
GB

**National Standard
of the People's Republic of China**

GB 12694-2016

**National Food Safety Standard
Code of Hygienic Practice for Livestock and
Poultry Slaughtering and Processing**

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**Issued by National Health and Family Planning
Commission of People's Republic of China and China Food
and Drug Administration**

Foreword

The Standard will supersede the *Hygienic Specifications of Meat Processing Plant* (GB12694-1990), the *Code of Hygienic Practice for Abattoir and Meat Processing Establishment* (GB/T 20094-2006) and the *Technical Requirement for Processing Chilled Pork* (GB/T22289-2008).

Compared with the superseded standards, the main changes in the Standard are as follows:

- The name of standard is changed to “National Food Safety Standard – Code of Hygienic specifications of Livestock and Poultry Slaughter and processing”;
- the Standard structure is integrated and modified;
- some terms and definitions are integrated and modified;
- the requirements for site selection, plant environment, workshop buildings and workshops as well as facilities and equipment and the management requirements for hygienic control and operation are integrated, modified and supplemented;
- the requirements for the management of product traceability and recall are added;
- the requirements for the management of records and documents are added.

National Food Safety Standard

Code of Hygienic specifications of Livestock and Poultry Slaughter and processing 1 Scope

The Standard specifies the basic requirements for places, facilities, equipment and personnel of inspection, slaughtering, cutting, packaging, storage and transportation, etc. of livestock and poultry as well as the management rules of hygienic control and operation during the process of slaughtering and processing.

The Standard will be applied to livestock and poultry abattoirs and meat processing establishments above designated size.

2 Terms and Definitions

The terms and definitions specified in GB 14881-2013 apply to the Standard.

2.1 Livestock and poultry abattoirs and meat processing establishments above designated size

These enterprises shall have the actual capacity to slaughter more than 20,000 hogs, 3,000 cattle, 30,000 sheep, 2,000,000 chickens and 1,000,000 ducks or geese per annum.

2.2 Livestock and poultry

The livestock and poultry are raised for human consumption.

2.3 Meat

All parts of livestock and poultry, which are raised for human consumption or judged to be safe and fit for human consumption, include carcass, cut meat and edible by-products.

2.4 Carcass

Animal carcass left after bloodletting, hair removing, skinning or not, head / hoof (or claw) removing and offal removing.

2.5 Edible byproducts

Offal, grease, blood, bone, skin, head, hoof (or claw), tail and other edible products obtained from the slaughtering and processing of livestock and poultry

2.6 Inedible byproducts

Fur, hair, horn and other inedible products obtained after the slaughtering and processing of livestock and poultry

2.7 Ante-mortem inspection

Inspection carried out before slaughtering on the flock/herds and individual animals of livestock or poultry for the purpose of having a comprehensive judgment on whether the livestock or poultry are healthy and fit for human consumption.

2.8 Post-mortem inspection

Inspection carried out after slaughtering on the head, carcass, offal and other parts of the livestock and poultry for the purpose of having a comprehensive judgment on whether the livestock or poultry are healthy and fit for human consumption.

2.9 Unclean areas

Areas for pre-slaughter treatment, stunning, bloodletting, scalding, unhairing and skinning.

2.10 Clean areas

Areas for carcass processing, trimming, cooling, cutting, temporary storage and packaging.

3 Site Selection and Plant Environment

3.1 General requirements

Conform to the relevant regulations in Chapter 3 of GB14881-2013

3.2 Site selection

3.2.1 The distance of sanitary protection zone shall comply with the GB 18078.1 as well as the requirements of animal epidemic prevention.

3.2.2 The surrounding of the site selected should have good conditions of environment and sanitation. The plant site shall be far away from any polluted water body and shall be away from the industrial enterprises discharging sources of pollution like noxious gases, fume and dust, etc. or other areas or places generating other sources of pollution.

3.2.3 The site must be provided with the sources of water and power supply compliant with requirements; the site shall be determined based on local conditions and technical requirements and shall also comply with the requirements of abattoir planning.

3.3 Plant environment

3.3.1 Main roads in the plant shall be hardened (e.g. concrete or asphalt pavement, etc.), with flat surfaces easy to wash and without accumulated water.

3.3.2 The plant area shall be provided with temporary waste or refuse dump site or disposal facilities. Wastes shall be timely cleared away or disposed, so as to prevent the plant environment from being polluted. It is prohibited to pile scrapped equipment and other sundries in the plant area.

3.3.3 The storage and disposal of wastes shall comply with China's requirements of environmental protection.

3.3.4 It is prohibited to breed animals irrelevant to slaughtering or processing in the plant area.

4 Workshop Buildings and Workshops

4.1 Design and layout

4.1.1 The plant area shall be divided into production area and non-production area. Livestock and poultry as well as wastes cannot be transported from the same gate from which the finished goods leave the plant, and in the plant area, they cannot share the same access road.

4.1.2 The layout and facilities of each workshop in the production area shall meet the technical processes of production and the requirements of sanitation. In a workshop, clean areas shall be separated from unclean areas.

4.1.3 The building area and building facilities of the slaughtering and cutting workshops shall be commensurate with the scale of production. All production areas in a workshop shall be precisely divided by technical process of production, where the people flow will not interfere with the material flow, and shall comply with the requirements of the processing method, sanitation, inspection and quarantine.

4.1.4 The abattoirs shall be furnished with pen (area) for livestock on the hoof, separation room, emergency slaughtering room, laboratory, official veterinary room, storage room for chemicals and bio-safety disposal room. The plant area of abattoir shall have special areas for cleaning and disinfection of tools and vehicles for transporting livestock and poultry as well as products.

4.15 Those slaughtering enterprises which don't build the bio-safety disposal room shall entrust the qualified professional bio-safety disposal plant to carry out bio-safety disposal.

4.1.6 The special processing rooms for edible and inedible byproducts shall be set, respectively. The area of edible byproducts processing workshops shall be commensurate with the slaughtering and processing capacities and the facilities and equipment shall meet hygienic requirements. Regarding the layout of the plant, different processing areas should be separated, so as to prevent cross contamination.

4.2 Internal structure and materials of buildings

The relevant provisions in 4.2 of GB 14881-2013 shall be observed.

4.3 Workshop temperature control

4.3.1 Workshop temperature shall be controlled within the specified range according to the technical requirements of products. The temperature of the pre-cooling facilities shall be controlled at 0°C-4°C; the temperature of cutting workshop shall be controlled below 12°C; the temperature of freezing workshop shall be controlled below -28°C; the temperature of the cold stores shall be controlled below -18°C.

4.3.2 Any processes or places, which have temperature requirements, shall be installed with temperature indicators to monitor and control temperature, and when necessary, hygrometers shall be installed; thermometers and hygrometers shall be calibrated regularly.

5 Facilities and Equipment

5.1 Requirements of water supply

5.1.1 The production water used for slaughtering and cutting workshops shall comply with the requirements of GB 5749, and enterprises shall control the quality of water.

5.1.2 According to the requirements of technical process, cold and hot water pipes should be separately installed at water consuming points in the slaughtering and cutting workshops. The temperature of hot water used for washing should not be less than 40°C and the temperature of hot water for disinfection shall not be less than 82°C.

5.1.3 The emergency slaughtering and bio-safety disposal rooms shall be equipped with cold and hot water pipes.

5.1.4 The pipelines for water used for processing shall be installed with anti-siphon devices or anti-backflow preventers, and the water outlets in the water supply network shall not be directly inserted below the sewage liquid level.

5.2 Requirements of water drainage

5.2.1 The floors in slaughtering and cutting workshops shall be free of water, and water from workshops shall be discharged from clean areas to unclean areas.

5.2.2 The drainage outlet of open ditch shall be equipped with gratings made of corrosion resistant materials and provided with ratproof facilities and gully traps.

5.2.3 The production wastewater shall be treated in a centralized way and discharged in accordance with China's relevant regulations.

5.3 Cleaning and disinfection facilities

5.3.1 Cleaning and disinfection facilities in locker rooms, washrooms and toilets

5.3.1.1 Washing facilities supplying water of proper temperature, disinfection facilities, and hand drying facilities that are commensurate to the production capacity of the plant shall be furnished at workshop entrances, washrooms, and proper places in the workshops. Non-manually-activated water faucets shall be used. Water from the hand washing facilities shall be directly discharged into sewer lines.

5.3.1.2 Locker rooms, washrooms, and shower rooms consistent with the production capacity shall be provided and connected to the workshops. Their facilities and layouts shall not impose any potential contamination risks to the products.

5.3.1.3 Areas with different requirements for cleanness shall be equipped with separate locker rooms. Personnel clothes shall be separately stored from work clothes.

5.3.1.4 The structure, facilities and internal materials of shower rooms and washrooms shall be easy to keep clean and disinfected. Exhaust and ventilation facilities and fly and vermin-proof facilities shall be provided in the washrooms and shall be kept clean and sanitary. Washrooms shall not be directly connected with the areas for slaughtering, processing, packaging or storage. In washrooms, automatic doors shall be used, and doors and windows shall not directly open towards workshops.

5.3.2 Cleaning and disinfection facilities in the plant area and workshops

5.3.2.1 The factory entrance for vehicles transporting livestock and poultry shall have a disinfection tank with the width same with the gate, length of 4m and depth of 0.3m. The production workshop entrance and necessary parts in the workshop shall have the facilities of changing shoes (wear shoe cover) or work shoes disinfection facilities, with the specification and size meeting the disinfection needs.

5.3.2.2 The facilities for disinfecting wheels and work boots shall be provided at the doors of isolation room for diseased livestock and poultry and the bio-safety disposal workshop.

5.4 Equipment, tools and containers

5.4.1 The production equipment consistent with the production capacity shall be installed and arranged as per the technological process, so as to prevent cross contamination.

5.4.2 Equipment, tools, and containers contacting meat shall be made of non-toxic, odorless, non-absorbent, corrosion-resistant, not-easily-to-get-deformed-or-fall-off materials that can be repeatedly cleaned and disinfected, and under normal production conditions, shall not react with meat, detergent and disinfectant, and shall be kept intact. Tools and containers made of bamboos or wood shall be prohibited.

5.4.3 Processing equipment shall be installed in such places that are convenient for maintenance, cleaning and disinfection, so as to prevent cross contamination during processing.

5.4.4 The containers for wastes shall be made of metal or other waterproof materials. Containers for wastes and for meat shall not be interchangeably used. The containers for different uses shall have obvious marks or difference in color.

5.4.5 Some tools and equipment used during the process of slaughtering and inspection of livestock and poultry, e.g. slaughtering equipment, horn removal equipment, inspection knives and tools, knives and saws for chest opening and hacking, and plates used to contain offal for quarantine inspection, shall be cleaned and disinfected with hot water above 82°C after each use.

5.4.6 In line with the requirements of production, the facilities and equipment in workshops shall be cleaned and disinfected in a timely manner. During the process of production, tools, appliances, operating platforms and processing surfaces contacting food shall be cleaned and

disinfected periodically, and when cleaning and disinfecting, proper measures shall be taken to prevent the products from being polluted.

5.5 Ventilation facilities

5.5.1 Good ventilation and exhaust facilities shall be installed for workshops, so as to timely remove the polluted air and steam. Air shall flow from clean areas to unclean area.

5.5.2 Air vents shall be installed with screen mesh or nets made of other protective and corrosion-resistant materials, so as to prevent insect pests. These mesh or nets shall be easy to install, remove, clean, maintain or change.

5.6 Lighting facilities

5.6.1 Proper natural light or artificial lighting shall be provided for workshops. The illumination of lighting fittings shall not alter the natural color of processed products and the luminance shall be fit for the work of inspection and quarantine personnel and operating personnel.

5.6.2 Safety lighting facilities or protective facilities shall be used for lamps above the exposed meat, so as to prevent meat from being polluted by broken lamps.

5.7 Warehousing facilities

5.7.1 The temperature of warehouse shall meet the specific requirements of the products stored.

5.7.2 Warehouses shall be kept clean, neat and ventilated. Mildew-prevention, rat-prevention, and vermin-prevention facilities shall be installed.

5.7.3 The temperature of refrigerated warehouse shall be monitored and controlled, and when necessary, hygrometers shall be provided; thermometers and hygrometers shall be calibrated regularly.

5.8 Facilities for storage of wastes and bio-safety disposal

5.8.1 The facilities for temporary storage of wastes shall be set at appropriate location far away from production workshops. The facilities shall be made of materials easy to clean and disinfect; The facilities shall have tight structure to prevent insect pests from entering, and to avoid wastes from polluting the plant area and roads or infecting operating personnel. In workshops, the facilities and containers for storing wastes shall have clear and obvious marks.

5.8.2 The equipment configuration for bio-safety disposal shall meet the requirements of China's relevant laws and regulations, standards and procedures, and meet the needs for bio-safety disposal.

6 Inspection and Quarantine

6.1 Basic requirements

6.1.1 The establishments shall set up an inspection department consistent with the production capacity. The establishments shall have the test methods and relevant standards and materials needed for inspection, and shall have a complete internal management system, to ensure the accuracy of inspection results; original records shall be kept for inspection. Laboratories shall be equipped with the facilities and equipment meeting inspection needs. If a social inspection organization is commissioned to perform these tests, this organization shall have the corresponding qualifications. The commissioned tests shall meet the establishment's needs for daily inspection work.

6.1.2 The measuring instruments, facilities and equipment needed for product processing and inspection, and for maintaining the operation of food safety control system shall go through metrological verification as per relevant requirements, and shall be calibrated before use.

6.2 Ante-mortem inspection

6.2.1 The livestock and poultry to be slaughtered shall be accompanied with animal quarantine certificates and wear labels of livestock and poultry compliant with requirements.

6.2.2 The livestock and poultry to be slaughtered shall go through ante-mortem inspection in accordance with China's relevant regulations, procedures and standards. Livestock and poultry brought into the slaughterhouse should go through clinical health examination in accordance with relevant procedures. The appearance of livestock and poultry shall be observed, e.g. behavior, posture, physical condition, body surface, excrement and odor, etc. Any animal with abnormal conditions shall be isolated for observation, with the body temperature measured and further check carried out. When necessary, samples shall be taken for laboratory testing as per requirements.

6.2.3 The livestock and poultry, which are judged to be unfit for normal slaughtering, shall be handled as per the relevant requirements.

6.2.4 Before the livestock and poultry are slaughtered, feed deprivation shall be adopted.

6.2.5 The information about ante-mortem inspection shall be timely fed back to the farm and the personnel responsible for post-mortem inspection, and ante-mortem inspection records shall be well kept.

6.3 Post-mortem inspection

6.3.1 Inspection for the heads, hooves (or claws), carcasses and offal (coelom) of the slaughtered livestock and poultry shall be carried out in accordance with China's relevant regulations, procedures and standards.

6.3.2 Dedicated tracks to retain carcasses suspected to be infected with disease shall be installed at the appropriate position in the slaughter workshop for further inspection and diagnosis for the carcasses suspected to be infected with disease. Independent low-temperature space or areas shall be set up to temporarily store the carcasses or tissues suspected to be infected with disease.

6.3.3 Sufficient space shall be left in the workshop for implementing post-mortem inspection.

6.3.4 Slaughtering workshop for hogs shall have a trichinella inspection laboratory, which shall be equipped with inspection facilities.

6.3.5 For the items that should be tested in a lab as required by China's regulations, laboratory sampling inspection shall be performed.

6.3.6 The information obtained from ante-mortem and post-mortem inspection shall be utilized to comprehensively determine the results of inspection and quarantine.

6.3.7 Those determined to be discarded shall be clearly marked and treated, and be prevented from being mixed with other meat so as to avoid cross contamination.

6.3.8 To ensure that the post-mortem inspection or other emergencies are thoroughly completed or resolved, the official veterinarian has the authority to slow down or stop slaughtering and processing.

6.4 Bio-safety disposal

6.4.1 For the livestock and poultry as well as their tissues which are discovered to be infected with infectious diseases, parasitic disease or toxic diseases or have residues of hazardous substances through inspection and quarantine, they shall be put in special sealed, watertight containers and timely transported with specialized vehicles, and the bio-safety disposal shall be carried out under the supervision of the official veterinarian. For those livestock and poultry as

well as tissues which are suspected to be infected with diseases, they shall be handled as per relevant quarantine and inspection procedures, and for confirmed infection, bio-safety disposal shall be performed.

6.4.2 For other livestock and poultry and tissues which have been determined to require bio-safety disposal, the bio-safety disposal shall be conducted under the supervision of the official veterinarian.

6.4.3 The establishments shall formulate corresponding safeguard measures to prevent personnel from being harmed as well as avoid cross contamination of products and environmental pollution during the process of bio-safety disposal.

7 Hygienic control for slaughtering and processing

7.1 Monitoring requirements for residue, illegal ingredient and pathogenic microorganism set out by the competent governmental authority shall be implemented by the establishment. On top of this, the establishment shall develop its own residue monitoring plan and illegal ingredient and pathogenic microorganism monitoring plan for all meat.

7.2 Inspection posts shall be set at a proper location, to inspect the hygienic conditions of carcasses and products.

7.3 Appropriate measures shall be taken to prevent suspected carcasses, tissues, body fluid (e.g. bile, urine, milk, etc.), and stomach contents from contaminating other meat, equipment, and site. The contaminated equipment and site shall be cleaned and disinfected before being used again for slaughtering and processing of normal animals.

7.4 Carcasses or products contaminated by pus, exudate, pathological tissues, body fluid, stomach contents, or other contaminants shall be dressed, removed or discarded according to governing regulations.

7.5 The tools and containers (e.g. containers for products, water pipes for washing, etc.) used for processing shall not fall to the ground or contact unclean surfaces, so as to prevent products from suffering from cross contamination; appropriate measures shall be taken to get rid of pollution in case products fall to the ground.

7.6 In accordance with the technical requirements, for the carcasses and edible by-products required to be precooled after slaughtering, precooling shall be performed immediately. After cooling, the core temperature of the livestock meat shall be kept below 7 °C, the core temperature of poultry meat maintained below 4°C and the core temperature of offal products kept below 3°C. Processing, cutting, and deboning, etc. shall be made as quick as possible. At the time of producing frozen products, the core temperature of meat shall be lowered below -15°C within 48 hours and then meat is allowed to be moved to the refrigerated warehouse.

7.7 Slaughtering workshop shall have sufficient area, so as to ensure that relevant requirements are met during operation. It is not allowed to slaughter different kinds of livestock and poultry in the same slaughtering workshop at the same time.

7.8 The storage and use of poisonous and harmful substances shall be managed strictly, ensuring that the detergents, disinfectants, insecticides, fuel oil, lubricating oil, chemical reagents used for the factory, workshop and testing laboratory as well as other poisonous and harmful substances that have to be used during processing be effectively controlled, to avoid polluting the meat.

8 Packaging, Storage and Transportation

8.1 Packaging

8.1.1 Conform to the provisions in 8.5 of GB14881-2013.

8.1.2 Packaging materials shall meet relevant standards and be free of toxic or hazardous substances. They shall not change the sensory attributes of the meat.

8.1.3 Packaging materials of meat shall not be repeatedly used, unless such materials are made of easy-to-clean and corrosion-resistant materials and have been cleaned and disinfected before reuse.

8.1.4 Inner and outer packaging materials shall be stored separately and the warehouses of packaging materials shall be kept dry, ventilated and sanitary.

8.1.5 The temperature of product packaging rooms shall comply with the specific requirements of products.

8.2 Storage and transportation

8.2.1 Conform to the relevant provisions in Chapter 10 of GB14881-2013.

8.2.2 The finished products stored in the warehouse shall be kept a proper distance from walls and ceiling and shall not directly contact the floor. They shall be stored in different stacks by category or batch, and clearly marked.

8.2.3 Articles detrimental to hygiene shall not be stored in warehouses, and the products which may result in cross contamination or tainted smell shall not be stored in the same warehouse. Disinfection shall be performed for warehouses on a regular basis.

8.2.4 The cold stores shall be defrosted regularly.

8.2.5 Meat should be transported in dedicated vehicles, which shall not transport livestock and poultry, livestock and poultry products that should go through bio-safety disposal or other articles which may contaminate meat.

8.2.6 Packed meat and unpacked meat shall not be transported in the same vehicle if possible, and if not, physical isolation measures shall be taken.

8.2.7 Vehicles shall be furnished with refrigerating and thermal insulation facilities according to the characteristics of the products. The products shall be kept at proper temperature during the transportation.

8.2.8 Vehicles shall be cleaned and disinfected in a timely manner and shall be kept clean and sanitary.

9 Product Traceability and Recall Management

9.1 Product traceability

A robust traceability system shall be established to ensure that meat and its products can be traceable, if any unacceptable food safety risk occurs.

9.2 Product recall

9.2.1 The livestock and poultry slaughtering and processing enterprises shall establish a product recall system according to the relevant laws and regulations. When the outgoing product is unsafe food, it shall be recalled and reported to the official veterinarian.

9.2.2 The recalled products shall be handled in accordance with the relevant provisions in Chapter 11 of GB 14881-2013.

10 Requirements for Employees

10.1 Meet the requirements of relevant laws and regulations of China.

10.2 Operators who would directly contact packed or unpacked meat, meat equipment and appliance, and meat-contacting surfaces shall pass health examination and shall not be allowed to work on the post without health certificates issued by the medical organizations from that region. They shall have health examination once every year and ad hoc health examinations when necessary. Employees with diseases detrimental to food safety shall be transferred away from the food production posts.

10.3 Employees engaged in meat production, quarantine, inspection and management shall keep personal hygiene. They shall not carry any article irrelevant to production into the workshop. They shall not wear any jewelry or watch or any makeup during working. They shall wash hands, be disinfected, and wear work uniform, caps, and shoes when entering the workshop; they shall take them off and change to other clothes when they leave the workshop.

10.4 Employees working in areas or at posts with different hygienic requirements shall wear work uniform and caps of different colors or with different marks. Employees working in different processing areas shall not leave their posts and go to other areas.

10.5 The establishments shall recruit the corresponding number of inspection and quarantine personnel. Employees engaged in slaughtering, cutting, processing, inspection and hygienic control cannot be employed unless they have attended professional training and pass relevant examinations.

11 Sanitation Management

11.1 Management system

11.1.1 The establishment should build and implement a food safety control system focused on hazard analysis and prevention and control measures.

11.1.2 The establishment is encouraged to establish and implement the Hazard Analysis and Critical Control Points (HACCP) system.

11.1.3 The top management of the establishment shall make clear the establishment's policies and objectives of hygienic quality, set up a corresponding institutional framework, and supply sufficient resources, so as to ensure the food safety control system can be effectively implemented.

11.2 Sanitation management requirements

11.2.1 The establishment shall formulate the sanitation management requirements in writing, specify the responsibilities of the person in charge of its execution, determine the frequency of execution, realize effective monitoring and take corresponding corrective and preventive measures.

11.2.2 Water and ice directly or indirectly contacting meat (including raw materials, semi-finished products and finished products) shall comply with the sanitation requirements.

11.2.3 The tools, gloves as well as inner and outer packaging materials contacting meat shall be kept clean, sanitary and safe.

11.2.4 The personnel sanitation, operation and facilities shall be designed to ensure that meat cannot suffer from cross contamination.

11.2.5 The facilities for handwashing and disinfection of operators as well as facilities in washrooms shall be kept clean and maintained on a regular basis.

11.2.6 Meat, packaging materials for meat and surface contacting meat shall be prevented from being polluted by chemical, physical and biological pollutants, etc.

11.2.7 Various kinds of toxic chemicals shall be correctly marked, stored and used.

11.2.8 Meat, packaging materials for meat and surface contacting meat shall be prevented from being polluted by unfit employees.

11.2.9 The rodent pest, insect pest and bird pest shall be prevented and eliminated.

12 Management of Records and Documents

12.1 The establishment shall build and effectively implement the recording system, including entering inspection, ante-mortem inspection, post-mortem inspection, bio-safety disposal, disinfection and storage, etc. of livestock and poultry as well as the maintenance records of equipment, facilities, vehicles, tools for slaughtering and processing. Complete and authentic records shall be kept, so as to ensure that the animals can be effectively traced throughout all links from livestock and poultry entering the establishment to products leaving the establishment.

12.2 The establishment shall record the name, batch, size and number of recalled products as well as cause of recall, follow-up corrective program and handling of recalled products, etc.

12.3 The establishment shall properly keep records of employment and training, etc. of personnel.

12.4 For the relevant records reflecting sanitation and quality of products, the establishment shall formulate and implement quality recording and management procedures and make corresponding requirements for marking, collection, cataloging, filing, storage and handling of quality records.

12.5 All records shall be kept in an accurate and standardized manner and shall be traceable. The storage life for records shall be no less than 6 months after the expiration date of meat. For products without a specific shelf life, the storage life of records shall be no less than 2 years.

1 2.6 The enterprise shall formulate the procedure documents required by the food safety control system.