

THAI AGRICULTURAL STANDARD

GOOD AGRICULTURAL PRACTICES FOR PIG FARM

1. SCOPE

- 1.1 This Thai Agricultural Standard established good agricultural practices for pig farm as defined in Section 2.1. It covers requirements on farm components, farm management, personnel, animal health, animal welfare, environment and data recording so that the pigs are suitable for further raising or using as food, taking into account food safety, animal health, animal welfare and the environment.
- 1.2 This Thai Agricultural Standard is applied to farms where pigs with the scientific name of *Sus scrofa*, both domesticated and wild, are raised.

2. DEFINITION

For the purpose of this standard:

- 2.1 Pig farm means an establishment where either boars, sows, nursery pigs, finisher pigs, or any combinations are raised.

3. REQUIREMENTS

3.1 Farm components

3.1.1 Location

Principle

Site selection is essential for the establishment of a pig farm. Consideration shall be given to potential contamination of physical, chemical and biological hazards from the environment; convenient transportation; suitability and availability of water resources. The purpose is to ensure that there will be no adverse effect to animal health and welfare, ability to transport pigs, feed, medical supplies, tools and equipment. Additionally, there will be no problem on shortage of water supply.

- 3.1.1.1 Evidence showing consent to operate farm by local authority shall be available.

- 3.1.1.2 The farm shall be located in an area away from the environmental risk of contamination of physical, chemical and biological hazards, such as industrial plants, dumping sites, which may pose threat to pig and human health including animal welfare. Otherwise, appropriate risk management measures shall be in place.
- 3.1.1.3 Farm shall be located in an area where transportation routes are available for transport of pigs, feed, medical supplies, and tools and equipment. It shall not be situated in a flood-prone area.
- 3.1.1.4 Farm shall have adequate supply of clean water.

3.1.2 Farm design and layout

Principle

Appropriate farm layout and area arrangement inside the farm will help prevent contamination, enhance efficient farm operations, and avoid any adverse effects against animal health and welfare, as well as the environment.

- 3.1.2.1 Farm shall have sufficient area appropriate for pig raising, not too crowded to cause any problems to the environment, animal health and welfare.
- 3.1.2.2 Farm shall have fences or natural barriers that are able to control entry and exit of humans and to prevent other animals from outside.
- 3.1.2.3 Farm layout shall be designed to facilitate operation in a hygienic manner. Areas shall be separately allocated for each activity, such as areas for animal raising, feed storage, isolation and treatment of sick animal, garbage and manure collection, carcass disposal and selling of pigs. Office and residential areas shall be separately allocated from animal raising area.
- 3.1.2.4 Measures shall be in place for prevention of other animals entering production areas. Entry and exit of humans shall be controlled through designated entry/exit points to prevent cross-contamination.

3.1.3 House

Principle

Pig house with sturdy structure, hygienic design, sufficient space and proper management of suitable environment for pig raising will enhance pig health and welfare.

- 3.1.3.1 Pig houses shall be structurally sturdy, hygienic, well ventilated and easy for cleaning and maintenance.
- 3.1.3.2 Pig houses shall have sufficient space for pig raising with a good environmental condition inside the house corresponding to breed, size and age of pigs.
- 3.1.3.3 In the case of enclosed houses of which environment conditions (i.e., temperature, humidity, ventilation and light) are controlled, alarm system and appropriate measures for dealing with power failure or automatic equipment breakdown shall be in place.

3.2 Farm management

3.2.1 Farm manual

Principle

Farm manual providing details of the essential operations in a pig farm will guide personnel to perform their tasks properly according to the operating procedure and enhance the effective management of a pig farm.

- 3.2.1.1 Farm manual shall be made available to provide details of essential operations for pig farming as follows:
 - 1) House preparation prior the receiving of pigs for raising
 - 2) Farm management
 - 3) Pig raising systems
 - 4) Feed and water management for pigs
 - 5) House, tools and equipment cleaning and maintenance
 - 6) Pig health management
 - 7) Pest control
 - 8) Sanitation and environment management
 - 9) Animal welfare management
 - 10) Data recording
- 3.2.1.2 Essential procedures and work instructions shall be documented.

3.2.2 Feed and water management

Principle

Management to provide pigs with a good quality of feed and water in a sufficient amount to meet their needs will promote their health and welfare.

- 3.2.2.1 Feed used, shall be of good quality, safe, suitable for pig raising in accordance with the Animal Feed Quality Control Act B.E. 2558 (2015).
- 3.2.2.2 Prohibited substances stipulated by the Animal Feed Quality Control Act B.E. 2558 (2015) shall not be used.
- 3.2.2.3 The use of medicated feed shall be under the supervision of farm veterinarian. Medicated feed shall be kept separately from other general feed and provided with clear label/signage.
- 3.2.2.4 Preliminary examination on physical appearance of feed quality shall be conducted.
- 3.2.2.5 Feed containers and feeding equipment shall be suitable to age, size and number of pigs and shall be placed where all pigs can access to feed.
- 3.2.2.6 Storage facilities for feed and raw materials shall be clean, well ventilated, able to prevent moisture, development of moulds and stored pest. Feed and raw materials shall be stored separately from tools and equipment and toxic chemicals.
- 3.2.2.7 First in – first out rule for stored feed shall be practiced.
- 3.2.2.8 Water used on farm shall be prevented from contamination of hazards. Otherwise, measures for water quality improvement before use shall be in place.
- 3.2.2.9 Clean water shall be available and accessible for every pig.

3.2.3 Management and maintenance of housing, tools and equipment

Principle

Managing practices to keep pig houses, tools and equipment clean will reduce the accumulation of pathogens. In addition, maintenance of pig houses, tools and equipment in a good condition and ready for use will enhance efficient operations and safety of both pigs and personnel.

- 3.2.3.1 Pig houses, tools and equipment shall be cleaned in a hygienic manner and maintained in a good condition and ready for use so as not to cause any harm to both pigs and personnel.
- 3.2.3.2 Pig manure shall be removed, and pig house shall be thoroughly cleaned to prevent accumulation of manure inside the house and its surroundings.
- 3.2.3.3 Pens, tools and equipment shall be thoroughly cleaned and disinfected after removing pigs from the house. Pig house shall be kept vacant for a certain period of time, as specified by the Department of Livestock Development, before restocking a new lot of pigs.
- 3.2.3.4 Appropriate measures for pest control and eradication shall be in place.

3.3 Personnel

Principle

Personnel having knowledge and ability capable to perform their tasks and duties, with good personal hygiene and good health, will enhance the effectiveness of farm operations and proper care of pigs for their health and welfare.

- 3.3.1 Farm shall have enough personnel whose tasks and responsibilities are clearly defined taking into consideration number of pigs raised.
- 3.3.2 Personnel shall have knowledge and ability suitable for the jobs. Those responsible for pig raising shall have knowledge from training or on-the-job training.
- 3.3.3 Farm shall have a licensed veterinarian certified by the Department of Livestock Development for the supervision of pig farm.
- 3.3.4 Personnel shall have good personal hygiene and receive annual health check-up, including important zoonotic diseases.
- 3.3.5 Measures shall be in place to prevent contamination of pathogens into the production areas through personnel, e.g., providing operators with shower facilities, appropriate clothing and footwear.
- 3.3.6 Personnel who have been sick from contagious diseases which may cause contamination to the production system, shall not be allowed to work in pig houses.

3.4 Animal health

3.4.1 Disease prevention and control

Principle

Disease prevention and control measures (e.g., biosecurity, proper immunity enhancement) and compliance with the Animal Epidemics Act, B.E. 2558 (2015) are essential for pig health. They will efficiently prevent and control pathogen transmission via persons, animals, and vehicles.

3.4.1.1 Biosecurity measures shall be in place to appropriately prevent and control diseases. Implementation of those measures shall be under the supervision of farm veterinarian or a person who has been assigned by the farm veterinarian.

3.4.1.2 Measures to prevent introduction of diseases via incoming lot of pigs shall be in place.

3.4.1.3 Introduction of diseases via vehicles, tools and equipment and any persons shall be prevented and controlled prior to entry and exit. Every entry and exit shall be recorded for the purpose of traceability.

3.4.1.4 Programmes for vaccination and elimination of internal and external parasites shall be in place, and implemented under supervision of farm veterinarian.

3.4.1.5 In case of a disease outbreak or suspicion of an outbreak, measures complying with the Animal Epidemic Act, B.E. 2558 (2015) and recommendations of the Department of Livestock Development shall be followed.

3.4.2 Animal disease therapy

Principle

Animal disease therapy under supervision of farm veterinarian is essential to ensure that pigs receive proper disease diagnosis, treatment and prevention without any adverse effect to their health and welfare, and to consumers' health.

3.4.2.1 Animal disease therapy shall be supervised by a farm veterinarian and carried out in accordance with the Veterinary Profession Act, B.E. 2545 (2002) and the Drug Act, B.E. 2510 (1967).

3.4.2.2 Injection shall be conducted in such a way that no part of broken needle is left in any animal's body. In case such problem occurs, corrective action shall be in place.

3.5 Animal welfare

Principle

Animal welfare principles shall be taken into consideration in pig raising management, to let them express their natural behaviours, to enhance their well-being and not to cause any suffering.

- 3.5.1 Pigs shall be raised and taken care of in a proper condition, with good hygienic practices, and provided with adequate living space, feed and water in compliance with the Cruelty Prevention and Welfare of Animals Act, B.E. 2557 (2014).
- 3.5.2 In case any pigs are sick, injured, or disabled, and treatments have failed, euthanasia shall be considered to prevent any further suffering. It shall be conducted under supervision of farm veterinarian or person who has been assigned by the farm veterinarian.

3.6 Environment

Principle

Disposal of carcass, garbage, waste and wastewater from pig farms will affect the environment. Therefore, proper practices are required.

- 3.6.1 Garbage and waste shall be collected in a covered trash can and disposed of by appropriate and hygienic methods.
- 3.6.2 Methods to dispose of infected and hazardous waste separately from general garbage shall be in place.
- 3.6.3 Pig carcasses shall be disposed of and destroyed by appropriate methods at the discretion of farm veterinarian.
- 3.6.4 Wastewater treatment system shall be in place to improve quality of discharged water. The discharged water shall be in accordance with the notifications of the Ministry of Natural Resources and Environment entitled, "Designation of pig farms as a pollution source which effluent to public water resource or environment must be controlled." and "Effluent control standard from pig farms".
- 3.6.5 Pig manure management and nuisance odour prevention shall be in place.

3.7 Data recording

Principle

Data recording and record keeping are essential to investigate causes of problems or management errors, and to trace whether each step of the operations conforms with the established procedure or not.

3.7.1 Data on essential operations affecting animal health, disease control, animal production and environment management shall be recorded as follows;

- 1) Pig information, e.g., identification number, age, sex, breed, breeding history, parturition, vaccination and treatment;
- 2) Feed and water management, e.g., sources and provisions of feed and water;
- 3) Receiving of pigs showing their sources;
- 4) Selling and distribution of pigs;
- 5) Entry and exit of persons and vehicles;
- 6) Usage of chemical agents, disinfectants, or pesticides;
- 7) Application of vaccines and veterinary drugs, e.g., veterinary drug prescription, authorization form of veterinary drug usage;
- 8) Personnel records, e.g., personal information, training or on-the-job training records, responsibilities, and results of annual health check-up;
- 9) Wastewater treatment records

3.7.2 Records shall be kept for at least 3 years.