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Good manufacturing practice for pig slaughtering

生猪屠宰良好操作规范

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Foreword

This Standard is developed according to the principle of CAC/RCPT-1969, Rev.3 (1997) and CAC/RCPT-1969, R ev.3 (1997) Annex, on the basis of referring to part 110 of US FDA and the content of relevant Canadian standards, and combining the China's national conditions. This Standard clearly defines the slaughter processing enterprises' factory environment, plant and facilities, equipment, organizational structure, personnel, health management, process management, packaging and health marking, labeling, quality management, storage management, quality information feedback and process, system establishment and records, and so on.

This Standard was proposed by China General Chamber of Commerce.

This Standard shall be under the jurisdiction of China Meat Association.

This Standard is responsibly drafted by College of Food Science of China Agricultural University, and SETC slaughtered Identification Centre.

Main drafters of this Standard: Ma Changwei, Jin Zhixiong, Xu Jing, Wang Guiji, Zhang Xinling, and Liu Hucheng,

Good manufacturing practice for pig slaughtering

1 Scope

This Standard specifies the basic technical requirements for pig slaughtering-cutting enterprises' personnel; environment and equipment; processing and segmentation before slaughtering, in slaughtering and after slaughtering; and quality and sanitation management during storage and transportation; and other aspects.

This Standard applies to pig slaughtering and cutting processing enterprises.

2 Normative references

The articles contained in the following documents have become this Standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB 5749 Standards for drinking water quality

GB/T 6388 Transport package shipping mark

GB 7188 Office machines and data processing equipment; Keyboard layouts for numeric applications

GB 9959.2 Fresh and frozen pork lean cuts

GB 9959.3 Frozen pork, parts

GB 13457 Discharge standard of water pollutants for meat packing industry

GB/T 17236-1998 The operating procedures of pig-slaughtering

GB/T 17996-1999 Code for product quality inspection for pig in slaughtering

GB 50317-2000 Code for design of pigs slaughtering and cutting rooms

Food Hygiene Law of the People's Republic of China

3 Terms and definitions

The following terms and definitions apply to this Standard.

Synchronous inspection

An inspection method that removes the offal after slaughtering the pig and places it on the arranged pan or hook device, and make it run with carcass production line synchronously, so as to be ease for veterinarian to do contrast test and comprehensive judgment.

3.10

Inspection and reception department

The place where the inspection and reception to live pig are done, after they enter into the factory.

3.11

Isolation room

The place where the suspicious pigs are isolated, observed and the disease of them are inspected.

3.12

Waiting pens

The place where the starvation, water drinking and shower to pigs are done before slaughtering.

3.13

Emergency slaughtering room

The place where the slaughtering to sick and injured pigs is done.

3.14

Slaughtering room

The place where syncope, bleeding, processing to be half carcass to pigs are done.

3.15

Cutting and deboning room

The place where the cooling, deboning, split and cutting to each cut to carcass are done.

3.16

By-products processing room

The place where the heart, liver, lung, spleen, stomach, intestine, kidney, head, hooves,

3.24

Chilling room

The room used to chill products.

3.25

Freezing room

The room used to freeze products.

4 Personnel

4.1 Health education

The factory shall conduct the qualification health-safety education to staffs who newly participate in work and the staffs who participate in temporary-work; conduct publicity and education of Food Hygiene Law of the People's Republic of China, various health practices and operation procedures on a regular basis to staffs; and institutionalize and standardize the health training.

4.2 Physical examination

The production personnel and management personnel related to production shall do health examination at least once a year; the staffs who newly participate in work and the staffs who participate in temporary-work can only take up his post after physical examination and obtaining health certificate. The employee health records shall be established. The person having one of the following diseases can not engage in slaughtering and meat-contact work: dysentery, typhoid, viral hepatitis, gastrointestinal diseases (including pathogen carriers), active tuberculosis, suppurative, exudative skin disease, or other diseases that are incompatible with food hygiene.

4.3 Injury treatment

For the production personnel who get stab wounds or other injuries, it shall immediately take appropriate measures and bandage for protection, otherwise, they cannot engage in slaughtering and meat-contact work.

4.4 Hand-washing requirements

The production staffs must wash hands and do disinfection when encountering the following situation: before starting work; after using the toilet; after treating contaminated material or pigs and their offal; after engaging in other activities unrelated to production.

4.5 Personal hygiene

4.5.1 Production staffs shall maintain good personal hygiene, regularly bathe, change

There shall be flat without water on the road and field where the slaughtering room and cutting and deboning room located. The main channel and venue shall adopt concrete to lay.

5.3 Slaughterhouse (plant) facility requirements

5.3.1 The material in workshop shall be impermeable, slip prevention and easy-to-clean material. The surface of it shall be smooth without cracks and local water. The drainage slope: the drainage slope in cutting and deboning room shall not be less than 15; within slaughtering room, it shall not be less than 2%. The wall surface and dado in workshop shall be smooth; the material shall be non-toxic and non-porous. White or light color is suitable. If the dado is made from stainless steel or plastic plate, all boards interface and edge connections shall be closed. Dado height: the dado height in slaughtering room shall not be less than 3m; within cutting and deboning room, it shall not be less than 2m.

5.3.2 The corners at floor, ceilings, walls, columns, windows, etc. shall be designed to be arc. The material of roof or ceiling shall be smooth, non-toxic, washable material that is not easy to fall off; there shall be no slit, concave corners or protrusions that are not easy to wash; there shall be no secondary beams closely to each other. Doors and windows shall be made from corrosion-resistant materials with good seal performance and without distortion, water seepage. Windowsill shall be designed to 45°C downward slope, or the non-sill structure can be used. Stairs and handrails, fences shall be made to be monolithic; the surface layer shall be made from impermeable material. Stairs and elevators shall be easy to clean and disinfect.

5.3.3 The door for finish good or semi-finished goods shall be wide enough to avoid contacting with products. The wide of door opening for rings shall not be less than 1.2 meters; the double door for traffic trolley shall be two-way free door; indivisibility window made from material that is not easy to broke shall be arranged above the door.

5.3.4 The natural lighting and illumination in the workshop shall be good; it shall meet the production requirements.

5.3.5 Facilities to prevent mosquitoes, insects and rodents shall be arranged in the workshop.

5.3.6 Ante-mortem building facilities shall include pig unloading stations, road to push pigs, inspection and reception department (including weighing room), waiting pens (including waiting slaughter and shower room), isolating room, studio of veterinaries and drug rooms and so on. Those facilities shall comply with requirement specified in 4.2 of GB 50317-2000.

5.3.7 Emergency slaughtering room shall be arranged near isolating room; it shall be arranged with separate dressing room and shower room. The Ground drainage slope shall not be less than 2%.

5.3.8 Slaughtering room shall be divided into hygienic area and non-hygienic area. The

gloves.

6.2.3 Both ends of the stunning electricity equipment shall be dipped into brine (to prevent short circuit of power supply); in operation, carry out the stunning electricity near temporal zygomatic area (temple) of the pig head and occipital bone (junction between pig eyes and ears); press one end of the electrode at the temple and the other end near shoulder blade.

6.2.4 The pig's heart shall stop beating after stunning electricity in unconscious state; it shall not be caused to die.

6.2.5 Entangle the right and left tarsal joint with chain hook after stunning electricity; lift it to the track (entangle its foot to raise).

6.3 Slaughtering and bleeding

6.3.1 The time from stunning electricity to faint TO slaughtering and bleeding shall not exceed 30 seconds; the length of blade-slaughtering and bleeding is about 5 cm; the bleeding time shall not be less than 5 minutes.

6.3.2 In slaughtering, the operator grasps the pig forefoot with one hand and holds a knife with another hand. Pierce it in the heart being aligned with the middle of the first rib throat-right (0.5~1) cm at the direction of the heart, with the knife-tip upward and the knife-blade foreword; then cut the artery and vein at the neck area by pulling the knife; do not pierce the heart; do not make the pig coke diaphragm and extravasate blood in slaughtering.

6.3.3 The slaughtering knife shall be disinfected before use, and shall be used in turn.

6.4 Scalding to remove hair

6.4.1 Wash the pig body after bloodletting with spray water, or clean shower to wash bloodiness, manure and other contaminants.

6.4.2 Control the temperature of scalding water to be (58-63)°C; scalding time is (3-6)minutes according to the size, variety and seasonal difference of pig body; it shall not cause sediment and over-scalding to pig body; scalding pool shall be equipped with overflow gap and device to replenish purified water.

6.4.3 Lift and suspend the pig body after mechanical hair-removal or manual hair-removal; use clean water to wash and brush floating hair and dirt; then trim and wash it again.

6.4.4 Inspect the head and the body surface of the pig body after shaving and showering in accordance with GB/T 17996-1999.

6.4.5 Number at the ear and outer area of leg of the pig body with color pen; the writing shall be clear; the number shall not be missed or re-edited.

6.5 Cavity opening and chamber cleaning

6.5.2.1 Skin-removing

Do mechanical skin-removing or manual skin-removing.

6.5.2.1.1 Mechanical skin-removing

According to the peeling machine's performance, pre-strip one side or both sides; determine the skin-removing area. The skin-removing shall be operated according to the following procedure:

- a) Pick-open abdominal skin: incise the skin along the midline of abdominal from neck to anus.
- b) Strip front legs: strip the skin of forelegs to the top of skull of neck.
- c) Strip hind legs: pick-open the skin of hind legs to the two sides of skull of neck.
- d) Strip hip skin: strip a small piece of skin at the point of the hip skin; tighten it with hands and use knife in order; strip the skin of the both sides of hip skin and the skin of tail.
- e) Strip abdominal skin: strip at the right and left separately; tighten it with one hand, flatten the hind belly; strip the hind leg skin, belly and front leg skin sequentially; in stripping the left part, tighten the neck skin with one hand and strip the neck skin, front leg skin, belly and hind leg skin sequentially.
- f) Clamp skin: flatten and tighten the larger area of stripped pig skin; put it in bayonet of peeling machine and clamp it tightly.
- g) Start to strip: do shower and strip at the same time; control the depth of knife cuts in accordance with the thickness of the skin; do not cut the skin; cut fat as little as possible.

6.5.2.1.2 Manual skin-removing

Place the pig body on operation platform; pick belly, strip hip skin, belly skin and spine skin sequentially; in stripping, do not cut the skin; cut fat as little as possible.

6.5.2.2 Cavity-opening and chamber-cleaning

Same as 6.5.1.

6.6 Split it in half (saw it in half)

6.6.1 Remove the head and tail of qualified pig carcass.

6.6.2 Split it in half through hands or split it in half by electric saw; in manual split or splitting with electric saw, it shall "cutting the middle line of back ridge" to make the joint in half evenly; in splitting with bridge-type chainsaw, it shall use track and saw blade;

Pull out the small-intestine from the cross section where the stomach is removed; grasp the fat (attar) with one hand; hung the end of small-intestine at the edge of operation platform with another hand; remove manure from top to bottom; it shall not break and pull the small-intestine randomly; clean the dirt in small-intestine with mechanical method or manual method.

6.8.5 Removing pancreas

Remove the pancreas in mesentery with fat as little as possible.

6.9 Cutting

6.9.1 The process of cut-meat shall be cold-boning process; that is, boning after the half carcass is cold.

6.9.2 It shall trim and clean sears, hemorrhagic spot, bone fragments, cartilage, bloodstained lymph nodes, pustules, floating hair and impurities in cut-meat; it shall remove the serious pale muscle and the tissue with slurry infiltration around it.

6.9.3 The half carcass can be sectioned horizontally or vertically, and use the horizontal segment saw and vertical segments saw to saw respectively.

6.9.4 Use flat belt-conveyor equipment to transport the segmented raw material and products. The transmission system shall be electric roller reduction device. At both sides of the conveying belt, arrange cutting operation platform made of stainless steel or other materials meeting the requirements of food health to do boning and cutting; arrange separate check platform at the end of conveyor to check the cut products.

6.9.5 Equipment and transport machine in non-hygienic area in slaughtering room are prohibited from entering the cutting and deboning room; personnel in non-cutting and deboning room area are prohibited from entering the cutting and deboning area.

6.9.6 The requirements for variety and quality of cutting products shall be implemented in accordance with requirements of GB 9959.2 and GB 9959.3.

6.10 Chill and freeze

6.10.1 The constant chilling temperature of cutting and freezing meat shall be achieved in 24 hours; the temperature at the deep center of muscle shall not exceed 7°C.

6.10.2 The constant freezing temperature of cutting and freezing meat shall make the temperature at the deep center of muscle not higher than -15°C.

7 Slaughter process inspection

7.1 Ante-mortem inspection

Do acceptance and inspection, pending slaughter test and delivery slaughter test sent live

8.2 The packing material and label shall be kept by special personnel. The label of each batch of products can be issued and obtained with corresponding exit-warehouse certificate; there shall be record for destroyed packing material.

8.3 In printing and labeling, conduct spot-check to the quality of printing and labeling. The printed words shall be clear; the label shall be correctly and firmly affixed. There shall be no material unrelated to the food in the finished food package.

8.4 The label outside of the packing box of cut-products shall comply with provisions of GB/T 6388. The name, quality, enterprise name and storage condition shall be marked at both sides.

9 Storage and transportation of finished goods

9.1 Packaged products passing inspection shall be stored in storehouse; the volume of storehouse shall adapt to the production ability. The store-house shall be equipped with temperature and humidity monitoring device and facilities to prevent rodent, pest and other facilities. Regularly inspect and do record.

9.2 Chilling half carcass and its cut-meat shall be stored in chilling room with humidity of 75%-84% and temperature of 0°C-1°C. The half carcass shall be hung; the interval spacing between half carcass shall not be less than (3-5) cm.

9.3 Freezing half carcass and its cut-meat shall be stored in freezing room with humidity of 95%-100% and temperature of -18°C; the temperature-rise and drop in 24 hours shall not exceed 1°C.

9.4 There shall be inventory record when finished goods are put into storage; there shall be shipment record when finished good are removed from storage. The content shall at least include batch number, shipping time, location, goods receiver, quantity, and so on to timely find out problems and recycle it.

9.5 Transport in highway and waterway shall use refrigerated trucks (boat) or insulated truck meeting health requirements.

9.6 Transportation in railway shall be implemented in accordance with relevant national provisions.

10 Records

10.1 Ante-mortem inspection

10.1.1 All pigs delivered to slaughtering factory (field) shall be accompanied with inspection certificate from the breeding ground, be inspected and be stored. The health condition in acceptance shall be recorded in detail.

11.2 The quality management institute shall establish complete quality management system, ensure the system is practicable and is easy to operate and inspect. Those systems shall as least include the following content:

11.2.1 Management system of the unqualified products in the inspection of process and in the inspection of finished goods.

11.2.2 Inspection procedure and inspection system before, after and in slaughtering, including inspection items, inspection standards, sampling and inspection method of various process and other management system.

11.2.3 Verification system of production process operation.

11.2.4 Clearance management system.

11.2.5 Management system of original records and production management records.

11.3 Must set special laboratories adapting to production process, arrange necessary testing equipment, instruments, equipment; regularly conduct calibration identification to keep it in good condition.

11.4 Arrange specialized inspectors according to requirements; the main quality inspectors shall obtain veterinary qualification. Quality managers and supervisors shall be graduates from related majors and shall pass strict quality and health training.

11.5 Regularly conduct inspection and repair to production equipment, and make inspection and repair records.

11.6 Regularly conduct inspection to corresponding indexes of production environment and water of production use; especially monitor the temperature, humidity and air cleanliness and other indicators in critical process environment.

11.7 Regularly conduct inspection to production process and the running situation of quality system; verify operation procedure and job responsibilities in production process; solve the problem found in inspection and certification; regularly report production quality to health administrative department.

11.8 Establish a complete quality management files, and set up a dedicated archives office and management personnel; archive all kinds of records in category, and keep them for two years for future check.

END

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