledge and skills about basic procedures of farm management including the correct handling of beef cattle, pasture/forage development and conservation, feeding management, beef cattle health management, and other routine management practices and usage of farm tools or equipment.

4.2 The farm owner/operator should be responsible for the welfare of the animals by giving adequate provisions so that they are able to perform at their optimum levels.

4.3 The farm operator/owner shall provide farm workers with appropriate personal protective equipment.

4.4 The farm operator/owner shall provide working personal protective equipment, as prescribed by the farm bio-security protocol shall be provided to visitors who need to be at the production area.).

4.5 In cases of housed staff, the farm owner/operator should provide comfortable accommodation for the workers (BAFS, 2017).

4.6 The farm owner/operator should always promote a safe and healthy working condition in the farm. Accident and emergency procedures should be available with clear instructions for all workers. First aid kits, fire extinguishing equipment, and information on hotline numbers should be easily available at all times, and placed conspicuously in strategic locations (BAFS, 2017).

4.7 Farm personnel to animal ratio should be included in the farm operation manual including the services of a farm supervisor/manager and veterinarian (BAFS, 2022).

4.8 The farm owner/operator should ensure that all farm workers undergo annual routine health check-up/medical examination (BAFS, 2017).

4.9 The farm operator should report immediately or within 24 h to relevant authorities, any incidence of abnormal behavioural changes, health conditions and mortalities in the farm or any characteristic of a reportable/notifiable disease outbreak (BAFS, 2017).

4.10 The farm operator should keep and maintain complete records of farm operations, management routines, environmental management, and animal health records like disease monitoring and medication for traceability purpose (ASEAN, 2019).

5 Legal responsibilities of the farm operator/owner

5.1 The farm owner should conform to existing animal farming and welfare legislation. This covers the management of environment issues, farm location, animal welfare requirements, disease control and reporting, dead animal disposal, production of wholesome food and occupational hazards associated with animal farming.

5.2 The farm operator should conform to existing labour legislation).

6 Animal welfare responsibilities

6.1 The farm workers, owners and operators shall not cause or allow anyone to cause cruelty to beef cattle, including but not limited to:

- a) maltreatment of animals under his/her care and attention;
- b) neglect of animal, such that it experiences pain, suffering or distress;
- c) failure to implement the proper feeding program to maintain the live weight of the animal within the normal physiological range for the species type, age and sex;
- d) removal of any part of the anatomy without adequate anaesthesia, whenever applicable;
- e) putting to sleep (euthanasia), confine, handle or transport any animal in a manner causing deliberate pain, suffering or distress; and
- f) keeping an animal alive, especially that which is pronounced physically or physiologically incapacitated, unless it is under the direct care of a licensed and registered veterinarian.

6.2 The farm technicians and workers should not neglect animals according to the following criteria:

- a) freedom from hunger and thirst and malnutrition. Feed withdrawal of animals destined for slaughter should follow the guidelines set by the competent authority;
- b) freedom from physical discomfort and pain;
- c) freedom from injury and disease;
- d) with due consideration to the differences in the production system (confined and free-range/grazing), animals should be given enough freedom to conform to essential behavior patterns; and
- e) freedom from fear and distress.

7 Farm location

7.1 Site selection

The farm should:

- a) be strategically located within the approved land use plan of the local government and should be compliant with;
- b) have a continuous supply of adequate power and potable water;
- c) be accessible to major facilities of production (i.e. feed mill, water system, forage area);
- d) with exception for those practicing integrated farming with their own post-harvest facilities, the farm should not be near service/public facilities (e.g. slaughterhouses, public markets)¹; and
- e) existing farms should have full control of the risks and ensure that there are mitigation measures in place. New farms should comply with the above provisions (BAFS, 2017).

7.2 Site history

If there are available data/information from relevant government agencies or organizations on the prior land use, then it should be used to establish that the site is not a possible source of physical, chemical and microbiological hazards. However, when these data are not available and uncertainty exists as to the suitability of the land for agricultural use, it is recommended to have the soil analyzed for heavy metal contamination, etc. (BAFS, 2017).

8 Animal housing

8.1 Refer to DARS 1108.

8.2 The farm building should be designed and constructed appropriately for the intended purpose, should provide proper ventilation and should be well maintained.

8.3 The building intended for keeping animals should be constructed in the orientation that minimizes the adverse effects on animal performance and eliminates possible hazards to its surroundings.

8.4 The building should be designed and constructed using materials that:

- a) should not cause any injury or impart hazard to the welfare of the animal;
- b) provide comfort;
- c) can be easily cleaned and disinfected;
- d) can be easily replaced when damaged;
- e) create efficient stock management; and
- f) enhance biosecurity.

8.5 There should be an effective drainage system in place at the building.

8.6 Animals should be provided with sufficient floor space/size suitable for their age, body weight and size to allow animals to feed and drink comfortably.

8.7 The feeding and drinking equipment and facilities should conform with the standards/requirements appropriate for age, number of beef cattle and should be constructed and conspicuously placed such that:

- a) animals are allowed to eat and drink freely, allowing them to behave normally; and

- b) contamination with animal faeces and urine is prevented.

8.8 Pens and pathways should:

- a) be designed and constructed to prevent animals from escaping; and
- b) be free from protruding objects or structures (e.g. nails and bolts) that may cause injury to the animals and farm operators and farm workers.

8.9 Housing design (particularly roof height and sides) should provide proper ventilation (whether natural or artificial) to maintain a comfortable environment.

8.10 Animal buildings should have adequate lighting to ensure that animals can be thoroughly inspected as required.

8.11 Electrical installations and wirings should be protected and should not be accessible to the animals.

8.12 Floors and pathway used by the animals should be made from non-slippery materials, safe, stable and well-lighted to prevent injury or abnormal gait to the animals.

8.13 The design of alleys and chutes should allow effective management of the animals:

- a) floors of alleys and chutes should be properly built to provide good footing, preventing slippage and injuries; and
- b) alleys and chutes should have sides of sufficient height to prevent animals from jumping off or falling (BAFS, 2017).

8.14 The farm should provide effective and appropriate facilities to restrain or handle animals without causing undue stress and injury to both animals and farm workers (BAFS, 2017).

8.15 The premises should be kept clean at all times to prevent disease occurrence, establishment of breeding ground for pests and avoid environmental degradation (BAFS, 2017).

8.16 Beef cattle houses and equipment shall be hygienic and well maintained in good condition to prevent disease occurrence, establishment of breeding ground for pests and avoid environmental degradation for the safety of animals and personnel.

9 Facilities

9.1 Working pen

9.1.1 The working pen should have appropriate restraining tools and equipment (BAFS, 2017).

9.1.2 There should be facilities that would permit necessary segregation of animals. In particular, an isolation pen or area for sick, injured, or disabled animals that require necessary veterinary attention (BAFS, 2017).

9.1.3 If applicable, facilities for breeding and other husbandry practices should be properly designed to provide the animals a comfortable and conducive environment for reproduction (BAFS, 2017).

9.2 Pasture area or paddocks

9.2.1 Grazing animals

9.2.1.1 There should be enough space for the animals (BAFS, 2017).

9.2.1.2 Shade or shelter within the pasture area should be provided (BAFS, 2017).

9.2.1.3 Land for production of animal feed and feed ingredients should not be located in close proximity to industrial operations where industrial pollutants from air, ground water or runoff from adjacent land would pose a food safety concern.

9.2.1.4 Pasture area shall be properly maintained and managed to avoid being over grazed and polluted or heavily infested by parasites. Rotational grazing may be practiced, i.e. the herd is moved after one pasture lot has been grazed for some time (BAFS, 2017).

9.2.1.5 The rotational grazing protocol of the farm should take into consideration cross contamination of disease to other groups of animals, application of pesticide and chemical fertilizer, manure decomposition and pasture quality to reduce risk on animal health and environmental contamination. Where manure fertilization of pastures is practiced, an appropriate handling and storage system should be in place and maintained to minimize environmental contamination.

9.2.2 Confined animals

Those practicing cut-and-carry should establish their own forage or obtain a steady supply of forages.

9.2.3 Feed storage facilities

9.2.3.1 The farm should have a facility for proper storage of all feed materials (BAFS, 2017).

9.2.3.2 The feed storage should be kept clean at all times (BAFS, 2017).

9.2.3.3 The storage facilities shall be secure, have adequate ventilation, adequate protection from moisture to prevent growth of moulds, and should be vermin-proof.

9.2.3.4 Effective stock rotation should be practiced, i.e. "First in – first out" rule (BAFS, 2017).

9.2.4 Condemnation/disposal facility

There should be a separate area for disposal of mortalities that is enclosed and isolated, and should conform to existing environmental waste management regulations.

9.2.5 Perimeter fencing

9.2.5.1 The fence, including its posts (e.g. concrete, iron, hardwood and live posts) and gates, should be effectively designed to prevent entry of stray animals, predators and escape or injury of the farm animals.

9.2.5.2 If electric fence is used, it should be operated as per manufacturer's instructions.

9.3 Quarantine/isolation area

9.3.1 The quarantine area may be as simple as a dedicated paddock or it may require more stringent containment, especially if it can be spread via the air or by third parties as by vectors such as insects or wild animals.

9.3.2 Livestock quarantine is a critical tool for bio-security and animal health.

9.3.3 Quarantine area for separating new animals and watching them for sickness to prevent disease from entering your operation.

9.3.4 In a pasture or dry lot, there should be a double fence between I/Q animals and other animals on the farm, the distance between fences should be at least 6 feet, but the greater the distance, the better.

9.3.5 Isolation/quarantine areas should have a clean, dry area for animals to rest.

10 Farm management

10.1 Animal sourcing, identification and traceability

10.1.1 Animals shall be procured from reputable sources and records shall be maintained to ensure traceability.

10.1.2 Animal identification should be done (ear tagging and other forms of identification that are compliant with animal welfare regulations) and the records of identification for the animals should be kept properly. If needed, animal identification records may be reported and registered with the local government authority.

10.1.3 If the establishment imports animals, records of pertinent documents should be kept.

10.1.4 The farm operator should record all movement of animals in and out of the farm. This includes records of veterinary protocols as prescribed by the concerned authority.

10.2 Breeding and weaning

10.2.1 Only sexually matured animals of appropriate age and weight, and free from any disease or probable inherited abnormality should be bred.

10.2.2 In natural mating, appropriate ratio of male to female animals should be practiced.

10.2.3 Only duly trained certified personnel should perform assisted breeding techniques (e.g. artificial insemination, embryo transfer and ovum pickup) on the animals.

10.2.4 The calves should be weaned only at a recommended body weight and age.

10.2.5 Weaning should be conducted with minimum stress to both the cow and its young.

10.2.6 The farm operator should provide the basic facilities for the newly weaned animals (BAFS, 2017).

10.2.7 The farm operator should maintain individual animal records that contain their lactation, breeding and reproductive performance (BAFS, 2017).

10.2.8 Breeding programs and activities should be properly recorded, maintained, monitored and evaluated (BAFS, 2017).

10.3 Feeds and nutrition

10.3.1 Animals should be provided with optimum level of nutrition at all times, as required for their respective functions and well-being.

10.3.2 There should be adequate and continuous access to potable water.

10.3.3 Drinking water for animals should be of appropriate quality and quantity. Where there is reason to be concerned about contamination of animals from the water, measures should be taken to evaluate and minimized hazards. Some of water used on farm shall be located in the areas where contamination from hazardous substances can be prevented.

10.3.4 Safe, clean, and adequate rations or feeding materials (silage, grasses, legumes and concentrates) suited for cattle should be provided (BAFS, 2017).

10.3.5 The production of forage crops should be monitored to minimize the risk of biological chemical and physical hazard which affect animal health (ASEAN, 2019).

10.3.6 When giving commercial feed, farm operators should use those that have been officially registered with the competent authority.

10.3.7 In cases of farm-mixed feed formulation, farm operators should only use ingredients from authorized and traceable suppliers. Records of purchases should be kept (BAFS, 2017).

10.3.8 On-farm feed manufacturers shall secure license to operate from the competent authority and should be mixed in a manner that will minimize the potential from cross-contamination between feed of feed ingredients that may have an effect on the safety or withholding period of the feed or feed ingredients (ASEAN, 2019).

10.3.9 The farm may also keep a record of available forage (BAFS, 2017).

10.3.10 chemicals, feed additives, supplements and any form of medication in the diet of the animals, including those disallowed by the authorities or importing countries, should not be used (BAFS, 2017).

10.3.11 Feed from animal origin shall be prohibited except for milk and milk products.

10.3.12 The feed mixing equipment should be kept clean at all times and have regular preventive maintenance schedule (BAFS, 2017).

10.3.13 Procurement documents of feed concentrates and ingredients should be kept and updated properly and should include:

- a) supplier or source of feed concentrate and its registration number;
- b) type of feed and supplements;
- c) quantity;
- d) declaration of ingredients;
- e) document of feed analysis;
- f) date of delivery; and
- g) date of manufacturing and batch number (BAFS, 2017).

10.3.15 The type and quantity of ration being fed to the animals should be recorded (BAFS, 2017).

10.3.16 The preliminary examination on physical appearance of feed quality shall be conducted prior to feeding (ASEAN, 2019).

10.4 Other management practices

10.4.1 The farm personnel, when performing the management practices listed below, should use the appropriate tools and equipment, observe proper procedure (including provisions for restraint and pain management), and should keep records of such activities:

- a) hoof trimming;
- b) disbudding/dehorning;

- c) castration; and
- d) other routine management practices (BAFS, 2017).

10.4.2 Guard dogs, animals and herding dogs should be properly trained and vaccinated.

11 Animal health management

11.1 The farm operator should be responsible for maintaining good health of the animals at all times, through proper management practices that include prevention, treatment and disease control and containment measures of the disease affecting the animals (BAFS, 2017).

11.2 There shall be a written animal health program in place that is updated regularly and supervised by a licensed veterinarian, in accordance with the requirements of the competent authorities (BAFS, 2017).

11.3 The health status of the animals in the farm should be monitored and recorded regularly by the farm, and veterinary assessment of the establishment should be carried out annually by a licensed veterinarian and/or by a competent authority (BAFS, 2017).

11.4 The vaccination program should be adopted against the diseases as maybe required by competent authorities. There shall be an official control program for brucellosis and tuberculosis (BAFS, 2017).

11.5 Adequate measures should be implemented in order to prevent udder infections (BAFS, 2017).

11.6 Drugs, medicines, and vaccines should be administered by licensed veterinarian or trained personnel under the supervision of a licensed veterinarian (BAFS, 2017).

11.7 Drugs or medicines should only be used for prophylactic and treatment reasons (BAFS, 2017).

11.8 Instruction of medication of each specific drug being administered should be strictly followed, particularly the withdrawal period. The farm should secure certification from a veterinarian prior to slaughter (ASEAN, 2019).

11.9 The use of illegal and banned medication and vaccines should be prohibited (use; the same with controlled drugs) (BAFS, 2017).

11.10 Drugs, medicines, and vaccines should be stored and identified properly; proper disposal of these items should be followed to prevent contamination to the environment (BAFS, 2017).

11.11 The use of needle during injection shall be done in such a way that no part of broken needle remains in body and the corrective action for remained needle in beef cattle shall be in place (ASEAN, 2019).

11.12 The farm operator should keep and maintain complete records of farm operations, management routines, and animal health records like disease monitoring and medication. These records should be easily retrievable (BAFS, 2017).

- a) records include, but are not limited to, the following:
 - i. vaccination program;
 - ii. deworming;
 - iii. disease condition;
 - iv. diagnosis;

- v. intervention or treatment done;
 - vi. control measures;
 - vii. post-mortem findings;
 - viii. surveillance;
 - ix. disposal (BAFS, 2017); and
 - x. farm traffic record (vehicle and visitors entry and exit) (ASEAN).
- b) the farm should maintain updated records of medicine purchase and administration that should be readily available for inspection (BAFS, 2017);
- c) the procurement records should have:
- i. date of purchase;
 - ii. name of the product (generic compound);
 - iii. quantity purchased;
 - iv. batch number;
 - v. expiry date; and
 - vi. name of supplier (BAFS, 2017).
- d) administration records should consist of the following:
- i. type of drugs or medication used;
 - ii. batch number;
 - iii. quantity of medicine used;
 - iv. date administered;
 - v. route of administration;
 - vi. identification of animals/group treated;
 - vii. number of animals treated;
 - viii. date of completion of treatment;
 - ix. withdrawal period; and
 - x. name of the person who administered the medicine (BAFS, 2017).

12 Animal welfare management

12.1 Proper techniques should be applied to handle and restrain animals. Animals should always be handled and restrained in such a way to protect them from fear, stress, pain and injury (BAFS, 2017).

12.2 Appropriate and functional facilities, equipment, and tools should be used for effective animal handling and restraint, in order to minimize stress and injury against animals. The operators should acquire the skills and techniques to use the tools properly (BAFS, 2017).

12.3 Sick, injured or disabled animals should be separated from healthy animals and should be given the necessary veterinary attention, including euthanasia if required and following the rules and regulations in euthanasia (BAFS, 2017).

12.4 Sticks or canes should not be used to restrain the farm animals. However, a stick or cane may be used for the worker's safety when handling aggressive animals (BAFS, 2017).

13 Animal transportation

13.1 Animals should be transported in appropriate vehicles and in a manner that does not cause stress throughout the travel and does not predispose them to injury & disease (BAFS, 2017).

13.2 Animals being transported should be in a good state of health. However, stressed, sick and pregnant animals, may be transported but with extra precautionary measures (BAFS, 2017).

13.3 Transport vehicles should comply with the requirements of the competent authorities and should:

- a) allow easy loading and unloading;
- b) have communication equipment and first aid kit;
- c) ensure safety of the animals and personnel during transport;
- d) be clean and sanitized;
- e) be equipped with floors that provide secure footing;
- f) have proper drainage for collection of urine;
- g) whenever necessary, under loaded vehicles should contain partitions to avoid injury of animals during transport;
- h) have a decal/label **"live animal on board"** at the sides and front/back;
- i) should be registered to BAI as Transport Vehicle Carrier; and
- j) accompanied by a registered livestock handler (BAFS, 2017).

13.4 Appropriate space allowance and ventilation should be provided during transportation (BAFS, 2017).

13.5 Where appropriate, animals should be segregated according to species, size, sex, and age (BAFS, 2017).

13.6 The transport of animals from point of origin to final destination should be through the most direct and appropriate route which should be completed without unnecessary delay and should follow the animal travel plan (BAFS, 2017).

13.7 Animals should be transported during the coolest part of the day (BAFS, 2017).

13.8 Transport permits and health certificates that conform to the veterinary protocols imposed by the competent authority should be acquired and brought along during transport (BAFS, 2017).

13.9 The transporter should be fully responsible for the care and welfare of the animals as well as ensure the cleanliness of the vehicle during the entire process of transporting. Disposal of the waste should be done in an environment friendly manner (BAFS, 2017).

13.10 Animals intended for slaughter should follow the National Meat Inspection Service guidelines for resting of animals prior to slaughter (BAFS, 2017).

13.11 In cases wherein, the establishment seeks the services of a second party to ship the live animals, the shipper should be properly informed of the recommendations stated above (BAFS, 2017).

14 Biosecurity measures

14.1 The farm should have a written protocol of biosecurity measures. Proper warning signage should be provided (BAFS, 2017).

14.2 Biosecurity procedures should be well implemented and continuously monitored to prevent introduction of disease into the farm and/or to control its spread within the farm (BAFS, 2017).

4.3 The biosecurity measures should take into consideration the relevant diseases identified by local regulations/authority (BAFS, 2017).

14.4 The farm should have the appropriate and functional lay-out and infrastructure to ensure effective implementation of the biosecurity measures. These should include facilities for disinfection, with appropriate concentration of disinfectant, at entry (e.g. wheel bath or spraying, shower for visitors, handwashing facility, etc.)/exit point of the farm and the building (footbath) (BAFS, 2017).

14.5 All incoming animals should undergo the appropriate quarantine measures (BAFS, 2017).

14.6 Stray animals should not be allowed within the premises (BAFS, 2017).

14.7 Imported animals and animal products should be accompanied by official documentation from the competent authority (BAFS, 2017).

14.8 All persons who show clinical signs or have a recent history of sickness such as fever, respiratory or gastrointestinal infection should not be allowed to enter the farm (BAFS, 2017).

14.9 Disease prevention and control measures shall be documented and be under supervision of a licensed/registered veterinarian or competent authority (ASEAN, 2019).

15 Personnel hygiene and farm sanitation program

15.1 Farm personnel shall have good personal hygiene as part of biosecurity measure (BAFS, 2022).

15.2 Farm premises should be kept clean and free of potential conditions conducive to breeding of pests, animal parasites and disease outbreak. This is to avoid negative effects on the landscape, environment and animal welfare (BAFS, 2017).

15.3 Organic materials should be regularly removed from all livestock contact surfaces (i.e., floors, pen partitions). Where bedding is used, it should be regularly replaced (BAFS, 2017).

15.4 The farm should have a proper and functional drainage system towards a waste water treatment facility. Solid and liquid waste should be managed and disposed according to existing relevant guidelines imposed by competent authorities (BAFS, 2017).

15.5 The farm should have proper handling and disposal system for sick, injured and dead animals, and should be in accordance to existing regulations of the authority (BAFS, 2017).

15.6 The farm should have a written sanitation program that includes integrated pest management, e.g. fly control, rodent control, etc. (BAFS, 2017).

15.7 After destocking of beef cattle the house and equipment shall be thoroughly cleaned and disinfected. The house shall be closed for a certain period of time in accordance with related national requirements (ASEAN, 2019).

15.8 Regular waste removal would discourage ammonia buildup and promote better air quality within buildings (BAFS, 2017).

15.9 The farm should take appropriate measures to minimize excessive odor coming from the farm, especially those that may be associated with waste decomposition (BAFS, 2017).

15.10 Water used for other purposes aside from drinking water shall be clean, free from hazards, safe and sufficient for using in the farm at all time (BAFS, 2017).

15.11 Water management such as water testing and maintenance of drinking water system should be done regularly (ASEAN, 2019).

16 Environmental management

16.1 The farm operator should take necessary measures to ensure that activities related to livestock farming do not contribute to the degradation of the environment (i.e., land, water, air) and cause destruction to bio-diversity (BAFS, 2017).

16.2 The farm operator should maintain and display clear instructions on procedure for disposal of farm solid wastes and farm chemical wastes (e.g. paint, expired pesticide and containers, etc.) (BAFS, 2017).

16.3 The farm operator should be familiar with the proper procedure for disposal and schedule of actions to be taken, especially at times of emergency (BAFS, 2017).

17 Review and evaluation of practices

17.1 Practices should be checked for compliance and evaluation for effectiveness and do-ability on a regular basis (BAFS, 2017).

17.2 In cases where provisions are no longer applicable, they should be amended (BAFS, 2017).

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