



**NATIONAL STANDARD
OF THE PEOPLE'S REPUBLIC OF CHINA**

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**National Food Safety Standard Hygienic
Specification for Livestock and Poultry
Slaughtering and Processing**

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Foreword

This standard replaces GB 12694-1990 *Hygienic Specifications of Meat Packing Plant*, GB/T 20094-2006 *Code of Hygienic Practice for Abattoir and Meat Processing Establishment* and GB/T 22289-2008 *Requirement for Processing Chilled Pork*.

This standard differs from the replaced standards in the following main aspects:

- The standard name is changed as *National Food Safety Standard - Hygienic Specification for Livestock and Poultry Slaughter and Processing*;
- Standard structure is integrated and modified;
- The terms and definitions are partially integrated and modified;
- Requirements for site selection and plant environment, plant building and workshop and facilities and equipment and management requirements for hygiene control operation are integrated, modified and supplemented;
- Requirements for product tracing and recall management are added;
- Requirements for records and document management are added.

National Food Safety Standard Hygienic Specification for Livestock and Poultry Slaughtering and Processing

1. Scope

This standard specifies basic requirements for sites, facilities and personnel and management rules for hygienic control operation at the stages of livestock and poultry acceptance, slaughter, cutting, packaging, storage and transportation during livestock and poultry slaughtering and processing.

This standard is applicable to livestock and poultry slaughtering and processing enterprise of scale.

2. Terms and Definitions

For the purposes of this standard, the terms and definitions in GB 14881-2013 apply.

2.1 Livestock and poultry slaughtering and processing enterprise of scale

enterprises which slaughter 20,000 pigs, 3,000 cattle, 30,000 sheep, 2,000,000 fowls and 1,000,000 ducks and geese in one year

2.2 livestock and poultry

Livestock and poultry consumed by human

2.3 Meats

All livestock and poultries consumed by humans and judged to be safe and suitable for mankind consumption, including livestock and poultry carcass, cut meat and edible offal.

2.4 Carcass

Animal carcass left after bloodletting, hair removing, skin peeling off or skinning on, head and hoof (jaw) removing and viscera separating

2.5 Edible offal

edible products left after livestock and poultry slaughter and processing, including offal, grease, blood, bone, skin, head, hoof (or jaw) and tail

2.6 Non-edible offal

Non-edible products left after livestock and poultry slaughtering and processing, including fur, hair, horn

2.7 Ante-mortem inspection

The inspection carried out on either group or individual livestock and poultry, before livestock and poultry slaughtering, to judge whether livestock and poultry are healthy and suitable to be eaten by human beings.

2.8 Post-mortem inspection

The inspection carried out on head, carcass, offal and other parts, after livestock and poultry slaughtering, to judge whether livestock and poultry are healthy and suitable to be eaten by human beings.

2.9 Non-hygienic area

Area for processing of livestock and poultry ready for slaughtering, making them faint, bloodletting, hair burning and removal and skin peeling.

2.10 Hygienic area

Area for carcass processing, finishing, cooling, cutting, temporary storage and packaging

3. Site Selection and Plant Environment

3.1 General requirements

Comply with Chapter 3 of GB 14881-2013.

3.2 Site selection

- 3.2.1** Sanitary protection distance shall meet the requirements of GB 18078.1 and animal epidemic prevention.
- 3.2.2** The plant site shall have favorable environmental sanitation conditions. The plant shall be kept away from contaminated water and industrial enterprise releasing harmful gas, smog and dust or from region or site releasing pollution sources.
- 3.2.3** Plant site must be provided with satisfactory water source and power supply and be determined in accordance with local condition and process requirement and shall meet the requirements of slaughtering establishment for arrangement and planning.

3.3 Plant environment

- 3.3.1** Main roads in the plant shall be hardened (such as concrete or asphalt pavement etc.), with the road surface being leveled, easy to wash and free from water accumulation.
- 3.3.2** The plant area shall be provided with facilities for temporary storage or disposal of wastes and garbage which shall be removed or disposed timely to avoid polluting the plant environment. Discarded equipment and other sundries shall not be piled up in the plant area.
- 3.3.3** Waste storage, processing and discharge shall meet national environmental protection

requirements.

- 3.3.4** Animals irrelevant to slaughtering and processing are forbidden to be fed in the plant area.

4. Plant Building and Workshop

4.1 Design and layout

- 4.1.1** Plant area shall be classified into production area and non-production area. A front door shall not be shared for the transport of live livestock and poultry and waste and delivery of finished product and one channel shall not be shared in the site.
- 4.1.2** Layout and facilities of workshop in production area shall meet production process flow and hygienic requirements. The hygienic area and non-hygienic area shall be separated.
- 4.1.3** Building area and facilities of slaughtering workshop and cutting workshop shall be corresponding to production scale. Processing area within workshop shall be delineated in accordance with production and processing procedure in such a way that people flow and goods flow are not interfered and the processing area shall meet the requirements of technology, sanitation, quarantine and inspection.
- 4.1.4** Slaughtering enterprises shall be equipped with slaughter waiting lot (area), isolating room, emergency slaughtering house, experiment (chemical assay) room, official veterinarian room, chemicals storage room and bio-safety disposal house. The plant area shall be equipped with specialized area for cleaning and disinfecting the vehicle for transporting livestock and poultry and products and tools for such purpose.
- 4.1.5** As for slaughtering enterprises without bio-safety disposal house, professional and qualified bio-safety disposal site shall be entrusted to implement bio-safety disposal.
- 4.1.6** It shall be arranged special edible and non-edible offal processing houses. The area of each edible offal processing workshop shall be suitable to its processing capacity, equipment installations shall meet the hygienic requirements, and the technological layout shall be such to separate processing area and avoid cross contamination.

4.2 Internal structure and materials of the building

Comply with the requirements of 4.2 in GB 14881-2013.

4.3 Workshop temperature control

- 4.3.1** Workshop temperature shall be controlled within the specified range in accordance with product process requirement. The precooling facilities temperature is controlled between 0°C and 4°C; the cutting workshop temperature is controlled under 12°C; freezing room temperature is controlled under -28°C; refrigerating and storage depot temperature is controlled under -18°C.

- 4.3.2 Procedure or site required for temperature shall be installed with temperature displaying device and shall be monitored, for which hygrometer shall be mounted where necessary; both thermometer and hygrometer shall be calibrated periodically.

5. Facilities and Equipment

5.1 Water supply requirements

- 5.1.1 Production water used in slaughtering and cutting workshops shall meet the requirements of GB 5749; enterprises shall control water quality.
- 5.1.2 Cold and hot water pipes shall be arranged respectively, according to production process flow, in slaughtering and cutting workshops where water is used. Hot water for cleaning purpose should not be less than 40°C; hot water for disinfection purpose shall not be less than 82°C.
- 5.1.3 Cold and hot water pipes shall be arranged in emergency slaughtering house and bio-safety disposal workshop.
- 5.1.4 Processing water pipeline shall be equipped with anti-siphon or backflow-prevention devices; water outlet in water supply network shall not be directly inserted into the sewage level.

5.2 Drainage requirements

- 5.2.1 Water shall not be accumulated on the ground in slaughtering and cutting workshops where water drained shall flow from cleaning area to non-hygienic area.
- 5.2.2 Water outlet of open trench shall be equipped with grid made of non-corrosive material, with rat-proof and odor-resistant facilities.
- 5.2.3 Industrial wastewater shall be subjected to centralized processing, which shall be discharged in accordance with the relevant national regulations.

5.3 Cleaning and disinfection facilities

- 5.3.1 Cleaning and disinfection facilities in dressing room, washroom and bathroom
- 5.3.1.1 Hand washing facilities, disinfection facilities and hand dryers controlled at appropriate temperature appropriate to the production capacity shall be arranged at the entrance of workshop and in the bathroom and workshop where appropriate. Hand washing facilities shall be equipped with non-manual switches, water from which shall be directly discharged into sewer pipeline.
- 5.3.1.2 Dressing rooms, bathrooms and shower stalls appropriate to the production capacity and connected with the workshop shall be arranged, of which facilities and layouts shall not cause potential pollution to products.
- 5.3.1.3 Zones having different cleaning requirements shall be provided with separate dressing

rooms where personal clothing and work clothes shall be stored separately.

5.3.1.4 It shall be convenient to keep clean and disinfected of structures of shower stalls and bathrooms and their internal facilities and material. Bathrooms shall be equipped with ventilation facilities and fly- and insect-proof facilities to keep clean and hygienic. Bathrooms shall not be directly connected to slaughtering/processing, packaging, and storage areas, etc. Bathrooms shall be equipped with self-closing doors, doors and windows of which shall not be directly open toward workshops.

5.3.2 Washing and disinfection facilities in plant area or workshops

5.3.2.1 Disinfection pools, above 4m*0.3m (length*width), as wide as the door, shall be arranged at the entrance/exit of vehicles transporting livestock and poultry in the plant area; at the entrance of production workshop and where necessary in the workshop, it is required to arrange facilities helping changing shoes (wearing shoe covers) or work shoes disinfection facilities, specification and dimension of which shall meet the requirements of disinfection.

5.3.2.2 Disinfection facilities for wheels and shoes shall be arranged at the door of isolating room and bio-safety disposal workshop.

5.4 Equipment and appliance

5.4.1 Production equipment appropriate to the production capacity shall be arranged in order according to process flow, so as to avoid cross contamination.

5.4.2 Equipment, appliance and containers exposed to meat products shall be fabricated with nontoxic, inodorous, non-absorbent, corrosion-resistant materials which are difficult of deformation and shedding and can withstand repeated washing and disinfection; they will not react with meat products, detergents or disinfectants during normal production; they shall be kept in good condition; bamboo tools (appliance) and containers are forbidden.

5.4.3 The location of processing equipment shall be convenient for maintenance, washing and disinfection, and the processing equipment shall be such mounted to avoid cross contamination during processing.

5.4.4 Waste containers shall be made of metal or other watertight material. Containers shall not be used to contain both waste and meat. Containers of different uses shall have visible sign or color difference.

5.4.5 Appliance and equipment used in slaughtering and inspecting livestock and poultry, such as slaughtering and dehorning equipment, inspecting cutter, thoracotome and slicer, and viscera-holding tray for quarantine and inspection, shall all be cleaned and disinfected with hot water above 82℃ after each use.

5.4.6 Facilities and equipment in the workshop shall be cleaned and disinfected timely catering to the production requirements. In production, appliance, control console and processing surface exposed to foods shall be cleaned and disinfected regularly, during which, adequate measures shall be taken to avoid contaminating products.

5.5 Ventilation facilities

- 5.5.1** Good ventilation and air exhausting device shall be equipped in the workshop to eliminate polluted air and vapor. Air shall flow from cleaning area to non-hygienic area.
- 5.5.2** Vents shall be equipped with gauze or other protective mesh enclosure made of corrosion-resistant material against insect pests. Gauze or mesh enclosure shall be convenient for handling, cleaning, maintenance or replacement.

5.6 Lighting facilities

- 5.6.1** Workshops shall have proper natural light or artificial lighting. The luster of lighting fixture shall not change the natural color of processed material and the luminance shall be able to meet the job demand of quarantine and inspection personnel and manufacturing operators.
- 5.6.2** Light fixture above meats shall be of safety-type or with protection facilities to prevent meats from being contaminated by crushed light fixture.

5.7 Storage facilities

- 5.7.1** The temperature in storage depot shall meet specific requirements for products stored.
- 5.7.2** The storage depot shall maintain clean, neat and ventilated, equipped with mould proofing, rat proofing and insect prevention facilities.
- 5.7.3** Cold storage temperature shall be monitored, for which hygrometer shall be mounted where necessary; both the thermometer and the hygrometer shall be calibrated periodically.

5.8 Waste storage and bio-safety disposal facilities

- 5.8.1** The temporary storage facilities shall be arranged at proper place far away from the workshop. The facility shall be manufactured with sterilized materials convenient for cleaning; the structure shall be tight to avoid the access of insect pest and the pollution to plant area and road or operators by the waste. Facilities and containers for storing waste in the workshop shall be clearly and visibly marked.
- 5.8.2** Bio-safety disposal facilities shall be configured according to the requirements of the national relevant laws and regulations, standards and codes, and bio-safety disposal.

6. Quarantine and Inspection

6.1 Basic requirements

- 6.1.1** The enterprise shall have the inspection department appropriate to its production capacity; possess the necessary inspection method and relevant standard materials, and establish sound internal management system to ensure the accuracy of inspection result. The original record of inspection shall be available. The laboratory shall be equipped

with necessary inspection facility/apparatus. Where the inspection is entrusted to the social inspection agency, the agency shall possess corresponding qualification. The entrustment shall satisfy the enterprise's routine inspection demand.

- 6.1.2** Metrologic instruments and apparatus required for product processing, inspection and maintenance of food safety control system shall be subjected to metrological verification as stipulated and calibration prior to use.

6.2 Ante-mortem inspection

- 6.2.1** The livestock and poultry to be slaughtered shall be accompanied with Veterinary Inspection Certificate, and shall wear specified identifier for livestock and poultry.
- 6.2.2** The livestock and poultry to be slaughtered shall be subjected to ante-mortem inspection according to the relevant national laws and regulations, standards and regulations. The livestock and poultry arrived shall be subjected to clinical health examination according to the relevant procedures. Observe the live livestock and poultry in terms of behavior, posture, physical condition, body surface, excrement, smell, etc. The abnormal ones shall be isolated to measure the body temperature and perform further inspection. If necessary, the sampling shall be conducted as required to carry out laboratory test.
- 6.2.3** Livestock and poultry which are judged to be unsuitable for normal slaughtering shall be disposed according to relevant requirements.
- 6.2.4** Stop feeding and keep the livestock and poultry at rest before slaughtering.
- 6.2.5** Ante-mortem inspection information shall be timely fed back to the farm and the post-mortem inspection personnel, and ante-mortem inspection records shall be made.

6.3 Post-mortem inspection

- 6.3.1** Post-mortem inspection on head, hoof (jaw), carcass and viscera (body cavity) shall be performed in accordance with relevant national laws, standards and regulations.
- 6.3.2** The special rail for reserving the suspicious diseased carcass shall be arranged at the proper position of the livestock slaughtering workshop; the suspicious diseased carcass shall be subjected to further inspection and judgment. Independent low-temperature space or area shall be arranged for temporary storage of suspicious diseased carcass or tissues.
- 6.3.3** Enough space shall be reserved in the workshop for post-mortem inspection.
- 6.3.4** Pig slaughtering workshop shall be provided with trichinae inspection room and inspection facilities.
- 6.3.5** Where the laboratory test is necessary according to the national specifications, the laboratory sampling inspection shall be conducted.
- 6.3.6** The quarantine and inspection result shall be determined by combining the pre-mortem and post-mortem inspection information.

- 6.3.7 Those judged as waste shall be clearly identified and disposed to avoid cross contamination due to mixing with other meat.
- 6.3.8 In order to perform post-mortem inspection or in case of emergency, the official veterinarian has the right to slow down or stop slaughtering.

6.4 Bio-safety disposal

- 6.4.1 After quarantine and inspection, the livestock and poultry and the tissues detected with infectious disease, parasitic disease, toxic disease, or harm residues shall be put in dedicated closed watertight vessel and transported by the special-purpose vehicle timely to undergo bio-safety disposal under supervision of the official veterinarian. Those with suspicious pestilence shall be handled according to the relevant quarantine and inspection regulations, and subjected to bio-safety disposal after confirmation.
- 6.4.2 Other livestock and poultry and their tissues judged as needing bio-safety disposal shall be subjected to bio-safety disposal under supervision of the official veterinarian.
- 6.4.3 The corresponding protective measures shall be established to avoid hazard to personnel, cross contamination and environmental pollution during bio-safety disposal.

7. Hygiene Control for Slaughtering and Processing

- 7.1 The enterprise shall implement the monitoring plans established by the competent authority concerning the residues, illegal additives and pathogenic microorganism, and then establish its own plans accordingly for all meats of the enterprise.
- 7.2 Inspection post shall be set at the proper position to examine the carcass and hygiene condition of product.
- 7.3 Appropriate measures shall be taken to prevent the carcass, tissue, body fluids (e.g., bile, urine, milk, etc.), and gastrointestinal contents of the livestock and poultry with suspicious disease from contaminating other meats, or equipment and site. The contaminated equipment and site shall not be used to slaughter and process normal livestock and poultry unless cleaned and disinfected.
- 7.4 Carcass or product contaminated by pus, effusion, pathological tissue, body fluid, contents in stomach and intestine and other contaminants shall be disposed, eliminated or abandoned in accordance with relevant regulations.
- 7.5 Apparatus used in processing, such as containers for holding products and water pipes for cleaning, shall not fall to the ground or contact with unclean surface so as to avoid cross contamination to products; in case that products fall to the ground, adequate measures shall be taken to eliminate contamination.
- 7.6 If required by the process requirements, the slaughtered carcass and edible offal shall be precooled immediately. After cooling, the core temperature shall be kept below 7°C for livestock meat, below 4°C for poultry meat, and below 3°C for viscera. The processing,

cutting and deboning shall be as quick as possible. When producing frozen products, the meat will enter into the freezer after the core temperature reaches -15°C within 48h.

- 7.7 The slaughter room shall be of sufficient area and the operation shall meet the requirements. Different kinds of livestock and poultry shall not be slaughtered in the same slaughter room.
- 7.8 In order to avoid contaminating meats, strict management shall be performed over the storage and application of toxic and harmful substances, and effective control shall be realized over detergents, disinfectants, pesticides, fuel, lubricants, chemical reagents used in the plant area, workshop and laboratory, as well as other toxic and harmful substances which must be used in processing.

8. Packaging, Storage and Transportation

8.1 Packaging

- 8.1.1 It shall comply with the requirements of 8.5 in GB 14881-2013.
- 8.1.2 Packaging materials shall comply with the relevant standards and shall not contain toxic and harmful substances, nor change the organoleptic properties of the meat.
- 8.1.3 Unless the meat packaging materials are easily cleaned and corrosion resistant, they shall not be reused and shall be cleaned and disinfected prior to use.
- 8.1.4 Interior and exterior packaging materials shall be separately stored and the packaging material depot shall keep dry, ventilated, clean and sanitary.
- 8.1.5 The temperature in product packing room shall meet the specific product requirements.

8.2 Storage and transportation

- 8.2.1 They shall comply with the relevant requirements of Chapter 10 in GB 14881-2013.
- 8.2.2 The finished products in storage depot shall maintain a proper distance from the wall, shall not directly contact the ground, and shall be stored in stacks by category and batch, and be identified.
- 8.2.3 Articles detrimental to sanitation shall not be stored in storage depot and products possibly causing cross contamination or tainting of odor shall not be stored in the same depot. The storage depot shall be periodically disinfected.
- 8.2.4 The refrigerated storage depot shall be periodically defrosted.
- 8.2.5 Dedicated transportation vehicles shall be adopted for meats and shall not be used to transport livestock and poultry, livestock and poultry products to be subjected to bio-safety disposal or other articles possibly contaminating the meats.
- 8.2.6 Packaged and nude meats shall not be transported in the same vehicle; if inevitable, physical insulation and protection measures shall be taken.

- 8.2.7** The transportation vehicles shall be provided with refrigerating and thermal insulation installations depending on the product characteristics. During the transportation process, appropriate temperature shall be maintained.
- 8.2.8** The transportation vehicles shall be cleaned and disinfected timely to maintain clean and hygienic.

9. Product Tracing and Recall Management

9.1 Product tracing

Sound traceability system shall be established to ensure the meats and their derived products can be traced in the case of unacceptable food safety risk.

9.2 Product recall

- 9.2.1** Livestock and poultry slaughtering and processing enterprises shall establish the product recall system according to relevant laws and regulations. If any outgoing products are found unsafe, they shall be recalled and reported to official veterinarian.
- 9.2.2** The recalled products shall be treated according to the relevant requirements of Chapter 11 in GB 14881-2013.

10. Personnel Requirements

- 10.1** The requirements of relevant national laws and regulations shall be met.
- 10.2** Operating personnel having direct contact with meat packaging or unpacked meats, meat equipment and appliance, as well as meat contact surface shall start the work after passing the physical examination and getting the health certificate issued by local medical institution. The health examination shall be carried out once every year and temporary health examination shall be carried out when necessary. Any personnel suffering from diseases that may affect the food safety shall be removed from the food production post.
- 10.3** Personnel engaged in production, processing, quarantine, inspection and management of meats shall maintain clean personally, and shall not bring articles irrelevant to production into the workshop; they shall not wear ornaments or watch, nor make up in working period; besides, they shall wash hands, receive disinfection and wear work clothes, cap and shoes when entering the workshop, and shall take off when leaving the workshop.
- 10.4** Personnel at areas or posts with different hygienic requirements shall wear work clothes and caps with different colors or marks. Personnel in different processing areas shall not leave for other irrelevant posts.
- 10.5** Corresponding number of quarantine and inspection personnel shall be assigned in the

enterprises. Personnel engaged in slaughtering, cutting, processing, inspection and hygienic control shall pass professional training and examination before starting the work.

11. Hygienic Management

11.1 Management system

- 11.1.1 Enterprises shall establish and implement the food safety control system centering on hazard analysis and prevention and control measures.
- 11.1.2 Enterprises are encouraged to establish and implement the hazard analysis and critical control point (HACCP) system.
- 11.1.3 Top managers of enterprises shall define their hygienic quality guidelines and objectives, allocate corresponding organizations and provide adequate resources to ensure effective implementation of the food safety control system.

11.2 Hygienic management requirements

- 11.2.1 Enterprises shall prepare written hygienic management requirements, define the responsibilities of executor, determine the implementation frequency and implement effective monitoring and corresponding corrective and preventive measures.
- 11.2.2 Water and ice in direct or indirect contact with the meats (including raw materials, semi-finished products and finished products) shall meet the hygienic requirements.
- 11.2.3 Appliance, gloves and interior and exterior packaging materials in contact with the meats shall keep clean, hygienic and safe.
- 11.2.4 Personnel hygiene, staff operations and installations design shall ensure the meats are safe from cross contamination.
- 11.2.5 Installations for washing hands and disinfection of operating personnel and toilet facilities shall keep clean and be periodically maintained.
- 11.2.6 Chemical, physical and biological pollutants shall be prevented from contaminating the meats, meat packaging materials and meat contact surface.
- 11.2.7 Various toxic chemicals shall be correctly marked, stored and used.
- 11.2.8 Contamination to meats, meat packaging materials and meat contact surface, due to poor health of staff, shall be avoided.
- 11.2.9 Rats, pests and birds shall be prevented and eliminated.

12. Records and Document Management

- 12.1 Recording system shall be established and effectively implemented, including incoming

acceptance, ante-mortem inspection, post-mortem inspection, bio-safety disposal, disinfection, storage of livestock and poultry, etc., as well as maintenance records of slaughtering and processing equipment, installations, transportation vehicles and appliance. The records shall be complete and true, and ensure all links from incoming and delivery of livestock and poultry are validly traceable.

- 12.2** Enterprises shall record the recalled product name, batch, specification, quantity, recall reason, subsequent rectification scheme and recall handling status, etc.
- 12.3** Enterprises shall properly make employment registration and training records.
- 12.4** For related records reflecting the product hygienic quality conditions, the enterprises shall prepare and implement the quality record control procedure, and correspondingly specify the marking, collection, cataloguing, filing, storage, preservation and handling of quality records.
- 12.5** All records shall be accurate, normative and traceable and the preservation period shall not be less than 6 months after the expiration of warranty period of the meats. If no definite warranty period is available, the preservation period shall not be less than 2 years.
- 12.6** Enterprises shall prepare program documents required for the food safety control system.