



THAI AGRICULTURAL STANDARD

TAS 9008-2006

**GOOD MANUFACTURING PRACTICES FOR
POULTRY ABATTOIR**

**National Bureau of Agricultural Commodity and Food Standards
Ministry of Agriculture and Cooperatives**

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National Bureau of Agricultural Commodity and Food Standards

Ministry of Agriculture and Cooperatives

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Thai Agricultural Standard (TAS) on Good Manufacturing Practices for Poultry Abattoir is the criteria for certifying and practical guiding of poultry abattoir. The guidelines cover all steps starting from picking up live poultry at farm and transferring to abattoir and thereafter distributing of poultry carcass, poultry meat and their products to the market in order to provide safe and quality products that fit for consumption and are acceptable domestically and internationally.

The establishment of this standard is based on the information of the following documents:

FAO/WHO. 2005. Draft Code of Hygienic Practice for Meat, pp. 21-27. In: Report of the 11th Session of the Codex Committee on Meat Hygiene. 14-17 February 2005. ALINORM 05/28/16. New Zealand.

OIE. 2005. Guidelines for the Slaughter of Animal for Human Consumption. In: Report of the Meeting of the OIE Terrestrial Animal Health Standards Commission. 17-28 January 2005. Paris, France.

Silversides, D. and Jones, M. 1992. Small Scale Poultry Processing Plants. FAO, Rome 98 p.

Remark:

The standard title has been revised from “Thai Agricultural Commodity and Food Standard (TACFS)” to “Thai Agricultural Standard (TAS)” in accordance with the enforcement of The Agricultural Standards Act B.E. 2551 (2008).



**NOTIFICATION OF THE NATIONAL COMMITTEE ON
AGRICULTURAL COMMODITY AND FOOD STANDARDS
SUBJECT: THAI AGRICULTURAL COMMODITY AND FOOD STANDARD:
GOOD MANUFACTURING PRACTICES FOR POULTRY ABATTOIR
B.E. 2549 (2006)**

The resolution of the 1/2549 session of the National Committee on Agricultural Commodity and Food Standards dated 8 June B.E.2549 (2006) endorsed the Thai Agricultural Commodity and Food Standard entitled Good Manufacturing Practices for Poultry Abattoir. This standard would be of benefits for quality improvement, facilitating trade and protecting consumers.

By virtue of the Cabinet Resolution on Appointment and Authorization of the National Committee on Agricultural Commodity and Food Standards dated 19 November B.E.2545 (2002), the Notification on Thai Agricultural Commodity and Food Standard entitled Good Manufacturing Practices for Poultry Abattoir is hereby issued as voluntary standard, the details of which are attached herewith.

Notified on 10 August B.E.2549 (2006)

Khunying Sudarat Keyurapan

Minister of Agriculture and Cooperatives
Chairperson of the National Committee on Agricultural Commodity and Food Standards

THAI AGRICULTURAL STANDARD

GOOD MANUFACTURING PRACTICES FOR POULTRY ABATTOIR

1. SCOPE

1.1 Thai Agricultural Standard (TAS) on Good Manufacturing Practices for Poultry Abattoir applies to poultry transportation from farm to abattoir, humane slaughtering, good hygienic practices and thereafter distributing of poultry meat and products from abattoir to markets.

1.2 This standard shall be used in conjunction with Thai Agricultural Standard on Good Manufacturing Practices for Abattoir (TAS 9004-2004), Thai Agricultural Standard on Chicken Meat (TAS 6700-2004) and Thai Agricultural Standard on Duck Meat (TAS 6701-2004).

2. DEFINITIONS

For the purpose of this standard:

2.1 **Poultry** means chicken, duck, goose and other domestic fowl except ostrich and emu.

2.2 **Poultry abattoir** means any premises and building established for poultry slaughtering and dressing. It may include cut up processes to prepare poultry meat, parts, and products for human consumption.

2.3 **Poultry carcass** means the whole of bird after the processing of humane slaughtering for human consumption by bleeding and eviscerating, either head removal or not.

2.4 **Poultry meat** means tissue parts from carcass that are safe and fit for human consumption. The majority of tissue parts consist of bird skeletal muscle. The meat shall not be treated in any way for preservation, except chilling.

2.5 **Products** mean unprocessed parts of poultry other than meat that are fit for human consumption such as blood and stomach.

2.6 **Offal** means visceral organs in both abdominal and thoracic cavity except lungs.

2.7 **Stunning** means processes in which poultry are rendered completely unconscious prior to bleeding and remain unconscious until bleeding is completed.

2.8 **Humane slaughtering** means methods of slaughtering poultry whereby poultry shall not be suffering.

2.9 **Transportation of poultry** means movement of poultry humanely by vehicle from farm to abattoir.

2.10 **Vehicle for poultry** means transport vehicles i.e. truck including transport receptacles in which poultry is transported.

2.11 **Crate** means cages or boxes used to confine birds for transport and they shall be appropriate to each strain and breed of poultry.

2.12 **Cutting** means the dividing of carcass into the required parts.

2.13 **Transportation of carcass, poultry meat and products** means movement of poultry carcass, poultry meat and products by vehicle from abattoir to market.

2.14 **Vehicle for poultry carcass, poultry meat and products** means vehicles appropriately designed to control the temperature for transporting carcass, poultry meat and products.

2.15 **Package** means packages or containers in which carcass, meat and products are packed.

2.16 **Official inspector** means an inspector who is a veterinarian or a properly trained officer appointed by the Director General or local government to inspect meat in accordance with requirements contained in the Controlling of Abattoir and Selling Fresh Meat Act.

2.17 **Competent person** means the official authority appointed by the Minister, Director General or local government to control meat hygiene, including meat inspection in accordance with requirements contained in the Controlling of Abattoir and Selling Fresh Meat Act.

2.18 **Visual inspection** means inspection of physical appearance of the objects such as meat, meat product and general appearances by visual observations. However, physical contact, smelling or other tools such as magnifying glass can be used to aid in observations depending upon the criteria for inspections and evaluate whether the results are in compliance with the requirements. The inspections may include interview or observe on working or operation processes.

2.19 **Ante-mortem inspection** means any methods of the inspection of animal health prior to slaughtering by official inspector for consumers' safety.

2.20 **Post-mortem inspection** means any methods of the inspection of carcass and visceral organ by official inspector for the consumers' safety.

2.21 **Water and ice** means water and ice complied with the standards of potable water.

3. PROVISIONS CONCERNING CONTROL POINTS, REQUIREMENTS AND INSPECTIONS

The control points, requirements and inspections for good manufacturing practices for poultry abattoir are defined in Table 1 and Section 3 of Thai Agricultural Standard on Good Manufacturing Practices for Abattoir (TAS 9004-2004).

Table 1. The Control Points, Requirements and Inspections

Control Points	Requirements	Inspections
1. Transportation of live poultry	1.1 Vehicle shall be designed to be strong and appropriate for poultry species with adequate spaces for poultry crate. 1.2 Movement of poultry shall be approved by Department of Livestock Development. 1.3 Sick poultry shall not be transported with the healthy ones.	Visual inspection and review related documents

Control Points	Requirements	Inspections
	1.4 Poultry shall arrive at abattoir at least 30 min before slaughtering.	
2. Receiving of live poultry	2.1 Ante-mortem inspection is required. 2.2 Sick or suspected poultry suffering from diseases are isolated and kept in separated area and sacrificed them in emergency area after slaughtering the normal poultry. 2.3 Clean and disinfect vehicles and container after unloading poultry.	Visual and record inspection
3. Poultry slaughtering	3.1 Humane slaughtering 3.2 Bleeding knife shall be cleaned every time before use. 3.3 Poultry shall not come into contact with the floor during slaughtering. 3.4 Time allowed for complete bleeding shall be at least two minutes. 3.5 Slaughtered poultry shall be washed and cleaned. 3.6 Bleeding equipment, tools and floor shall be cleaned after the bleeding processes.	Visual inspection
4. Scalding and defeathering	4.1 Scalding water temperature shall be at least 58 °C and high enough for defeathering. 4.2 The water temperature and period of immersion shall be related to the size and species of poultry. 4.3 Slaughtered poultry shall be completely defeathered. 4.4 If wax or adhesive substances are used in defeathering processes, the substances shall be qualified for use with food.	Visual inspection and review related documents
5. Head removal and shank cutting	5.1 Head removal and shank cutting (can be omitted where necessary) by methods described in A.5.	Visual inspection
6. Evisceration	6.1 Offal shall be completely removed by appropriate equipment.	Visual inspection and review related documents

Control Points	Requirements	Inspections
	6.2 Carcass shall not be contaminated by contents of offal. Offal and carcass shall be placed together for inspection. 6.3 Post-mortem inspection is required.	
7. Carcass cleaning	7.1 Poultry carcass shall be washed by water after bleeding, defeathering and eviscerating.	Visual inspection
8. Carcass or poultry meat chilling	8.1 Within one hour after chilling or during storage for distribution, the core temperature of carcass or poultry meat shall not be exceed 7 °C. 8.2 Temperature of carcass or poultry meat and room temperature shall be recorded. 8.3 Chilling room shall be free of condensation.	Temperature monitoring and review related documents
9. Carcass cutting	9.1 Equipment, tools and utensils shall be cleaned properly. 9.2 Cutting up area shall be clearly separated from other production area and strictly controlled of entering.	Visual inspection
10. Packaging	10.1 Packages shall be durable and soundly safe for food products. 10.2 Label shall be legible on each package. 10.3 Packaging area shall be clearly separated from other production area.	Visual inspection
11. Operating procedures in poultry abattoir	11.1 Operating procedures in poultry abattoir shall be appropriately stepwise and preventing microorganisms cross contamination.	Visual inspection
12. General hygiene	12.1 Hygienic practices in production are defined in Annex B.1. 12.2 Personal hygiene is defined in Annex B.2.	Visual and relevant document inspections
13. Waste water treatment	13.1 Waste water treatment system shall be in place in compliance with relevant laws.	Visual inspection

4. RECOMMENDATIONS ON GOOD MANUFACTURING PRACTICES FOR POULTRY ABATTOIR

Recommendations on Good Manufacturing Practices for Poultry Abattoir (Annex A) is intended to provide guidance for producers in their operation for carcass, poultry meat and products thereof which will be safe and fit for consumption. Hygienic practices in production and personal hygiene are specified in Annex B, operating procedures for poultry abattoir are specified in Annex C, The essential equipment, tools and utensils are also specified in Annex D.

ANNEX A

RECOMMENDATIONS ON GOOD MANUFACTURING PRACTICES FOR POULTRY ABATTOIR

A.1 TRANSPORTATION FOR LIVE POULTRY

A.1.1 Vehicles for poultry transportation

A.1.1.1 Vehicle shall be designed such that they are strong and appropriate for poultry species and have adequate spaces for poultry crate.

A.1.1.2 Poultry vehicle shall have adequate ventilation, a proper drainage with a roof to protect the sun and the rain.

A.1.1.3 Number of poultry shall correspond with crate size.

A.1.1.4 Poultry crate shall have adequate space and height comfortable for poultry movement during transportation.

A.1.2 Methods of transportation

A.1.2.1 Transportation of poultry shall be in compliance with the Regulation on Movement of Live Poultry and Poultry Carcass issued by Department of Livestock Development.

A.1.2.2 During transportation, poultry shall be handling with a good care to avoid any risk causing injury e.g. transport vehicle shall be driven smoothly, without jerks or sudden stops.

A.1.2.3 Sick poultry shall not be transported with the healthy ones.

A.1.2.4 Transport shall be short-haul journeys, to avoid pain or stress.

A.1.2.5 Stop feeding at least one hour before loading for transport.

A.1.2.6 Health conditions of poultry shall be regularly inspected during transportation.

A.1.2.7 Poultry shall arrive at abattoir at least 30 min before slaughtering in order for poultry taking a rest.

A.2 RECEIVING OF LIVE POULTRY

A.2.1 Upon arrival at abattoir, all relevant documents shall be legally inspected by in charge officer.

A.2.2 Waiting area for poultry loaded vehicle shall be provided with roof to protect from the sun and the rain and have adequate ventilation and appropriate temperature. The vehicle shall be organized as slaughtering schedule.

A.2.3 Loading and unloading of poultry shall be done with caution.

A.2.4 Weighing and counting the pre-slaughtered poultry.

A.2.5 Ante-mortem inspection by official inspector at abattoir before slaughtering shall be done and inspection on information such as the respiratory rate and the movement of animals shall be officially reported.

A.2.6 Sick or suspected poultry suffering from diseases shall be isolated and holding for last kill after slaughtering the normal poultry in separated area. Killed poultry that pose a contagious diseases shall be disposed using incinerator or burial, and all concerned parties shall be informed accordingly.

A.2.7 Poultry suffered severe injury and deemed to be in pain shall be subjected to humane slaughtering instantaneously.

A.2.8 After unloading poultry, poultry crate and vehicles shall be cleaned and disinfected immediately.

A.2.9 Clean and wash lairage areas including conveyor, drainage system, hanging machine immediately after slaughtering process.

A.3 POULTRY SLAUGHTERING

Methods of slaughtering shall be humane slaughtering which consists of two methods, i.e., stunning and cutting jugular and carotid vessels without stunning.

A.3.1 Stunning is the process in which poultry are rendered completely unconscious prior to bleeding in order to eliminate pain, discomfort and stress and remain unconscious until bleeding is completed. The state of unconsciousness includes completely relaxed muscle, no blink reflex and free of convulsions.

Stunning consists of the following three main methods:

- (1) Electrical stunning
- (2) Gas stunning e.g. Carbon dioxide, Argon
- (3) Other methods authorized by competent authority and internationally recognized.

- Stunning devices and room shall be inspected to maintain working condition before starting each slaughtering process.

A.3.2 Cutting jugular and carotid vessels and bleeding without stunning consists of two methods as follows:

- (1) Cutting on side of the neck, starting by placing the blade of the knife just behind and below the ear lobe and the angle of the jaw in order to completely cut both carotid arteries and jugular veins.
- (2) Cutting at the throat, starting by placing the blade of the knife at the throat just below jaw bones, in order to completely cut carotid arteries, jugular veins trachea and esophagus.

-Cutting knife shall not be utilized for other purposes. The knife shall be cleaned and sterilized every time before use.

-After cutting, complete bleeding shall not be less than two minutes. If blood is utilized for human consumption, blood containers shall be clean.

-Bleeding equipment, tools and floor shall be cleaned after the bleeding processes.

A.4 SCALDING AND DEFEATHERING

A.4.1 Poultry carcass shall be immersed into scalding vat that has sufficient warm water for a period at which the feathers are loosened. The water temperature shall be 58 °C or higher. The water temperature and period of immersion shall be determined relatively to the size of poultry carcass.

A.4.2 After scalding, poultry carcass shall be moved to a plucking area by a clean containers or shackles. Poultry carcass shall not come into contact with the floor.

A.4.3 Feathers shall be removed completely or with few pinfeather. Defeathering process shall not damage carcass quality.

A.4.4 After defeathering process, poultry carcass shall be inspected for incomplete defeathering. If pinfeather is visible, forceps shall be used to remove all pinfeather.

A.4.5 If wax or adhesive substances are utilized in defeathering processes, they shall be approved as food grade as well as be removed from equipment and tools after use.

A.4.6 All poultry carcasses shall be cleaned with water.

A.4.7 Wash and clean equipment, tools, scalding and plucking area including floor and wall after operation.

A.5 HEAD REMOVAL AND SHANK CUTTING

A.5.1 After scalding and defeathering processes, head removal and shank cutting shall be done prior to enter evisceration area except under certain conditions, head and shank intact is allowed.

A.5.2 Head removal shall be done using head removal devices. If head removal devices are not available, cutting at the neck is allowed.

A.5.3 Shank cutting shall be done by electric saw or knife.

A.5.4 Head removal and shank cutting devices or tools shall be always maintained in working conditions.

A.6 EVISCERATING

A.6.1 Eviscerating process is operated by cutting around the vent. The cut shall be enough to remove poultry offal comfortably. The incision shall be made carefully so that intestines and bile sac are not cut.

A.6.2 After offal is removed, offal and carcass shall be placed together for inspection.

A.6.3 Edible offal shall be separated from inedible offal. Edible offal shall be cleaned and chilled. Within one hour after chilling, the core temperature of edible offal shall not exceed 7 °C.

A.7 INSIDE AND OUTSIDE CARCASS WASHING

A.7.1 The final cleaning of poultry carcass shall be washed thoroughly inside and outside with water.

A.8 CHILLING

Chilling procedure of poultry carcass and products are consisted of two methods by either using cold water and ice or cold air to reduce carcass and products core temperature to 7 °C or lower after chilling for approximately one hour.

A.8.1 In case of utilizing cold water and ice in chilling tank, the water flow system shall be countered to the flow of poultry carcass. On the one end of the chilling tank shall have the overflow pipe and at the other end shall have the cold water filling pipe whereas the overflow water shall be enough for cleaning carcass and thermometer shall be setup in the chilling tank.

A.8.2 In case of utilizing cold air system;

A.8.2.1 Chilling room structure shall be constructed from thermal control materials. Floor shall be durable, scratch resistance, and water non-absorbent materials. Wall and ceiling shall be smooth and easy to clean and disinfected.

A.8.2.2 Door of chilling room shall be equipped with a safety release system to prevent anyone from being locked inside.

A.8.2.3 Thermometer display shall be installed in an area where visible. The thermometer sensor shall be installed corresponding to the actual room temperature.

A.8.2.4 Poultry carcass shall be placed at least 30 cm above the floor and not contacted the wall.

A.8.2.5 Movement of poultry carcass to and from chilling room shall follow first-in, first-out basis.

A.8.2.6 Temperature of poultry carcass and chilling room shall be regularly recorded.

A.8.2.7 Chilling room shall be free of condensation.

A.8.3 When chilling room or chilling tank is empty, it shall be immediately cleaned.

A.9 CUTTING

A.9.1 Cutting processes shall be operated in a room appropriated for production and separated from other production area.

A.9.2 Adequate equipment, tools and utensils shall be provided.

A.9.3 Conveyors and trays intended for moving poultry carcass and meat shall be cleaned and dried. If contaminated, they shall be cleaned and dried with squeegee, sponge wiping is not permitted.

A.9.4 During cutting processes, poultry carcass and poultry meat shall not be over accumulated on the conveyors.

A.9.5 Employees shall always wash their hands with soap and disinfectant.

A.9.6 Cutting room shall be controlled and restricted to staff only. Employees not involved are not permitted to enter the room.

A.9.7 Quality grading for chicken meat shall follow Thai Agricultural Standard on Chicken Meat (TAS 6700-2004). Quality grading for duck meat shall follow Thai Agricultural Standard on Duck Meat (TAS 6701-2004).

A.10 PACKAGING

A.10.1 Packaging materials shall be clean. If the packaging materials are made of plastic, they shall be complied with relevant laws

A.10.2 Packages shall be durable for the transportation.

A.10.3 Labels shall be legible on packages, not detached and contained the following information.

(1) Type of carcass, poultry meat or products

(2) Net weight in gram or kilogram

(3) Day/ Month/ Year of Slaughter, and Day/ Month/ Year of best before

(4) Storage instruction

(5) Name of producer, distributor or trademark and address

A.10.4 If packaging materials are made of materials that cannot be cleaned or dust cannot be removed, packaging room shall be separated. The room shall be designed to provide a protection against dust, insects and rodents.

A.11 TRANSPORTATION OF POULTRY CARCASS, MEAT AND PRODUCTS

A.11.1 Transportation vehicle shall be designed to maintain core temperature of poultry carcass, meat and products at 7 °C or lower during transportation.

A.11.2 Movement of poultry carcass, meat and products shall be handled with care to prevent damages.

A.11.3 The doors of transportation vehicle or container shall be tightly closed, if necessary, they shall be locked or tied with metal wire or other materials to prevent opening during transportation.

A.11.4 Vehicle intended for transport poultry carcass, meat and products shall not be used to transport live poultry.

A.11.5 Transportation vehicle or container shall be washed or cleaned before and after transportation.

A.12 WASTE WATER TREATMENT

Waste water treatment system shall be in place in compliance with relevant laws.

ANNEX B

GENERAL HYGIENE

B.1 HYGIENIC PRACTICES

B.1.1 Poultry abattoir shall follow processing steps as outlined in Annex C.

B.1.2 The inspection and record of cleanliness before operation are required.

B.1.3 Effective pest control program shall be in place for inside and out side production building.

B.1.4 Cleaning and maintenance program shall be in place for processing area, equipment, machinery and tools to ensure cleanliness of abattoir before and after operation. Special care shall be focused on the surface that contact with poultry carcass, meat and products.

B.1.5 Adequate hand washing facilities shall be provided.

B.1.6 Adequate space of washing facilities shall be provided corresponding to equipment and utensils. The facilities may be located at any side of the building.

B.1.7 Cleaning sink shall have proper size for cleaning equipment and utensils.

B.1.8 Storage facilities shall be provided to avoid any contamination or not be accumulation source of contamination.

B.1.9 Lockable individual storage shall be separated for keeping materials and tools such as packaging materials, cooking ingredients, staff clothing, cleaning materials and disinfectant.

B.1.10 Chemicals shall be stored separately from the production area with legible label.

B.1.11 Garbage bin with lid shall be provided and removed after operation hour to prevent contamination.

B.1.12 Plant and equipment shall be washed and cleaned before and after operation. After the final operation they shall be completely cleaned and disinfected to ensure no meat is left overnight.

B.2 PERSONAL HYGIENE

B.2.1 Workers shall have physical examination at least once a year.

B.2.2 Workers shall have the short nails and wash their hands with soap and disinfectant before entering the production area and after leaving the toilet.

B.2.3 During operation hours, every person shall wear clean and disinfected protecting clothing, aprons, bouffant cap for full hair coverage, mask, and boots.

B.2.4 Personal effects and food are prohibited to production area. They shall be deposited in provided lockers.

B.2.5 Protecting clothing, aprons, bouffant caps, mask, boots, tools and equipment shall be cleaned after work and stored at the specific rooms.

B.2.6 Workers shall not move to other production area to prevent contamination unless receiving approval.

B.2.7 Smoking, eating, chewing or spitting are prohibited in production area.

ANNEX C

**FLOWCHART OF GOOD MANUFACTURING PRACTICES
FOR POULTRY ABATTOIR**

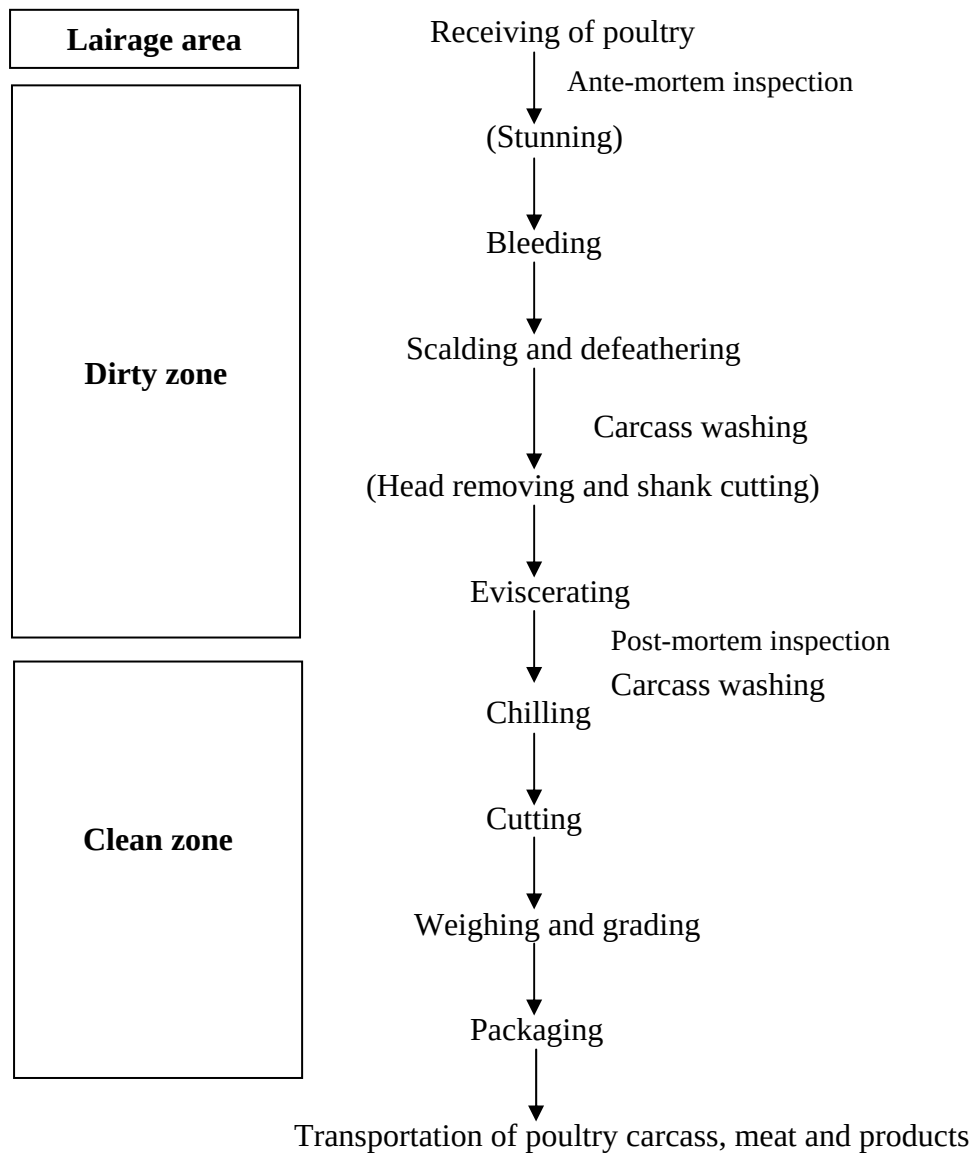


Figure C.1 Processing steps

Note : Stunning, head removing and shank cutting steps can be omitted where necessary or appropriate.

ANNEX D
ESSENTIAL EQUIPMENT IN POULTRY ABATTOIR

Essential equipment in poultry abattoir consist of

- D.1 Stunning equipment (if stunning process is required)
- D.2 Bleeding knives, incision knives and cutting knives
- D.3 Knife sterilizer
- D.4 Knife sharpener or knife sharpening tool
- D.5 Scalding machine or scalding vat
- D.6 Plucking machine or plucker (where necessary)
- D.7 Plucking forceps (where necessary)
- D.8 Electrical saw or shank cutting knives
- D.9 Evisceration tools e.g. scissors, drawing tools
- D.10 Shackle or carcass table (where necessary)
- D.11 Chilling equipment e.g. chilling room, refrigerator, chilling tank
- D.12 Thermometer
- D.13 Scale for live poultry and poultry meat
- D.14 Carcass moving equipment i.e. conveyor
- D.15 Protective clothes, aprons, bouffant caps, mask and boots
- D.16 Cleaning equipment, tools and utensils, personal effects

ANNEX E**UNITS**

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:

Measurement	Units	Symbols
Length	Centimeter	cm
	Meter	m
Area	Square meter	m ²
Temperature	Degree Celsius	°C
Time	minute	min