THAI AGRICULTURAL STANDARD

TAS 6903-2009

GOOD AGRICULTURAL PRACTICES FOR
CHICKEN BREEDER FARM

National Bureau of Agricultural Commodity and Food Standards
Ministry of Agriculture and Cooperatives
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CHICKEN BREEDER FARM

National Bureau of Agricultural Commodity and Food Standards
Ministry of Agriculture and Cooperatives
50 Phaholyothin Road, Ladyao, Chatuchak, Bangkok 10900
Telephone (662) 561 2277 www.acfs.go.th

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### Technical Committee on the Elaboration of Standard for Good Agricultural Practices for Chicken Breeder Farm

1. **Mr. Jeera Sornnuwat**  
   Chairperson  
   Senior Expert on International Livestock Standard

2. **Ms. Yupa Laojindapun**  
   Member  
   Representative of the National Bureau of Agricultural Commodity and Food Standards

3. **Mrs. Thanida Harintharanon**  
   Member  
   Representative of the Bureau of Livestock and Certification

4. **Assoc. Prof. Supaporn Isaraiodom**  
   Member  
   Representative of the Faculty of Agriculture, Kasetsart University

5. **Asst. Prof. Narin Uprrgarin**  
   Member  
   Representative of the Faculty of Veterinary Medicine, Kasetsart University

6. **Mr. Aeksing Saruang**  
   Member  
   Representative of the Food Processing Industries Club, The Federation of Thai Industries

7. **Mr. Chuchai Angsuthornrungsi**  
   Member  
   Representative of the Veterinary Council of Thailand

8. **Mr. Veera Vivitkul**  
   Member  
   Representative of the Animal Husbandry Association of Thailand

9. **Mr. Jirawat Sithao**  
   Member  
   Representative of the Thai Broiler Processing Exporter Association

10. **Mr. Boonyong Sritirasri**  
    Member  
    Representative of the Layer Farmer Association

11. **Mr. Chaisiri Mahantachaisakul**  
    Member and Secretary  
    Office of Standard Development  
    National Bureau of Agricultural Commodity and Food Standards
The chicken breeder farming of Thailand has continuously developed by the uses of knowledge and technology to improve production of chicken breeder. Recently poultry disease, in particular Avain Influenza, had health impact and higher cost that made considerable loss to chicken breeder farmer. The Agricultural Standards Committee deems it necessary to establish Thai Agricultural Standard on Good Agricultural Practices for Chicken Breeder Farm as a guideline for chicken breeder farmer to promote hygienic operation, quality production and healthy birds, as well as a mean to move forward for farm certification.

This standard is based on the information of the following documents:
Department of Livestock Development. (2002). Regulations on Chicken Breeder Farm of Thailand.

NOTIFICATION OF THE MINISTRY OF AGRICULTURE AND COOPERATIVES
SUBJECT: THAI AGRICULTURAL STANDARD: GOOD AGRICULTURAL
PRACTICES FOR CHICKEN BREEDER FARM
UNDER THE AGRICULTURAL STANDARDS ACT B.E.2551 (2008)

Whereas the Agricultural Standards Committee deems it necessary to establish an
agricultural standard on Good Agricultural Practices for Chicken Breeder Farm as a voluntary
standard in accordance with the Agricultural Standards Act B.E. 2551 (2008) to promote such
agricultural commodity standard to meet its standard on quality and safety.

By virtue of Section 5, Section 15 and 16 of the Agricultural Standards Act B.E. 2551
(2008), the Minister of Agriculture and Cooperatives hereby issues this Notification on the
Establishment of Thai Agricultural Standards: Good Agricultural Practices for Chicken
Breeder Farm (TAS 6903-2009), as a voluntary standard, details of which are attached herewith

Notified on 29 September B.E.2552 (2009)

(Mr. Theera Wongsamut)
Minister of Agriculture and Cooperatives
THAI AGRICULTURAL STANDARD

GOOD AGRICULTURAL PRACTICES FOR CHICKEN BREEDER FARM

1 SCOPE

This standard covers farm management areas on feed and feeding, watering, health, animal welfare, environment and record keeping for the good quality production of chicken breeder.

2 DEFINITIONS

For the purpose of this standard:

2.1 Chicken breeder means grandparent stock or parent stock which can produce eggs for the production of good quality of broiler or layer.

2.2 Chicken breeder farm means premises for commercial chicken breeder rearing including breeder house, feed storage and egg culling and storage, and area for carcass disposal.

2.3 Breeder house means an area used for rearing breeder which includes both controlled and uncontrolled environment.

3. REQUIREMENTS AND INSPECTION METHODS

Requirements and inspection methods shall be as in Table 1.

Table 1 Requirements and Inspection Methods

(Section 3)

<table>
<thead>
<tr>
<th>Items</th>
<th>Requirements</th>
<th>Inspection Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Components of farm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Location</td>
<td>1.1 Farm is located in an environment with minimal risk from any contamination of physical, chemical and biological hazards.</td>
<td>1.1 Visual inspection of farm location</td>
</tr>
</tbody>
</table>
| 1.2 Layout                | 1.2.1 Farm shall have sufficient size, suitable for rearing and does not pose any problem to environment.  
                              | 1.2.2 Layout of the farm shall be orderly separated according to farm activities such as rearing, feed storage, equipment storage, carcass disposal, worker accommodation, egg culling and storage room. | 1.2.1 Visual inspection of farm size and environment  
<pre><code>                                                              | 1.2.2 Examine farm layout and visual inspection of operating areas |
</code></pre>
<table>
<thead>
<tr>
<th>Items</th>
<th>Requirements</th>
<th>Inspection Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 Housing</td>
<td>1.3.1 House shall be strong, hygienic, easily cleaned and maintained and well ventilated.</td>
<td>1.3.1 Visual inspection of breeder house construction</td>
</tr>
<tr>
<td></td>
<td>1.3.2 Area in breeder house is adequate for hygienic chicken breeder rearing.</td>
<td>1.3.2 Visual inspection of breeder rearing area.</td>
</tr>
<tr>
<td>2. Feed</td>
<td>2.1 Feed quality shall be complied with the Feed Quality Control Act, relevant laws and regulations.</td>
<td>2.1 Check the record on feed analysis or record on feed source</td>
</tr>
<tr>
<td></td>
<td>2.2 All breeders can access to feed.</td>
<td>2.2 Visual inspection of number, size and position of feeding trough and feeding</td>
</tr>
<tr>
<td></td>
<td>2.3 Feed shall be stored in an area to prevent contamination and deterioration.</td>
<td>2.3 Visual inspection of feed storage</td>
</tr>
<tr>
<td>3. Watering</td>
<td>3.1 Water source shall be located in an area safe from contamination of hazardous substances.</td>
<td>3.1 Visual inspection of water source</td>
</tr>
<tr>
<td></td>
<td>3.2 Water used shall be cleaned.</td>
<td>3.2 Check record of water analysis</td>
</tr>
<tr>
<td></td>
<td>3.3 All breeders can access to water.</td>
<td>3.3 Visual inspection of number and size of water container</td>
</tr>
<tr>
<td>4. Farm management</td>
<td>4.1 Availability of manual demonstrating the details of the important farm operations e.g. rearing system, recording system, animal welfare and health management.</td>
<td>4.1 Inspection of manual and related documents</td>
</tr>
<tr>
<td>4.2 Personnel</td>
<td>4.2.1 Operator who takes care of chicken rearing shall be skillful and trained.</td>
<td>4.2.1 Check training record</td>
</tr>
<tr>
<td></td>
<td>4.2.2 Availability of licensed veterinarian to supervise chicken breeder farm and animal health.</td>
<td>4.2.2 Check veterinary license and poultry farm veterinary supervisor license issued by the Department of Livestock Development</td>
</tr>
<tr>
<td>Items</td>
<td>Requirements</td>
<td>Inspection Methods</td>
</tr>
<tr>
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</tr>
<tr>
<td>4.2.3 Operators shall have good personal hygiene to prevent the spread of contagious disease.</td>
<td>4.2.3 Visual inspection of personal hygiene, and check personnel health records including annual health checkup</td>
<td></td>
</tr>
<tr>
<td>4.3 Cleaning and maintenance</td>
<td>4.3.1 House and equipment shall be cleaned and maintained in a good and hygienic manners.</td>
<td>4.3.1 Check cleanliness of housing and equipment and check cleaning records</td>
</tr>
<tr>
<td></td>
<td>4.3.2 Cleaning and disinfection of house and equipment shall be done after all chicken breeder have been removed; and its effectiveness can be examined by swabbing onto the chicken rearing area for microbial culture. The house shall be vacated according to the notification of the Department of Livestock Development.</td>
<td>4.3.2 Check the record of cleaning, disinfection, the vacation period of the house , and the result of microbial culture</td>
</tr>
<tr>
<td></td>
<td>4.3.3 House litter and nest box litter materials shall be clean and dry.</td>
<td>4.3.3 Visual inspection of house litter and nest box litter materials</td>
</tr>
<tr>
<td>4.4 Egg management</td>
<td>4.4 Availability of hygienic cleaning and handling of eggs to be properly collected and stored.</td>
<td>4.4 Visual inspection of the frequency of egg collection and egg cleaning</td>
</tr>
<tr>
<td>5. Animal Health</td>
<td>5.1.1 Prevention and disinfection of pathogen for vehicles, equipment and personnel shall be provided before entering into the farm including the record on entry and exit for inspection.</td>
<td>5.1.1 Visual inspection of the prevention and disinfection of pathogen before entering into the farm</td>
</tr>
<tr>
<td>5.1 Disease prevention and control</td>
<td>5.1.2 Disease surveillance programme shall be provided in order to effectively control and eradicated.</td>
<td>5.1.2 Check disease surveillance programme</td>
</tr>
<tr>
<td></td>
<td>5.1.3 Randomly check the immunity of the major diseases to monitor the current immunity status and to make use of such information for an appropriate disease prevention plan.</td>
<td>5.1.3 Check record of vaccination and result of immunity check of chicken breeder</td>
</tr>
<tr>
<td>Items</td>
<td>Requirements</td>
<td>Inspection Methods</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5.1.4</td>
<td>If there is an outbreak or suspicion of disease outbreak, follow the practices complied with the laws and regulations on animal epidemic disease and the recommendation of the Department of Livestock Development.</td>
<td>5.1.4 Check record on the operational action according to the laws and regulations</td>
</tr>
<tr>
<td>5.2 Treatment</td>
<td>5.2 Recommended treatments by farm veterinarian shall be followed.</td>
<td>5.2 Check records of treatments and prescription and visual inspection of operational action</td>
</tr>
<tr>
<td>6. Animal welfare</td>
<td>6. Care shall be taken for the welfare of animals. In case of injury, sickness or deformity, breeders shall be appropriately treated to avoid suffering.</td>
<td>6. Visual inspection and check treatment document</td>
</tr>
<tr>
<td>7. Environment</td>
<td>7.1 Appropriate disposal of refuse and waste such as manure, discarded carcasses shall be practiced, including waste management surrounding the house, to prevent odour and pathogens. 7.2 Prevention of litter scattering after depopulation shall be practiced.</td>
<td>7.1 Check record on waste management</td>
</tr>
<tr>
<td>8. Record keeping</td>
<td>8.1 Important operations on farm management that affect animal health and disease control shall be recorded. 8.2 Records shall be kept for at least 3 years for inspection.</td>
<td>8.1 Check records</td>
</tr>
</tbody>
</table>

4. **Guidance on Good Agricultural Practices for Chicken Breeder Farm**

Guidance on Good Agricultural Practices for Chicken Breeder Farm is intended to provide farm practices on chicken breeder farm. The details are described in Appendix A.
APPENDIX A

Guidance on Good Agricultural Practices for Chicken Breeder Farm

(Section 4)

A.1 COMPONENTS OF FARM

A.1.1 LOCATION

A.1.1.1 Farm is located in an appropriate area for good breeder rearing, such as the area convenient to transportation, well-drained land, sufficient supply of clean water for animal, open space and good air flow.

A.1.1.2 Farm is located in an environment with minimal risk from any contamination of physical, chemical and biological hazards which may adversely affect to breeder hygiene, such as not in the vicinity of industrial area or waste disposal site.

A1.1.3 Farm location shall be at least 5 km from bird collection area such as live poultry market, poultry slaughterhouse, to prevent the spread of any disease to farm.

A.1.2 LAYOUT

A.1.2.1 Farm shall have a good layout and sufficient size convenient for farm operations. Layout of the farm shall be orderly separated according to farm activities such as rearing area, housing location, egg culling and storage room, feed mixing and storage, equipment storage, carcass disposal area, office and accommodation space, farm entrance and exit, road, waste disposal area, water source and storage. The accommodation shall be separated and distanced away from the rearing area, and egg culling and storage, in order to prevent and control disease within the farm.

A.1.2.2 Farm shall have area in line with the number of houses and does not pose any problem to environment and animal health.

A.1.2.3 The rearing area shall be fenced and have only one entrance and exit equipped with disinfection system.

A.1.2.4 Farm road shall be paved with durable materials, appropriate condition for use and wide enough for transporting equipment, feed and birds in and out of the farm.

A.1.3 HOUSING

A.1.3.1 Breeder house shall be well constructed using durable materials that is easily cleaned, maintained, and well ventilated, have roof to shield from sunlight and rain. The house shall not have sharp edge that can injure chicken. Materials shall be of those that can be cleaned and disinfected.

A.1.3.2 Breeder house shall have appropriate environment and size corresponding to the number of breeders for hygienic rearing, and naturally move around. There shall be appropriate distance between the houses. At the entrance of each house, there shall be a disinfectant basin for boots dipping prior to entering and exiting the house.
A.1.3.3 Breeder rearing area
(1) Open system means the breeder house where breeder conditions are variable according to the external environment.

   - The maximum stocking density for non-productive chicken shall not exceed 10 birds/m$^2$.
   - The maximum stocking density for productive chicken shall not exceed 5 birds/m$^2$.

(2) Close system means the breeder house where its environmental conditions, e.g., temperature, humidity, ventilation and lighting, are controlled and suitable for the breeders.

   - The maximum stocking density for non-productive chicken shall not exceed 10 birds/m$^2$.
   - The maximum stocking density for productive period chicken shall not exceed 7 birds/m$^2$.

A.1.3.4 Air circulation, dust, temperature, moisture and gases in the close system shall not exceed the following standard levels, otherwise may be harmful to the breeders.

   (1) Rate of air exchange inside the house shall be corresponding to the weight, ages of chicken breeders and the outside temperature.
   (2) Dust shall not exceed 15 mg/m$^3$ (air volume).
   (3) Temperature for incubation period shall be between 28 °C to 35 °C and non-productive and productive period 20 °C to 32 °C.
   (4) Relative humidity shall be between 50% to 80%.
   (5) Ammonia shall not exceed 20 ppm. Carbonmonoxide shall not exceed 50 ppm. Carbon dioxide not exceed 5,000 ppm.
   (6) Lighting for both open and close systems, the average levels of light intensity at the height of chicken shall be at a minimum of 10 lux and have dark period for resting at least 1 hour per day.

A.1.3.5 Surrounding area of the house shall not have weeds. Area adjacent to the house shall be paved with cement or other similar materials to prevent harbouring of disease carrier animals and other birds.

A.2 FEED

A.2.1 Source of feed

   (1) Feed shall be sourced from licensed suppliers according to the Feed Quality Control Act B.E. 2525 (1982) and its amendments.

   (2) In case of farm mixing feed, the quality of feed shall be in accordance with the Feed Quality Control Act B.E. 2525 (1982) and its amendments.

A.2.2 The use of veterinary drugs in feed shall be under supervision of farm veterinarian.

A.2.3 Feed storage area shall be provided with clean, dry, free from insects and disease carrier animals, and well ventilated. The feed storage shall be able to prevent the contamination and deterioration.

A.2.4 Feed bags shall be placed on pallets to allow good ventilation and prevention of moisture. In case of vitamins used in feed, they shall be kept in an air-conditioned room.

A.2.5 Feed shall provide appropriate nutritional requirements corresponding to ages and breeds.
A.2.6 Feed containers shall be clean, dry and moisture proof. The container has not been used for containing hazardous substances, fertilizers or any other materials that may be harmful to animals and has no contaminants that may contaminate to animal feed. If the inner surface of the container is coated, such materials shall not be harmful to animals.

A.2.7 Appropriate feeder shall be provided, properly placed, in order to prevent contamination and be accessible to all breeders.

A.2.8 Number and size of feeder shall be corresponding to numbers, ages, sex and breeds of chicken.

A.2.9 Trucks and loading sections for feed transported shall be dry, clean, and appropriate for feed handling.

A.2.10 Feed quality and contaminants shall be regularly tested by sending the samples to a reliable laboratory and the test results shall be kept for at least 3 years.

A.3 WATERING

A.3.1 Water source shall be located in an area safe from contamination by manure or waste water from breeder houses or residential areas. Furthermore, water source shall be far from slaughterhouses or industrial factories. If water is sourced from underground, the artesian well shall be completely covered.

A.3.2 Water supply for animal drinking and use on farm shall be clean and sufficient. Water quality shall be complied with the underground potable water standard in accordance with the Notification of Ministry of Natural Resources and Environment, entitled Criteria and Measure for the Protection of Public Health and Polluted Environment, B.E. 2551(2008). Water shall be regularly analyzed for mineral and hazardous substances at least once a year, including microbial detection.

A.3.3 Numbers and sizes of drinkers shall be corresponding to the numbers, ages, sex and breeds of chicken.

A.4 FARM MANAGEMENT

A.4.1 Farm Management Manual

The manual shall encompass the rearing system, record keeping, disease prevention and control, animal welfare and health management, including farm sanitation in order to be used as guidance as follows:

(1) housing preparation;
(2) chick brooding;
(3) Caring of non-productive period of chicken breeders;
(4) Caring of productive period of chicken breeders;
(5) hatching and culling of egg management;
(6) feed and water management;
(7) cleaning and maintenance;
animal health management, including vaccination programme, animal treatment [use of veterinary drugs], surveillance of diseases and immunity, sick and dead chicken management;
(9) pest and disease carrier animal controls;
(10) sanitation and environmental management including lighting, temperatures, moisture, air circulation and waste disposal;
(11) animal welfare management;

A.4.2 Personnel

A.4.2.1 Operators shall be sufficient and corresponding to the numbers of breeders, including:

- Operator
  - Open system: not exceeding 10,000 birds per one keeper
  - Close system: not exceeding 20,000 birds per one keeper
- Animal husbandry not exceeding 200,000 birds per one animal husbandry person
- Veterinarian not exceeding 1,500,000 birds per one veterinarian

A.4.2.2 Personnel responsibility should be clearly assigned, including:

- Keeper is a trained person taking care of chicken rearing. Animal husbandry person is a supervisor for chicken rearing with a degree in Animal Husbandry/Animal Science or related fields.
- Veterinarian is a person who supervises animal health and hygienic farm operation as well as animal welfare. Veterinarian is the one who holds both the veterinary license of Veterinary Council and the poultry farm veterinary supervisor license.

A.4.2.3 Operators who take care of chicken rearing shall be skillful and trained continuously on chicken breeder rearing. Training shall be recorded as personal file.

A.4.2.4 Operators shall have good personal hygiene and at least yearly health checkup. Sick or injured operators, such as diarrhea, vomit, sore throat and fever, shall not be allowed to work in breeder house. Such sick or injured persons shall inform the farm manager as well.

A.4.3 Cleaning and maintenance

A.4.3.1 Equipment used for rearing, such as feeders, drinkers as well as breeder house shall be thoroughly and properly cleaned prior to placement.

A.4.3.2 Breeder house and equipment shall be well maintained for the safety of both breeders and operators.

A.4.3.3 Automatic equipment used for rearing that is essential for animal welfare shall be daily checked. If defected equipment is found, it shall be immediately fixed and replaced by back-up equipment. Alarm system shall be installed to alert any defects and shall be regularly checked.
A.4.3.4 Effective cleaning and disinfection systems for breeder house and equipment shall be in place. The house shall be vacated for a downtime period after depopulation for not less than 14 days or as recommended by the DLD.

A.4.3.5 After depopulation, manure and litter shall be removed and the house shall be cleaned. Effective cleaning shall be checked by swab test for *Salmonella* spp. culture.

A.4.3.6 Litter and nest box litter such as husk, sand, straw, wood shavings or saw dust, shall be dry and clean. Litter thickness shall not be less than 3 cm. The floor shall be strictly kept for its condition appropriate for chicken breeders. If the litter is wet, it shall be changed.

A.4.4 Egg management

A.4.4.1 Eggs in the nest boxes shall not be delayed for collection. Eggs shall be collected as a minimum of 4 times/day. Collected eggs shall be hygienically cleaned and appropriately handled. Collected Eggs shall be stored in a cold place without dust. If eggs are stored for several days, they shall be kept with controlled temperature between 15 °C and 18°C and relative humidity between 75% to 85% for freshness. In addition, egg storage shall be cleaned and disinfected regularly.

A.4.4.2 Dirty, broken, cracked or deformed eggs shall be culled out.

A.5 ANIMAL HEALTH

A.5.1 Disease prevention and control

A.5.1.1 Chicken breeders within the same breeder house shall be of the same type and breed, with all in all out system.

A.5.1.2 Preventive measures before entering into the farm shall be in place by using appropriate disinfection methods. Especially at the farm entrance, vehicles shall pass through the disinfectant spraying facilities. Farm gates shall be closed at all times and subject to be opened only by authorized persons. Visitor and vehicle entry and exit shall be recorded and kept for checking.

A.5.1.3 Wheel dip shall have appropriate depth with slope to allow all types of vehicles for conveniently passing through. Materials used for wheel dip shall be durable. The wheel dip may be either separated from or attached to disinfectant spraying facilities.

- Disinfectants shall be prepared according to the dosage as indicated on the accompanied document of the manufacturer and changed regularly.

A.5.1.4 Vehicles entering farm shall pass through the disinfectant spraying facilities which is located at the farm entrance. The mist from the spraying equipment shall be able to cover the whole vehicle. The disinfectants shall not be corrosive and used at proper concentrations. Vehicle used inside and outside farm shall not be commonly used.

A.5.1.5 Spit, chewing or eating inside the breeder house are prohibited.
A.5.1.6 Personnel who enter into the rearing area shall pass through the procedures of disinfection, and change clothing provided by the farm.

A.5.1.7 Disinfecting and shower room shall consist of:
(1) changing clothes before entering the disinfecting room;
(2) disinfecting room provided with sufficient space, non-slippery floor and non-irritant disinfectants;
(3) shower room after passing disinfecting room;
(4) changing clothes before entering the breeder house.

Every compartment shall be clearly separated and installed with workable equipment. The facilities shall be cleaned at all time. Clothes and shoes used in the farm shall be cleaned after each use.

A.5.1.8 Equipment used in each breeder house shall be separated to prevent contamination. Disinfection methods used for cleaning equipment shall follow technical recommendations before introducing to the rearing area in order to prevent pathogen contamination.

A.5.1.9 Farm sanitary shall be controlled to prevent pathogen accumulation, especially in the rearing area. Moreover, there shall be portable disinfectant sprayers or equipment for effective use at various spots within the farm. Number of sprayers shall be corresponding to the farm size.

A.5.1.10 The breeder house shall be provided with preventive measures against the entry of avian or disease carrier animals. Control programme of disease carrier animal both outside and inside the breeder house shall be planned and monitored continuously.

A.5.1.11 Farm shall have disease surveillance plan in accordance with plan provided by the DLD regulations such as the control of *Salmonella* in poultry, B.E. 2552 (2009).

A.5.1.12 Every breeder shall be vaccinated according to the vaccination programme established by the farm veterinary supervisor.

A.5.1.13 Randomly check the immunity of major diseases to monitor the current immunity status and to make use of such information for an appropriate disease prevention plan in grandparent and parent stocks of broilers and layers.

A.5.1.14 If there is high mortality rate, authorized personnel shall be informed to collect the sample for diagnosis within 12 hours.

A.5.1.15 In case of an outbreak or suspicion of disease outbreak, action shall be taken according to the Animal Epidemic Act B.E.2499 (1959) and its amendments and the recommendations made by the Department of Livestock Development.
A.5.2 Treatment

Recommendations made by farm veterinarian and the requirements of TAS 9023 of the Thai Agricultural Standard on Good Practices for Control of the Use of Veterinary Drugs shall be followed.

A.6 ANIMAL WELFARE

A.6.1 Animal welfare shall be complied with the DLD Regulations on the Animal Welfare for Poultry on Farm, B.E. 2542 (1999).

A.6.2 Flock shall be checked for at least twice a day at appropriate interval.

A.6.3 Randomly check for breeder weight and control feed intake to the desired weight.

A.6.4 In case of beak cutting, beak shall be cut off not more than 1/3 of beak length at the age of not exceed 10 days old.

A.6.5 Breeder house shall be appropriately managed so as to make breeder live naturally and comfortably.

A.6.6 Care shall be appropriately taken for injured, ill or deformed breeder to avoid suffering.

A.7 ENVIRONMENT

A.7.1 Waste shall be collected and kept in the bin tightly covered with lid, and destroyed properly to minimize the impact to environment.

A.7.2 Carcass shall be immediately removed by putting in waterproof plastic bags, tightly closed, and placed in the tightly covered bin to prevent disease carrying animals before burying or incinerating. There shall be a designated area for carcass disposal. This area shall be separated from other breeder houses. There are two methods for carcass disposal.

1. By burying, the area shall be sufficient, located in an area not subject to flood and away from water source. Carcass shall be buried at least 50 cm depth from the ground, covered with lime stone or poured with disinfectants before covering the hole with soil to prevent animal digging.

2. By incinerating, incineration shall be performed in an appropriate area and the carcass shall be completely burned.

A.7.3 After depopulation, disinfectants shall be sprayed onto the litter to eliminate germs and dispersal of germs. Litter shall not be reused. Vehicle used shall be covered to prevent material falling.

A.7.4 Surrounding area for at least 3 m in radius of the breeder houses shall be cleaned and no waste accumulation to prevent the build-up of odour, pathogen, and disease carrier animals.

A.7.5 Waste water from farm shall be treated before discharging into public water resource.
A.8 Record Keeping

A.8.1 Records on the important operations on farm management that may affect the health of breeders and the disease control shall be taken, such as:

- Information on farm management
- Information on production management, such as data of animal, feeding and watering, egg laying rate
- Record of control, prevention and treatment of diseases, namely veterinary drug prescription and use, chemicals and vaccine by indicating name of the product, type, lot and date

A.8.2 Records shall be kept for at least 3 years for inspection.
APPENDIX B

UNIT

The units and symbols used in this standard and the units recognized by the International System of units (*Le Système International d’Unités*) or SI are as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Symbol</th>
</tr>
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<tbody>
<tr>
<td>Mass</td>
<td>milligram</td>
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<td>Length</td>
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<td>Light intensity</td>
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