Appendix A9: National Standards – Natural and Health Foods

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National Standards Applicable to Natural and Health Foods

Health Foods

GB 16740-2014 Health Foods

National Standards of People's Republic of China

GB 16740-2014

National Food Safety Standards

Health Foods

Issued on: 2014-12-24 Implemented on: 2015-05-24

Issued by Ministry of Health of the People's Republic of China

Foreword

The standard substitutes the GB16740-1997 'General Standards for Health (Functional) Foods'

Compared with the GB 16740-1997 main changes are following:

- Amendment to the standard name to ‘Food Safety National Standard’;
- Amendment to the scope;
- Amendment to the terms and definitions;
- Deletion of the product categories;
- Deletion of the basic principles;
- Amendment to the technical requirements;
- Deletion of testing methods;
- Amendment to the labeling requirement.

National Food Safety Standards

Health Foods

1. Scope

This Standard applies to all types of health foods.

2. Terms and Definitions

2.1 Health foods

Foods which are claimed to have certain specific health functions or can supplement certain vitamins and/or minerals, and have been legitimately licensed for the same. In other words, the foods are suitable for certain people to help them improve body functions without the purpose of therapy, and will bring no acute, sub-acute or chronic harm to human body.

3. Technical Requirements

3.1 Raw and supplementary materials

The raw and supplemental materials for health foods must comply with the applicable food safety standards and / or applicable regulations.

3.2 Sensory requirements

Sensory indicators shall comply with the provisions of Table 1 below

Table 1 Sensory Indicators

Items	Indicators	Testing Method
Color and luster	Content, coat and shell has the color and luster attributed to the product	Take appropriate amount of sample into 50mL beaker or white disk, observe under natural light, and make examination by means of vision test, after gargling with warm water and smelling
Taste and smell	Presenting with the taste and smell attributed to the product and without any foreign taste	
Impurities	No impurity is visible, either inside or on surface, to the naked eye	

3.3 Physical and chemical index

Physical and chemical index shall comply with the corresponding provisions of national food safety standard.

3.4 Contaminant limit

Contaminant limit shall comply with the provisions of GB 2762 or, in case there is no such provision of GB 762, the provision of Table 2 below.

Table 2 Contaminant Limit

Items	Indicators	Testing Method
Lead[a] (Pb)/(mg/kg)	2.0	GB 5009.12
Total Arsenic[b] (As)/(mg/kg)	1.0	GB/T 5009.11
Total Mercury[c] (Hg)/(mg/kg)	0.3	GB/T 5009.17
[a] Lead in tea bag ⩽ 5.0 mg/kg; lead in liquid products ⩽ 5.0 mg/kg; lead in infant and young children solid or semi-solid health foods ⩽ 0.3 mg/kg; lead in infant and young children liquid health foods ⩽ 0.02 mg/kg [b] Total arsenic in liquid products ⩽ 0.3 mg/kg, while in infant and young children health foods ⩽ 0.3 mg/kg [c] Total mercury testing in liquid products (except infant and young children foods); total mercury in infant and young children health foods ⩽ 0.02 mg/kg		

3.5 Fungal toxin limit

Fungal toxin limit shall comply with the provisions of GB 2761 and/or other applicable regulations.

3.6 Microbial limit

Microbial limit shall comply with the provisions of GB 29921 and applicable national food safety standards, if no such national standard exists, the provisions of Table 3 below.

Table 3 Microbial Limit

Items	Sampling and Limit [a]		Testing Method
	Liquid Products	Solid or Semi-solid products	
Total number of bacterial colonies [b]/ (CFU/g or mL) ⩽	10^3	$3*10^4$	GB 47892.
Coli groups (MPN/g or mL) ⩽	0.43	0.92	GB 4789.3 MPN count method
Mildew and yeasts (CFU/g or mL) ⩽	50		GB 4789.15
Staphylococcus Aureus ⩽	0/25 g		GB 4789.10
Salmonellas ⩽	0/25 g		GB 4789.4
[a] Sample methods shall be comply with GB 4789.1 [b] Not applicable to those whose final products contain active bacteria (including aerobic probiotics and facultative anaerobic probiotics).			

3.7 Food additive and nutrition enhancers

3.7.1 Use of food additives shall comply with the provisions of GB 2760.

3.7.2 Use of nutrition enhancers shall comply with the provisions of GB 14880 and/or other applicable regulations.

4. Others

Labeling shall comply with the applicable national standards and/or applicable regulations.

National Standards of People's Republic of China

GB 17405-1998

National Food Safety Standards

Good Manufacture Practice for Health Food

Issued on: 1998-05-05 Implemented on: 1999-01-01

Issued by Ministry of Health of the People's Republic of China

Foreword

Part of this standard adopted the *China Good Manufacture Practices of Drugs* (1992 amended version) with regards to the content on clean factory facilities during the drafting of this standard. World Health Organization's (WHO) *Good Manufacture Practices of Drugs* was used as a reference during the drafting of this standard's format and content. GB 14881-1994 *Standard Hygienic Specifications for Drug Manufacturing Enterprises* was used as a reference for the aspects of typical construction design and hygiene requirements.

Since the areas this standard regulates fall within scope of food production, the requirements for professional personnel, building facilities and document archiving is lower than those required under the *Good Manufacture Practices of Drugs* but higher than *Good Manufacture Practices of Foods*.

This standard made full reference to the principles of Hazard Analysis and Critical Control Points (HACCP) during its formulation, raising specific requirements on key aspects of the manufacturing process.

This standard was proposed by the Ministry of Health of the People's Republic of China.

Food Hygiene Supervision and Inspection Bureau of the Ministry of Health was responsible for the drafting of this standard; Fujian Province Food Hygiene Supervision and Inspection Bureau, Guangdong Province Food Hygiene Supervision and Inspection Bureau, Liaoning Province Food Hygiene Supervision and Inspection Bureau, Shenyang City Hygiene and Epidemic Prevention Center, Tianjin City Hygiene and Disease Prevention Center and Fujian Fulong Biological Product Co., Ltd were involved in the drafting of this standard.

The key personnel involved in the drafting of this standard: Bao Dayue, Li Tairan, Ling Shenqing, Zhang Yonghui, Shi Gensheng, Xiao Dongshen, Liu Changhui, Liu Hongde, Zhen Pengran and Sheng Wei.

Food Hygiene Supervision and Inspection Bureau of the Ministry of Health is responsible for the explanation of this standard on behalf of the Ministry of Health.

National Food Safety Standards

Good Manufacture Practice for Health Food

1. Scope

This standard specifies the basic technical requirements with regard to the personnel, design and facilities, raw materials, manufacturing procedure, storage and transportation of finished products as well as the quality, hygiene management of enterprises for the food products with specific health functions.

This standard is applicable to all the health food manufacturers.

2. Normative References

The clauses of the following list of standards will constitute some of the clauses used in this standard through the use of references. All the versions with the specific dates will be applicable to this standard upon the publication of this standard. Since all the standards will be amended in the future, the relevant parties using this standard should explore the possibility of taking references from the latest versions of the following referenced standards.

GB J73-84 *Specifications for the Design of Clean Factory Buildings*

GB 5749-85 *Sanitary Standard for Drinking Water*

GB 7718-94 *General Standard for the Labeling of Prepackaged Foods*

GB 14881-94 *General Hygienic Specifications for Food Enterprises*

3. Definitions

For the purposes of this standard, the following definitions apply.

3.1 Raw Materials

Refer to all the inputs used during the health food production process, including processing aids and food additives.

3.2 Intermediate Product

Refers to substance or compound that still requires an additional step of processing.

3.3 Product

Refers of finished product that has been prepackaged and ready for sales and distribution.

3.4 Batch Number

Refers to a set of numbers or roman letters together with numbers dedicated to the identification of “batches”. Specially dedicated for traceability function and examination of the production history of this specific batch of health food products.

4. Personnel

4.1 Health food manufacturing enterprises should have under their employment technical personnel with the relevant professional expertise on fields such as medicine (or biological, food sciences) that corresponds to the production of health food products, as well as management personnel that have the production and organizational capabilities. The proportion of professional technical personnel should not constitute less than 5% of the total employee count.

4.2 Management personnel in charge of technical administration should hold at least education of college level and above or hold corresponding educational experiences, and possess experience in health food production as well as quality, hygiene management.

4.3 Personnel in charge of the health food production and quality management department should be full-time employee(s) and should hold at least education of college level and above or hold corresponding educational experiences, capable of organizing production in accordance to the requirements of this standard or conducting product quality administration as well as having the ability to make correct judgment and handle appropriately any practical issue that arises during the health food production and quality management processes.

4.4 Health food manufacturing enterprises should have under their employment full-time quality control personnel. Quality control personnel should hold at least education of technical secondary educational institutions; procurement personnel should have the knowledge and technical abilities to distinguish if the raw materials fulfill quality, hygiene requirements.

4.5 Employees should undergo education on hygiene regulations and corresponding technical trainings before posting, while enterprise should establish training and assessment profiles for employees. Personnel in charge of the enterprise and the production, quality management department(s) should have received professional training on health foods conducted by hygiene supervision authorities at provincial level and above, and should have received the relevant qualification certificates.

4.6 Employees should undergo medical examinations, getting medically certified before posting, and should undergo yearly medical examination thereafter.

4.7 Employees should maintain personal hygiene in accordance with the requirements in GB 14881.

5. Design and Facilities

5.1 Design

Overall design of the health food factory, the general design of the plant and its facilities, building and hygiene facilities should comply with the requirements of GB 14881.

5.2 Plant and Plant Facilities

5.2.1 Reasonable plant layout should be selected based on production processes and requirements on level of cleanliness within the plant, where all the individual sets of production operations at a particular plant should not interfere with those of another nearby plant.

5.2.2 Production should be differentiated base on the level of cleanliness, in accordance to the requirements on production processes, hygiene and quality, i.e. technically segmented into general production zone and 100-thousand-level zone.

Zone with 100-thousand cleanliness level should be installed with air filtration equipment and corresponding air conditioning system with purification function.

See Table 1 for plant cleanliness level and ventilation frequency.

Table 1

Cleanliness Level	Dust Index / m^3		Active Microorganism Count / m^3	Ventilation Frequency / h
	≥0.5 μm	≥5 μm		
10,000 Level	≤350,000	≤2,000	≤100	≥20 times
100,000 Level	≤3,500,000	≤20,000	≤500	≥15 times

5.2.3 Design and equipment of a clean plant should comply with the requirements of GB J73.

5.2.4 Cleanliness level should meet the air purification requirements for health food production and processing. Plant with 100-thousand cleanliness level should be used for production of products in formats such as tablets, capsules, pills as well as solution taken orally but cannot be sterilized in its finished product container.

5.2.5 There should be reasonable integration between plants, equipment layout and process flow, where building structure should be complete and should satisfy the requirements for production processes, quality and hygiene; plant should have sufficient space and places for the placement of equipment, materials; storage spaces dedicated for intermediate products, prepackaged products should comply with the corresponding production requirements.

5.2.6 Temperature and relative humidity level of a clean plant should comply with the corresponding production process requirements.

5.2.7 Sewage, hand washing and other hygiene facilities installed in the clean plant should not result in any contamination during the production of health foods.

5.2.8 There should be buffer facilities between plants of different level of cleanliness as well as between plants and passageways. Personnel and material channels corresponding to the specific level of cleanliness should also be arranged in different plants respectively.

5.2.9 Pre-processing of raw materials (e.g. extraction, enrichment) should be conducted in places corresponding to its scale of production and process requirements, at the same time ventilation, dust removal and temperature reduction facilities, if required should also be installed. Pre-processing of raw materials and production of finished products should not share the same plant.

5.2.10 Material preparation chamber should be established for health food production, where the level of cleanliness of such preparation chamber should be consistent with that of its production process requirements.

5.2.11 Air purification facilities and equipment in clean plant should be inspected regularly, where appropriate measures should be taken during the inspection process so as to prevent contamination during the production of health foods.

5.2.12 Dedicated fermentation chamber should be used in the production of fermented products and should have specialized equipment corresponding to fermentation and misting.

5.2.13 Production tools, equipment that will have direct contact with raw materials, intermediate products should use materials that comply with the product quality and hygiene requirements.

6. Raw Materials

6.1 Acceptance tests, storage and inspection systems should be set up for the procurement and use of raw materials required for the health food production process, of which personnel in charge should be designated.

6.2 Raw materials should comply with food hygiene requirements. Species, sources, specifications, quality of raw materials used should be consistent with those of the approved formulations and product commercial standards.

6.3 Valid inspection report should be requested in accordance to relevant regulations during raw material procurement; raw materials falling under the new food resource category should obtain the approval certification (copy) issued by the Ministry of Health.

6.4 Mycelium as a result of artificial fermentation of bacteria or composite substances of mycelium and fermented products, along with raw materials falling under the microflora category should obtain bacteria strain assessment report, stability report and certified information proving that the bacteria strain does not contain any drug resistance factors.

6.5 When algae, animals and animal tissues, organs are used as raw materials, respective assessment reports should be obtained. When using a single type of effective substance extracted from plants, animals as raw materials or when using chemical compounds as raw materials, inspection report on the physical-chemical properties and content of such substance should be obtained.

6.6 Content inspection report should be obtained for raw materials that contain stimulants and hormones; relevant information on the radioactive doses should be obtained for raw materials that have undergone radioactive treatment.

6.7 Mode of transportation used for raw materials should comply with hygiene requirements. Specialized facilities, such as insulation, cold storage, preservation, rain shelter should be established corresponding to the specific properties of the raw materials, so as to ensure the quality and the compliance with hygiene requirements. Raw materials should not be transported together with poisonous, harmful substances in the same container during the process.

6.8 Conduct preliminary inspections of the source, specifications and packaging of the raw materials procured; storage account and card should be filled in accordance to the requirements of the system of acceptance and then sampling and inspection request should be submitted to quality control department after raw materials are transferred to warehouse.

6.9 All raw materials should be segregated into different zones during storage according to their status, i.e. those prepared for inspection, qualified and unqualified and obvious labels should be indicated; qualified raw materials prepped for production use should be further segregated and stored based on their individual production batches they are meant for, where the same warehouse should not be stocked with raw materials that will affect each other’s flavor.

6.10 Raw materials with special storage requirements and specific requirements for temperature and humidity during storage should be comply with such requirements; storage venues or warehouses for general raw materials should have flat floor surfaces, are well-ventilated and have facilities set up to prevent rat and insect infestation.

6.11 Storage period should be set for the raw materials and principle of first-in-first-out should be adopted. Unqualified or expired raw materials should be labeled and handled in a timely manner.

6.12 Bacteria strain storage conditions for mycelium as a result of artificial fermentation of bacteria or composite substances of mycelium and fermented products, along with raw materials falling under the microflora category should be strictly controlled, where bacteria species should be regularly filtered, purified and when necessary conduct assessment so as to prevent bacteria contamination, degradation and toxic-producing mutations.

7. Production Processes

7.1 Formulating Production Operation Procedure

7.1.1 Factory should formulate production process procedure and posting, operation procedure in accordance to requirements of this standard in tandem with its own product's production process characteristics.

Product process procedure should comply with the process requirements of not resulting in any losses, destruction or transformation of functional components or resulting in the production of any harmful intermediate substances during the health food production processes, of which the content of the procedure should include product formula, preparation of each component, key technical conditions for finished product processing procedure and quality, hygiene control points for key steps, e.g.: temperature, pressure, time, pH value for finished product processing procedure and quality indexes for intermediate products.

Posting, operation procedure should establish a set of specific operation requirements for each key steps in the production process, clarifying the post and responsibility of each plant, key step and personnel.

7.1.2 Production technical personnel and management personnel in each plant should make specific records about every batch of products in aspect such as raw material preparation, intermediate product production quantity, product quality and hygiene index value in accordance to each key steps and inspection requirements throughout the production process.

7.2 Ingredient Drawing and Feeding

7.2.1 Before channeling raw materials into production, they should undergo stringent inspection, i.e. verifying product name, specifications, quantity and if they are mixed with unusual substances or if they display any other unusual sensory properties, of which those that did not comply with requirements will be forbidden from use in production. Expired raw materials should not be used. Main or supplementary ingredients in liquid form should be filtered so as to remove unusual substances; main or supplementary ingredients in solid form should undergo selection process and grinded to the stipulated fineness before use.

7.2.2 Plant should draw raw materials according to specific production needs, i.e. calculate, weigh and feed raw materials accurately based on formula, of which this process should be verified by two other personnel and recorded for further references.

7.2.3 Water quality of water used in production should comply with the requirements of GB 5749; processing water with special requirements should be further purified according to the processing requirements.

7.3 Preparation and Processing

7.3.1 Before raw materials are being prepared and feed, preparation pot and container's tube should be inspected to check if they are clean and if they comply with the standards required by the processes. Container and tubes of fermenter used for fermentation production should be thoroughly cleaned and sterilized before it is used for production. Equipment cleaning and sterilization records should be filed for every batch.

7.3.2 Production operations should be reasonably integrated, ensuring fast transfer and that they are convenient with specific measures taken to prevent cross-contamination. Key steps such as raw material preparation, intermediate product processing, packaging material and container cleaning process, sterilization, finished product packaging and inspection should be set up separate from each other. A single plant should not produce different products at the same time; container for different production steps should have clear labels to distinguish and prevent confusion.

7.3.3 Production operation personnel should strictly maintain good personal hygiene according to the specific requirements of each general production zone and clean zone. If there is a chance of causing product contamination due to a change of posting, personnel should change clothes, shoes, caps, and go through another round of disinfection. Work clothes, caps, shoes used in clean zone should be clean, disinfected and changed daily on a strict basis and they should only be worn within the clean zone, i.e. forbidden from bring them out of the zone's perimeter.

7.3.4 Raw materials should enter the production zone through raw material tube channels. Any raw materials entering clean plant, workshop should be removed of their external packaging. If external packaging cannot be removed then raw materials should be thoroughly cleaned or should be changed into respective indoor packaging barrels.

7.3.5 Raw materials should be mixed evenly during the preparation, pre-processing procedures, and raw materials that need to be melted, extracted hot or enriched (evaporated) should ensure the temperature and time set up for the heating processes are strictly controlled. Intermediate products that need to have their technical parameters such as content composition, pH value adjusted, should conduct re-inspection on aspects such as content composition, pH value, relative density and preservatives.

7.3.6 All of the process operations should be conducted under good conditions and in compliance to the process requirements. Liquid form products, such as orally taken solutions, beverages should be filtered during their production processes, of which extra note should be taken in terms of choosing filtering material that does not have any fiber peeling off and should comply with its hygiene requirements. Asbestos is forbidden from being use as filter material. Solid form products, such as tablets, capsules, brewing powder that need to be dried, should enforce strict control over the temperature and time of drying chamber (oven) so as to prevent particles from melting or degrading; grinding, pressing, filtered or granulating equipment should be made with material complying with hygiene requirements and should be cleaned, maintained regularly so as to prevent rusts and metal contamination.

7.3.7 Product tablet pressing, capsule packaging, brewing powder production and filling of liquid products should be conducted in a clean chamber, of which the temperature and humidity of the workshop should be controlled. Capsule packaging done by hands should be conducted within plexiglass cover with corresponding cleanliness level, and work station should not be lower than 0.7 m.

7.3.8 Prepared raw materials should be placed into clean containers that are well-sealed, and filling, pressing and capsule packaging should be then conducted in a timely manner. Raw materials that need to stored should not exceed their stipulated storage periods.

7.4 Washing, Disinfection and Cleaning of Packaging Containers

7.4.1 Food containers, packaging materials, washing reagent and disinfecting reagent that comply with hygiene standards and specifically approved by hygiene administration regulations should be used.

7.4.2 Raw materials such as empty capsules, sugar coating should comply with hygiene requirements and the use of food colorants is prohibited.

7.4.3 Product packaging such as glass bottles (pipes), plastic bottles (pipes), bottle caps, bottle paddings, bottle stoppers, aluminum plastic packaging as well as any internal packaging materials that have direct contact with the products should be all washed, dried and disinfected using appropriate methods then placed into a clean chamber to be chilled and prepared for later uses. If stored time exceeds the stipulated time period, packaging should be rewashed and disinfected a second time.

7.5 Product Disinfection

7.5.1 Effective disinfection or sterilization equipment and methods should be used for the disinfection of all types of products. Methods such as precise filtration, microwave, irradiation in accordance to the requirements on different processes and food hygiene requirements, can be used to achieve the purpose of disinfection if such products are required to undergo disinfection but are not heat resistant. Dosage of radiation absorbed and radiation time should be strictly controlled in accordance to the requirements of the *Irradiated Food Hygiene Management Measures* during the irradiation process.

7.5.2 Reliability inspection on aspects such as uniformity of temperature within the disinfection or sterilization equipment and repeatability should be regularly conducted and inspection equipment for aspects such as temperature and pressure should also be regularly calibrated. Key indexes such as temperature, pressure, time should be accurately record throughout the disinfection or sterilization operations.

7.6 Product Packaging and Filling

7.6.1 Every batch of products should be inspected to determine if they comply with requirements before packaging or filling, of which the theoretical yield should be calculated and compared with the actual yield of production. If there is any obvious discrepancy, potential causes should be investigated and products can only be handled normally if approved by the quality control department after determining a reasonable explanation of the discrepancy and the fact that there is no potential quality incident involved.

7.6.2 Filling of liquid products and the processes of granulating, pressing or packaging of solid products should be conducted in a clean zone according to corresponding requirements. All product filling, with the exception of capsule format products should be done by automatic machine equipment and not filled by hand.

7.6.3 Equipment and its parts such as needle head, pipelines should be inspected to determine if they are washed with fresh distilled water, disinfected or sterilized before using.

7.6.4 Operating personnel should inspect the quality of intermediate products regularly after filling and sealing, and should be prepared to make adjustments to the filling (sealing) machine at any time so as to ensure the quality of the filling/sealing processes.

7.6.5 Time between filling/sealing to sterilization/disinfection should be controlled within the timeframe limits stipulated in the process procedure for any products that are required to be sterilized or disinfected.

7.6.6 Bottled formulations such as oral ampoule formulations and products packaged in straight glass bottles should be light inspected after filling/sealing. Bottling venues should be cleaned and cleared after light inspection of every product batch and products removed should be indicated with the specific product names, specifications, batch numbers and placed in clean containers to be transferred and handled by personnel in charge.

7.7 Packaging

7.7.1 Packaging materials and labels for health food products should be safe kept by professionals, and the packaging materials for product labels of every batch released, received and destroyed according to orders should maintain proper records.

7.7.2 Intermediate products that had undergone light inspection and were qualified by inspections should have the quality of their printing and labeling randomly inspected during the printing and labeling processes. Printing should be clear; labeling should be upright and firmly pasted.

7.7.3 Objects that are unrelated to food should not be included in the internal packaging of finished products.

7.7.4 Product external packaging should indicate the maximum resistance to pressure (weight).

7.8 Labeling

7.8.1 Product labeling should comply with the requirements of *Regulations for Health Food Product Labeling* and GB 7718.

7.8.2 Contents of health food product user guide, printed labels should be consistent with those approved by the Ministry of Health.

8. Storage and Transportation

8.1 General hygiene requirements for storage and transportation should comply with the requirements of GB 14881.

8.2 Storage methods and environment of finished products should avoid light exposure, shelter from rain and ensure that temperature and humidity are controlled within appropriate ranges, as well as prevent shock and vibration.

8.3 Products containing active biological substances should take corresponding measures for cold storage and should be stored and transported with a cold chain methodology.

8.4 Health food products that are stored under extreme temperature (e.g. specific microflora category health foods), should be transported in accordance to the temperature requirements based on the different characteristics of products.

8.5 Warehouses should have receipt and delivery inspection systems established. Finished products should be implemented with “first-produced-first-solid” principles.

8.6 Warehouses for finished products should maintain records of quantity stored; such warehouses should also maintain shipping, out-factory records, of which contents such as batch numbers, shipping date, locations, receiving end, quantity, so as to facilitate timely recalls when issues arise.

9. Quality Control

9.1 Factories should establish independent quality control organizations corresponding to their individual production capabilities, and such organizations should be under the direct responsibility of the factory personnel in charge. Individual plants should have full-time quality supervision personnel, while each shift should have part-time quality inspectors, together constituting a complete and effective quality supervision and control system that is responsible for the quality supervision of the entire production process.

9.2 Formulation and Implementation of Quality Control System

9.2.1 Quality control organizations should develop comprehensive management systems, of which the quality control system should include the following contents.

a) Management system for raw materials and ingredients, intermediate products, finished products and unqualified products;

b) Management system for the identification and quality inspection of raw materials, inspection of intermediate products, inspection technical specifications for finished product on aspects such as quality specifications, test items, test standards, sampling and inspection methods;

c) Management system for sample observation and management system for laboratory;

d) Production process operation verification system;

e) Clearance management system;

f) Management system for all kinds of original records and batch production records;

g) File management system.

9.2.2 Abovementioned management systems should be realistic, feasible and convenient in terms of operation and inspection.

9.3 Inspection chamber and laboratory that correspond to the category of products manufactured should be established and regular assessments should be conducted on rooms, apparatus, facilities and equipment required for the inspection processes of raw materials, intermediate products and finished products, so as to ensure these are in good conditions.

9.4 Raw Materials Quality Management

9.4.1 Quality inspectors should be assigned while assessment and quality inspection should be conducted on raw materials batch-by-batch in accordance to the requirements by state or relevant authorities, where unqualified materials should not be used.

9.4.2 Storage venues for raw materials should be inspected and managed and venues that do not comply with the required storage conditions should not be used.

9.5 Quality Management of Processing Procedure

9.5.1 Identify the quality, hygiene critical control points during the processing procedure and establish at least the following supervision and control steps, of which records should be properly maintained.

9.5.1.1 Name and weight (or volume) of materials feed.

9.5.1.2 Technical parameters such as temperature, pressure, time, pH value for the functional component extraction processes.

9.5.1.3 Yield and quality specifications of intermediate products.

9.5.1.4 Yield and quality specifications of finished products.

9.5.1.5 Hygiene conditions of internal packaging that has direct contact with food.

9.5.1.6 Technical parameters for finished product sterilization methods.

9.5.2 Regular inspection and maintenance should be conducted on key production facilities and measurement apparatus, while such inspection and maintenance should be specifically conducted at least once semiannually for thermometer and manometer used in disinfection/sterilization equipment, of which proper records should be maintained.

9.5.3 Should possess capability of monitoring the production environment and should conduct periodic monitoring of key environmental parameters for the production processes such as temperature, humidity, level of air cleanliness.

9.5.4 Should possess the capability of monitoring water used in production and should conduct periodic monitoring of water.

9.5.5 Should identify cause swiftly and make proper records upon discovery of unusual situations during the quality control process, and should then resolve such situations appropriately.

9.6 Quality Management of Finished Products

9.6.1 Inspections on key aspects such as sensory, hygiene and quality indexes should be conducted batch-by-batch, of which unqualified products should not be release from factory.

9.6.2 Should possess the inspection capability in determining main functional factors or components of products and should conduct inspections according to the functional factors or components produced as a result of inputs channeled, of which unqualified products should not be release from factory.

9.6.3 Samples should be reserved for every product batch, and they should be stored in dedicated reserved sample warehouse (or zone), segmented according to product category and batch number. These reserved samples should be clearly labeled.

9.6.4 Should conduct regular product stability experiments.

9.6.5 Should conduct inspection on the product's packaging materials, labeling, user guides, of which those unqualified should not used.

9.6.6 Should inspect and manage storage conditions of finished product warehouses, of which warehouses that do not meet storage requirements should not used.

9.7 Other Quality Management Requirements

9.7.1 Should make detailed records of quality feedbacks and negative responses arising from product uses raised by the users and should ensure that such scenarios are properly investigated and handled, of which records should be filed for further references.

9.7.2 Should establish comprehensive database of quality management files, designating file cabinets and file management personnel for the purpose of proper classification and archiving of such files. Records should be maintained for 2~3 years for further references.

9.7.3 Should conduct regular full front inspection on production and quality control, in the process evaluating the individual operational procedures with regards to the production and management aspects as well as employee postings and responsibilities. Should make adjustments according to the issues discovered during

the inspection and evaluation process and make regular reports to hygiene administration authorities with regards to the production quality situations.

10. Hygiene Management

Factory should comply with the requirements of GB 14881, taking measures for the specific hygiene management aspects such as preventing insect infestations, pesticide contamination and measures of proper handling of poisonous, harmful substances as well as on raising of animals, management of sewage and pollutants and the handling of byproducts.

Organic Products

GBT 19630.1-2011 Organic Products Part 1: Production

National Standards of People's Republic of China

GB/T 19630.1-2011

National Food Safety Standards

Organic Product - Part 1: Production

Issued on: 2011-12-05 Implemented on: 2012-03-01

Issued by the Administration of Quality Supervision, Inspections and Quarantine the People's Republic of China & China Standardization Management Committee

Foreword

GB/T 19630 “Organic Product” is divided into four parts:

- Part 1: Production
- Part 2: Processing
- Part 3: Identification and Sales
- Part 4: Management System

This Part is the first part of GB/T 19630.

This Part is prepared according to the rules set forth in GB/T 1.1-2009 “Directives for Standardization Part 1: Structure and Compilation of Standardization”.

This Part takes the place of GB/T 19630.1-2005 “Organic Product Part 1: Production”. Compared with GB/T 19630.1-2005, the main technical changes are as follows:

- “Contents” is added;
- “Introduction” is added;
- Some definitions and terms are added, including the animal life cycle (see 3.8), the plant propagating materials (see 3.10), the genetic engineering technology (transgenic technology) (see 3.12), and the irradiation (see 3.14);
- Some definitions and terminologies are deleted, including the allowed for use, the restricted for use and the prohibited for use (see 3.11, 3.12, 3.13 in the 2005 edition).
- “General Principles” is added (see 4);
- Requirements of the maximum residue limit of the prohibited substances in the certified product are increased (see 4.5.6);
- Requirements of the annual growth plant seedlings are modified (see 5.5.3);
- Requirements of facility cultivation (see 5.9.1), sprouting vegetable (see 5.9.2) are increased;
- Auxiliary materials allowed for use in the planting of edible fungi are increased (see 7.3);
- “Sorting, Cleaning and Other Post-Harvest Handling” is added (see 5.10);
- Age in days of the introduction of meat-type chicken is modified (see 8.3.1);
- “Introduction of livestock and poultry” is modified; the annual introduced quantity of pigs and sheep are increased up to no more than 20% of the total same organic female adults (see 8.3.2);

- Calculation method of the ratio among roughage forage, fresh grass, green hay and silage is modified (see 8.4.4);
- Weaning period of pigs and sheep is modified (see 8.4.5);
- Requirements of the fattening stage of beef cattle are increased (see 8.5.4);
- 9.1.4 c) is deleted, and the related content is moved to 9.1.3 b)
- Disinfectants allowed for use in the aquaculture are increased (see 9.4.3.3);
- Requirements of building the comb foundation by the organic beeswax are increased during the conversion of bee farms (see 10.1.2);
- “Introduction of Bees” is added (see 10.2);
- Provision of “shall breed own queen bee” is deleted (see 10.5.3 in the 2005 edition);
- Provision of “shall not harvest the immature honey” is added (see 10.8.3);
- The location of “General Principles for Packaging, Storage and Transportation” is modified (see 11 and 7 in the 2005 edition);
- Plant protection products and conditions of usage are supplemented (see Appendix A Table
- A.2 and Appendix B in the 2005 edition);
- The List of “detergents and disinfectants allowed for use in the planting of organic crops” is added (see Appendix A Table A.3);
- “Additives and Materials for Animal Nutrition” is added (see Appendix B Table B.1);
- “Water quality requirement of the drinking water for livestock and poultry” is deleted (see Appendix C Table C.1 in the 2005 edition);
- Detergents and disinfectants allowed for use in the animal breeding sites are supplemented, and are listed as Appendix B Table B.2 (see Appendix C Table C.2 in the 2005 edition);
- Materials allowed for use in the prevention and treatment of honeybee disease are supplemented, and are listed (see Appendix B Table B.3 and 10.4.3 in the 2005 edition);
- “Shall not use the lead paint” is added (see 10.7.6);
- “Animal house and activity space for different kinds of animals in the breeding of livestock and poultry” is added (see Appendix D);

Terms related to the certification management are deleted, including the confirmation of the conversion period, the supervision requirements of the parallel production, the evaluation and the approval of the input, the detection of the certified product.

Please note that some contents of this document may involve patents. The issuing authority of this document shall not be responsible for the recognition of these patents.

This Part is presented by the Certification and Accreditation Administration of the People's Republic of China. Some entities drafted this Part: Nanjing Organic Food Development and Certification Center, Registration Department of Certification and Accreditation Administration of the People's Republic of China, China Agricultural University, Tea Research Institute of Chinese Academy of Agricultural Sciences, China Organic Food Certification Center, Hanzhou WIT Assessment Co., Ltd., Certification and Accreditation Administration of China, Nanjing Agricultural University, Beijing Continental Hengtong Certification Co., Ltd. (CHTC).

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This Part takes the place of all previous standard editions as follows:

- GB/T 19630.1-2005

Introduction

When the organic agriculture gives play to the role of production function (i.e. providing the organic products), meanwhile, it shall focus on the interaction between the people and the ecosystem and the sustainable management of the environment and the natural resources. The organic agriculture is based on the principles of health, ecology, fairness, care and love. To be specific, the basic principles of organic agriculture include:

- In the field of production, processing, circulation and consumption, maintain and promote the health of the ecosystem and the biology, including the health of soil, plants, animals, microorganisms, human and earth. The organic agriculture is especially dedicated to the production of high quality, rich nutrition food, to serve the preventive health and the welfare protection. Therefore, the organic agriculture shall avoid using fertilizers, plant protection products, veterinary drugs and food additives from the chemical synthesis as far as possible.

- Based on the living ecological system and the material energy cycle, to live with the natural environment in harmony, take examples from nature, and maintain the nature. The organic agriculture shall adopt the production mode that will adapt to the local conditions, ecology, culture and scale. Through recycling, cycle use and the efficient resource and energy management, to reduce the use of the external input, maintain and improve the environment quality, and protect national resource.

- Through the design of farming system, establish the habitat, protect the genetic biodiversity and the agricultural diversity, to maintain the ecological balance. In the segment of production, processing, circulation and consumption, shall protect and improve our common environment, including landscape, climate, habitat, biodiversity, air, soil and water.

- At every level, for all groups -- peasants, workers, processors, distributors, traders and consumers, shall deal with the mutual relation in a fair way. The organic agriculture is especially dedicated to the production of sufficient, high quality food and other products, to provide a good quality of life for everyone, and make a contribution to ensure the safety of food and eliminate poverty.

- In line with the social justice and the ecological justice, manage the natural and environmental resources, and entrust it to the future generations. The organic agriculture advocates to establish the system of production, circulation, and trade with an open and equal opportunity, and put the environmental and the social costs into consideration.

- Provide the living condition that conforms to the physiological needs, the natural habits and the welfare for the animals.

- Improve efficiency, increase productivity, meanwhile, and avoid the risk of the human health and the animal welfare. Due to the limitation of understanding about the ecosystem and the agriculture, shall adopt the cautious attitude to evaluate the new technology and the existing technical method. When the organic agriculture chooses the technology, shall emphasize on the prevention and the responsibility, to ensure the organic agriculture is healthy, safe, and reasonable on the ecology. The organic agriculture shall refuse the unpredictable technology, such as the genetic engineering and the ionizing radiation, and avoid the risks to the health and ecology.

National Food Safety Standards

Organic Products Part 1: Production

1. Scope

This Part in GB/T 19630 sets out the general specifications and requirements for organic production of plants, animals and microorganism products.

This Part shall apply to the production and harvest of plants, animals and microorganisms products, and processing, packaging, storage and transport after harvesting.

2. Normative References

The clauses of the following list of standards will constitute some of the clauses used in this standard through the use of references. All the versions with the specific dates will be applicable to this standard upon the publication of this standard. Since all the standards will be amended in the future, the relevant parties using this standard should explore the possibility of taking references from the latest versions of the following referenced standards.

GB 3095 Ambient Air Quality Standards

GB 5084 Standards for Irrigation Water Quality

GB 5749 Standard for Drinking Water Quality

GB 9137 Maximum Concentration of Pollutants in Atmosphere for Protection Crops

GB 11607 Water Quality Standards for Fisheries

GB 15618 Environmental Quality Standard for Soils

GB 18596 Discharge Standard of Pollutants for Livestock and Poultry

GB/T 19630.2-2011 Organic Products Part 2: Processing

GB/T 19630.4 Organic Products Part 4: Management System

3. Terms and Definitions

The following terms and definitions are applicable to this Part.

3.1 Organic Agriculture

According to the specific principles of the agricultural production, during the production, shall not adopt the organisms and their products from the genetic engineering, shall not use pesticides, fertilizers, growth regulators, feed additives from the chemical synthesis, shall follow the natural law and the ecology principle, shall harmonize the balance of the planting industry and the breeding industry, shall adopt a kind of agricultural production mode with a series of sustainable agricultural techniques to maintain the steady system of the agricultural production.

3.2 Organic Products

The products for the human consumption and the animals edible, which are produced, processed and sold according to this standard.

3.3 Conventional

The production system and its products are not implemented or managed according to this standard.

3.4 Conversion Period

The period which is from starting management to obtaining the organic certification of the production units and the products according to this standard

3.5 Parallel Production

The situation that in the same production unit produces the organic products, the organic conversion products or the conventional products, which are same or difficult to distinguish at the same time.

3.6 Buffer Zone

The transition region which is set up between the organic land parcel and the conventional land parcel on purpose, and may be clearly defined to limit or block drifting of the prohibited substances from the adjacent land parcel.

3.7 Input

All substances or materials, which are adopted during the organic production process.

3.8 Animal Life Cycle

The period which is from the birth of animals to the organic products sales

3.9 Homeopathic Treatment

A kind of disease treatment system, after some substance series are diluted, to treat the disease, while if this kind of substance is not diluted, when it is used for the healthy animals, it will cause the symptoms and signs similar to the disease to be cured

3.10 Plant Propagating Materials

The plant or the plant tissue, which is apart from the annual growth plant seedlings which are used in the plant production or propagating, including but not limited to rhizomes, buds, leaves, cuttage seedling, roots and tubers

3.11 Biodiversity

The diversity of the life forms and the ecosystem-type on the earth, including the genetic diversity, the diversity of species and the diversity of ecological system.

3.12 Genetic Engineering (Genetic Modification)

It means the technology which is apart from the natural mating and the natural restructuring to change the

genetic material, including but not limited to recombinant DNA, cell fusion, microinjection and macroinjection, encapsulation, gene elimination and doubling.

3.13 Genetically Engineered Organism (Genetically Modified Organism)

Through the genetic engineering technology/transgenic technology, the genes of plants, animals and microbes are changed. It excludes the living organism, which is obtained from the technology of conjugation, transduction and hybrid.

3.14 Irradiation (Ionizing radiation)

The radiation with the high-energy radionuclide may change the molecular structure of food, to control microbes, the germs, parasites and pests in the food, and to preserve food or restrain the physiological processes such as sprouting or growing.

4. General Principles

4.1 Scope of Production Unit

The boundary of the organic production unit shall be clear; the ownership and management rights shall be definite; and shall establish the management system of the organic production according to the requirements of GB/T 19630.4.

4.2 Conversion Period

It is needed to go through the conversion from the conventional production to the organic production, only the plant products, which are planted or harvested after the conversion period or the animal products after the conversion period may be sold as the organic products. The producer shall completely conform to the requirements of the organic production during the conversion period.

4.3 Genetically Engineered Organisms/ Genetically Modified Organisms

4.3.1 Shall not input or use the genetically engineered organisms/genetically modified organisms and its derivatives in the organic production system or in the organic products, including the following agricultural inputs: plants, animals, microorganisms, seed, pollen, sperm and egg, other propagating materials and fertilizers, soil improvement materials, plant protection products, plant growth regulator, fodder, animal growth regulators, veterinary drugs, fishery drugs, etc.

4.3.2 There are organic and non-organic production units at the same time, the conventional production part shall not input or use the genetically engineered organism/transgenic organism.

4.4 Irradiation

Shall not use the irradiation technology during the organic production.

4.5 Input

4.5.1 The producer shall choose and implement the cultivation and/or the cultivation management measures, to maintain or improve the physical and chemical and biological properties of the soil, reduce the soil erosion, and protect the health of the plant and the farmed animals.

4.5.2 If the cultivation and/or the cultivation management measures are not enough to maintain the soil fertility and ensure the health of the plant and the farmed animals, when it is needed to use the input which is

apart from the organic production system, may use the input listed on Appendix A and Appendix B, but shall use it in accordance with the prescribed conditions. If the materials (which are used for the improvement of soil fertility, the plant protection and the animal cultivation) listed on Appendix A and Appendix B are not enough to meet the requirements, it shall refer to the evaluation criterion described in Appendix C, use other input which is apart from Appendix A and Appendix B in the organic agriculture to make an evaluation.

4.5.3 The active components of the compound preparation which are used as the plant protection products shall be the materials listed on Appendix A Table A.2, shall not use the materials with carcinogenicity, teratogenicity, mutagenicity and neurotoxicity as the additives.

4.5.4 Shall not use the plant protection products from the chemical synthesis.

4.5.5 Shall not use the fertilizer from the chemical synthesis and the urban sewage sludge.

4.5.6 The prohibited substances which are forbidden during the organic production shall not be detectable in the certified products.

5. Plant Production

5.1 Conversion Period

5.1.1 The conversion period for the annual growth plants shall be at least 24 months before seeding; the conversion period for the meadow and the perennial forage crops shall be at least 24 months before harvesting of the organic feed; the conversion period for other perennial plants which are apart from the forage crops shall be at least 36 months before harvesting. During the conversion period, shall manage it according to the requirements of this standard.

5.1.2 The land parcel which is newly cleared, or is uncultivated over 36 months or has the sufficient evidence to prove that it does not use the standard prohibited substances over 36 months shall also go through the conversion period for 12 months.

5.1.3 May extend the conversion period for the land parcel which is contaminated by the substances prohibited by this Standard.

5.1.4 As for the land parcel which has passed the conversion period or is during the conversion period, if use the substances which are prohibited during the organic production, shall restart the conversion. If the prohibited substances are forced to be used on the land parcel by the local government agencies to deal with some diseases or insect pests, the conversion period stipulated in 5.1.1 may be shortened, but shall pay close attention to the degradation situation of the prohibited substances in the application of products, to ensure the residues in the soil or the perennial crops to reach the non-significant level before the end of the conversion period. The harvested products shall not be sold as the organic products or the organic conversion products.

5.1.5 As for the wild collection, the planting of edible fungi (except the soil culture and the casing soil culture), and the sprouting vegetable production may be exempted from the conversion period.

5.2 Parallel Production

5.2.1 The organic and non-organic plants which are easy to distinguish may be produced in the same production unit at the same time, but the organic and non-organic productions in this unit shall be distinguishable completely, and shall take appropriate measures to avoid mixing with the non-organic products and avoid being contaminated by the prohibited substances.

5.2.2 In the same production unit, the annual growth plant shall not have the parallel production.

5.2.3 In the same production unit, the perennial plant shall not have the parallel production, unless the following conditions at the same time are satisfied:

a) The producer shall make the organic conversion plan, and shall promise to implement the conversion on the relevant non-organic production area which is in the same unit in the shortest possible period, but this period shall be not more than 5 years.

b) Shall take appropriate measures to ensure the harvested products from the organic and the non-organic production areas to be strictly separated.

5.3 Environmental Requirements of Origin

It shall implement the organic production under the appropriate environmental conditions. The organic production base shall be away from the urban, the industrial and mining areas, the traffic trunk, the industrial pollution sources, and the life garbage dump, etc.

The environmental quality of origin shall meet the following requirements:

a) The soil environment quality shall meet the secondary standard in GB 15618;

b) The quality of farmland irrigation water shall meet the regulations in GB 5084;

c) The environmental air quality shall meet the secondary standard in GB 3095 and the regulations in GB 9137.

5.4 Buffer Zone

Shall analyze risks that the organic production area might be contaminated by the adjacent conventional production area. In the presence of risk, shall establish the effective buffer zone or the physical barrier between the organic production area and the conventional production area, to prevent the conventional production area from being contaminated. The plants which are planted on the buffer zone cannot be certified as the organic products.

5.5 Seeds and Plant Propagating Materials

5.5.1 Shall choose the plant species and varieties that adapt to the local soil and climate conditions, and are resistant to insect pests. On the choice of varieties, shall give full consideration to protect the genetic diversity of plants.

5.5.2 Shall choose the seeds and the plant propagating materials. When it is impossible to obtain the organic seeds or the plant propagating materials from the market, may choose the conventional seeds or the plant propagating materials which are not processed by the prohibited substances, and shall establish and implement the plan to obtain the organic seeds or the plant propagating materials.

5.5.3 Shall adopt the organic production method to cultivate the seedlings of the annual growth plants.

5.5.4 Shall not use the seeds or the plant propagating materials which are processed by the prohibited substances and methods.

5.6 Cultivation

5.6.1 As for the annual growth plants, shall adopt the crop rotation with more than three kinds of crops; as for the region that may produce the rice with more than one seasons, shall adopt the crop rotation with more than two kinds of crops; as for the Northeast China Region, it is not needed to adopt the crop rotation in the winter fallow. As for the plants that adopt the crop rotation, they include but not limited to planting the leguminous plants, the green manure and the cover plant etc.

5.6.2 It is appropriate to adopt the intercropping to increase the biodiversity, the soil fertility and the disease resistance of the organic plants.

5.6.3 Shall establish the reasonable irrigation methods (such as the drip irrigation, the sprinkler irrigation, the infiltrating irrigation etc.) according to the local situation.

5.7 Soil and Fertilize Management

5.7.1 Shall maintain and improve the soil fertility through the proper farming and cultivation measures, including:

a) Through recovery and regeneration and supplement of the soil organic matter and nutrients, to supplement the soil organic matter and the soil nutrients that are taken away from the soil due to the plants harvest.

b) Adopt the measures such as planting the leguminous plants, no tillage or fallowness to recover the soil fertility.

5.7.2 If the measures described in 5.7.1 cannot meet the requirements of plant growth, may use the organic fertilizer to maintain and improve the soil fertilizer, the nutrient balance and the biological activity of soil, to avoid excessive use of the organic fertilizer and environmental pollution. Shall have priority to use the organic fertilizer, which is produced by this unit or other organic production unit. Where the commodity organic fertilizer is outsourced, it may be used only after the assessment by the certification authority according to Appendix C.

5.7.3 Shall not use the night soil on the leafy vegetables, the tubers and the root plants; if it is needed to use on the other plants, shall make it fully decomposed with the bio-safety disposal, and shall not be in contact with the plant edible part.

5.7.4 May use the natural mineral fertilizer with the small solubility, but shall not use this kind of fertilizer as a substitute for the nutrient cycle in the system. The natural mineral fertilizer may only be used as the controlled availability fertilizer, and shall not adopt the chemical treatment to improve its solubility.

Shall not use the mineral nitrogen.

5.7.5 May use the biological fertilizer; in order to make the compost fully decomposed, may add the microorganisms come from the nature during the composting, but shall not use the genetically modified organisms and its products.

5.7.6 As for the soil fertilizer and the improving materials allowed for use in the organic plant production, please see Appendix A Table A.1.

5.8 Prevention and Treatment of Disease Pest and Weed

5.8.1 The basic principles of prevention and treatment of disease pest and weed shall start from the agricultural ecosystem, with the integrated use of various prevention measures, create the environmental conditions which are adverse to the breeding of disease pest and weed, and are beneficial to the breeding of various natural enemies, maintain the balance of agricultural ecosystem and the biodiversity, and reduce the loss caused by various disease pest and weed. Shall have priority to adopt the agricultural practice, through a series of measures, such as selecting disease-resistant & insect-resistant varieties, seed treatment without the chemical agent, cultivating strong seedling, strengthening the management of cultivation, intertillage weeding, ploughing with sunning the ploughed soil, cleaning the field, rotation of crops, intercropping and interplanting, to play the role of prevention and treatment of disease pest and weed. 5.8.1 Shall also utilize the light, color to trap and kill the pest, use the machine to capture the pest, mechanical or manual weeding as far as possible, to prevent and treat the disease pest and the weed.

5.8.2 When the mentioned method cannot effectively control the disease pest and weed, may use the plant protection products listed on Appendix A Table A.2.

5.9 Other Plant Production

5.9.1 Facility Cultivation

5.9.1.1 Shall use the soil or the substrate during the plant production, shall not produce through the nutrient solution culture. Shall not use the prohibited substances to treat the building materials and the cultivation container of the facility agriculture. The conversion period shall meet the requirements in 5.1.

5.9.1.2 Shall use the improvement of soil fertility and the improving materials allowed for use in the organic plant production as the base material, which are listed on Appendix A Table A.1, and shall not contain prohibited substances.

When use the animal manure as the source of nutrients, shall make the compost. May use the substances listed on the Appendix A Table A.1 as the auxiliary fertilizer source.

May use the method of heating air or water to obtain the auxiliary heat source, and may also use the auxiliary light source.

5.9.1.3 May adopt the following measures and methods:

a) Use the improvement of soil fertility and the improving materials listed on Appendix A Table A.1 as the auxiliary fertilizer source. When use the animal manure as the source of nutrients, shall make the compost.

b) Use the flame, the fermentation, the composting and use the compressed gas to improve the carbon dioxide concentration;

c) Use the steam and the detergents and the disinfectants listed on Appendix A Table A.3 to clean and disinfect the cultivation container;

d) By controlling the temperature and light or the use of natural plant growth regulator, to regulate the growth and development.

5.9.1.4 Shall adopt the soil regeneration and cycle use measure. In the production process, the following methods may be used instead of the crop rotation:

a) Grafting technique with the disease-resistant plants;

b) Ploughing with sunning the ploughed soil in summer and winter;

c) Use the biodegradable mulch (such as the crop straw and the cured hay) to recover the soil;

d) Some or all replace the greenhouse soil, but the replaced soil shall be used in other plant production activities;

5.9.1.5 Where possible, shall use the recoverable or recyclable cultivation container.

5.9.2 Sprouting Vegetable Production

5.9.2.1 Shall use the seeds of organic production to produce the sprouting vegetable.

5.9.2.2 The production water quality shall comply with GB 5749.

5.9.2.3 Shall take the precautionary measures to prevent the plant diseases and insect pests, and may use the steam and the detergents and the disinfectants listed on Appendix A Table A.3 to clean and disinfect the cultivation container and the production site.

5.10 Sorting, Cleaning and Other Post-Harvest Handling

5.10.1 After the plants harvest, the simple processing process (such as cleaning, sorting, threshing, hulling, cutting, preservation, and drying) shall adopt the physical and biological methods, and shall not use chemical substances which are apart from the items listed on GB/T 19630.2-2011 Appendix A to deal with.

5.10.2 The equipment that are used for processing the non-organic plants shall be cleaned up before processing the organic plants. As for the equipment that are not easy to clean up, shall adopt the flushing measures.

5.10.3 The products and the equipment shall guarantee the clean, shall not cause pollution to the products.

5.10.4 When use the detergents and the disinfectants to clean the equipment and facilities, shall avoid pollution to the products.

5.10.5 After harvest, as for the pest control operation during the processing, shall comply with the requirements in 4.2.3 of GB/T 19630.2-2011.

5.11 Pollution Control

5.11.1 Shall take the measures to prevent the water penetration or overflowing into the organic land parcel from the conventional farmland.

5.11.2 Shall avoid using the fertilizer of the external source to cause pollution to the products by the prohibited substances.

5.11.3 As for the equipment of the conventional agricultural system, shall adopt the cleaning measures before being used for the organic production, to avoid mixing with the conventional products and pollution by the prohibited substances.

5.11.4 When use the protective building covering, plastic film and insect proof net, shall not use the

polyvinyl chloride products. It is suitable to choose the products of polyethylene, polypropylene, or polycarbonate, and shall clear them up from the soil after using; and shall not burn them.

5.12 Soil and Water Conservation and Biodiversity Protection

5.12.1 Shall take the measures to prevent the soil erosion, soil desertification and salinization. Shall give the full consideration to the sustainable utilization of the soil and water resources.

5.12.2 Shall take the measures to protect the natural enemies and its habitats.

5.12.3 Shall make full use of the crop straw and shall not burn them, unless due to the need of control of plant diseases and insect pests.

6. Collection of Wild Plants

6.1 The collection area boundary of the wild plants shall be clear, and shall be in the stable and sustainable conditions.

6.2 The collection area shall not polluted by any prohibited substance for 36 months before collecting.

6.3 The collection area of the wild plants shall maintain the effective buffer zone.

6.4 The collecting activities shall not cause the adverse effect to the environment or pose a threat to the plant and animal species; the collecting amount shall not exceed the amount of the ecosystem sustainable production.

6.5 Shall establish and submit the management solution of the sustainable production about the collection area of the organic wild plants.

6.6 The processing after collection of the wild plants shall comply with the requirements in Clause 5.10.

7. Cultivation of Edible Fungi

7.1 The cultivating area of edible fungi which is nearby the conventional farmland shall set up a buffer zone or physical barrier, to avoid the influence of the prohibited substances. The quality of source water shall comply with the requirements in GB 5749.

7.2 Shall adopt the organic species. If it is unable to obtain the species of the organic sources; may use the non-organic species which are not polluted by the prohibited substances.

7.3 Shall use the base material of the natural materials or the organic productions, and may add the following auxiliary materials:

a) The farmyard manure from the organic production and the poultry excrement; when the farmyard manure from the organic production and the poultry excrement are unavailable, may use the improvement of soil fertility listed on Appendix A Table A.1 and the substances specified in the improving substances, but shall not exceed 25% of the gross dry weight of the base materials, and shall not contain the night soil and the poultry excrement of the intensive farming.

b) The products of the agricultural sources shall be the products which are produced by the organic way, except the products involved with the items in 7.3 a);

c) The peat without the chemical treatment;

d) The wood without the chemical treatment after felling;

e) The improvement of soil fertility listed on Appendix A Table A.1 and the substances specified in the improving substances in this part.

7.4 The conversion period of the edible fungi with the soil culture or the casing soil cultivation and the conversion period of the annual growth plant shall comply with the requirements in Clause 5.1.

7.5 The coating used on the timber and the inoculating position shall be the products with the edible grade, and shall not use the paint, latex paint and oil paint from the petroleum refining.

7.6 Shall adopt the preventive measures, maintain clean sanitation, with the appropriate air exchange, and remove the infected bacteria cluster.

7.7 In the non-cultivating period, may use steam, detergents and disinfectants listed in Appendix A Table A.3 to clean and disinfect the cultivating site.

7.8 The processing after collection of the edible fungi shall comply with the requirements in Clause 5.10.

8. Breeding of Livestock and Poultry

8.1 Conversion Period

8.1.1 The conversion period of the feed production base shall comply with the requirements in Clause 5.1; if the meadow and the pasture is only for the use of the non-herbivores, the conversion period may be shortened to 12 months. If there is sufficient evidence to prove that the prohibited substances have not been used for over 12 months, the conversion period may be shortened to 6 months.

8.1.2 The livestock and poultry shall pass the following conversion period:

a) Beef cattle, equips animal and camel, 12 months;

b) Mutton sheep and pig, 6 months;

c) Milk cattle, 6 months;

d) Meat poultry, 10 weeks;

e) Egg poultry, 6 weeks;

f) Other kinds of conversion period shall exceed 3/4 of its breeding period.

8.2 Parallel Production

If one livestock farm breeds the same variety or the livestock breeds which are difficult to distinguish in the organic and non-organic way, shall meet the following conditions, and the livestock and poultry or its products may only be sold as the organic products:

a) The housing and fencing, the activity space and the pasture of the organic livestock and poultry and the non-organic livestock and poultry shall be separated completely, or the organic livestock and poultry and the non-organic livestock and poultry are the breeds which are easy to distinguish;

b) The warehouse or the area for storing feed shall be separated and be set up with the obvious marks;

c) The organic livestock and poultry shall not be in contact with the storage area of the non- organic feed and the prohibited substances.

8.3 Input of Livestock and Poultry

8.3.1 Shall input the organic livestock and poultry. When it is unable to obtain the organic livestock and poultry, may input the conventional livestock and poultry, but shall meet the following conditions:

a) Beef cattle, equus animal and camel, not exceed 6 months and has been weaning;

b) Pig and sheep, not exceed 6 weeks and weaning;

c) Dairy cattle, not exceed 4 weeks, have received the early breast-feeding and the calf with the whole milk feeding;

d) Meat chicken, not exceed 2 days (other poultry may be extended to 2 weeks);

e) Egg chicken, not exceed 18 weeks.

8.3.2 May input the conventional female animal; the input quantity of cattle, horse and camel shall not exceed 10% of the total amount of the same adult organic female animal; the input quantity of pig and sheep shall not exceed 20% of the total amount of the same adult organic female animal.

As for the following situation, the proportion may be increased to 40% with the permission of the certification body:

a) Unforeseen severe natural disasters or man-made accidents;

b) The scale of the livestock farm is increased greatly;

c) The new livestock breeds are developed by the livestock farm. All input conventional livestock and poultry shall pass the relevant conversion period.

8.3.3 May input the conventional male animal, and shall feed them according to the organic way immediately after input.

8.4 Fodder

8.4.1 Shall feed the livestock and poultry with the organic fodder. In the fodder, there shall be at least 50% amount come from the fodder planting base of the local livestock farm or the local organic farm with the cooperative relationship. The fodder production and use shall meet the requirements of Chapter 5 “Plant Production” and Appendix B Table B.1.

8.4.2 During the first 12 months of implementing the organic management, the fodder which is produced by the fodder planting base of the livestock farm according to this standard may be fed to the livestock and poultry of the livestock farm as the organic feed, but shall not be sold as the organic fodder.

The effective buffer zone or the physical barrier shall be set up on the fodder production base, the pasture and the grassland and the adjacent conventional production areas.

8.4.3 When it is short of the organic fodder, may feed the conventional fodder. But the consumption quantity of the conventional fodder for each animal in the proportion of the annual consumption shall not exceed the following percentage:

a) Herbivorous animal (calculated by the dry matter) 10%;

b) Non-herbivorous animal (calculated by the dry matter) 15%.

The daily ration for the livestock and poultry in the proportion of the conventional feed shall not exceed 25% (calculated by the dry matter) of total amount

When there is an unforeseen severe natural disasters or man-induced accidents, may feed the conventional fodder over the above proportion during a certain time period.

When feed with the conventional fodder, shall obtain the permission of the certification authority in advance.

8.4.4 Shall guarantee that herbivorous animal may obtain the coarse fodder to satisfy its basic nutrient requirement every day. In the daily ration, the proportion of the roughage forage, the grass, the green hay or silage shall not be less than 60% (calculated by the dry matter). As for the milk cattle in the first 3 months of the lactation period, this proportion may be reduced to 50% (calculated by the dry matter). In the daily ration of the omnivorous animal and the poultry, shall mix with the roughage forage, grass, green hay or silage.

8.4.5 The young animal in the beestings period shall be fed by the female animal with the enough beestings. May use the same kind of organic milk to feed the young animal in the beestings period. Where the organic milk is unavailable, may use the same kind of non-organic milk.

Shall not be early weaning, or feed the young animal with the milk replacer. In case of an emergency, may use the milk replacer to supplement the feed, but shall not contain any antibiotic, chemical additives (except the substances allowed for use listed in Appendix B Table B.1) or the animal slaughter products. The suckling period at least needs:

a) Cattle, equus animal and camel, 3 months;

b) Goat and sheep, 45 days;

c) Pig, 40 days.

8.4.6 When produce the fodder, fodder ingredients and fodder additives, shall not use the genetically modified (genetic engineering) organisms or its products.

8.4.7 Shall not use the following methods and materials:

a) Feed the ruminant with the animal and its products, or feed the livestock and poultry with the same kind of animal and its products;

b) Any form of unprocessed or processed animal waste;

c) Fodder which is from the chemical solvent extraction or is mixed with the chemosynthetic substance, but except the materials which are extracted by water, ethanol, animal and plant oil, vinegar, carbon dioxide, nitrogen, or carboxylic acid.

8.4.8 The used fodder additives shall belong to the fodder additive varieties directory issued by the competent agriculture administrative authority, shall be the products allowed for sales, and shall comply with the relevant requirements in this Part.

8.4.9 May use the natural minerals such as magnesium oxide, green sand; when it is unable to satisfy the nutrient requirement of the livestock and poultry, may use the minerals and trace elements listed in Appendix

B Table B.1.

8.4.10 The added vitamin shall come from germinated grain, fish liver oil, brewers yeast or other natural substances; when it is unable to satisfy the nutrient requirement of the livestock and poultry, may use the synthetic vitamins.

8.4.11 Shall not use the following materials (except the materials allowed for use listed in Appendix B Table B.1);

a) Chemosynthetic growth promoter (including antibiotic, antiparasitic drug and hormone for promoting the growth);

b) Chemosynthetic seasoning and spices;

c) Antiseptic substance (except the processing agent);

d) Chemosynthetic coloring agent;

e) Non-protein nitrogen (Such as urea);

f) Amino acids from chemical purification;

g) Antioxidant;

h) Adhesion agent.

8.5 Feeding Condition

8.5.1 The feeding condition of the livestock and poultry (housing and fencing etc.) shall meet the following conditions, to adapt to the physiological and behavioral needs of the livestock and poultry:

a) The activity space of the livestock and poultry shall meet the requirements in Appendix D and have the enough sleep time; the activity space of the livestock and poultry shall has some part of shield; the waterfowl shall be able to have the activities in the streams, the ponds, the lakes or the ponds;

b) Improve the air flow, the natural light shall be enough, but shall avoid the excessive sun exposure;

c) Maintain appropriate temperature and humidity, to avoid the wind, the rain, the snow etc.;

d) If the padding may be eaten by the farmed animals, then the padding shall meet the requirements of the feed in 8.4;

e) Shall have enough drinking water and fodder, and the drinking water quality of the livestock and poultry shall meet the requirements of GB 5749;

f) Shall not use the building materials and equipment which are obviously harmful to the health of people and animal;

g) Shall avoid the livestock and poultry from the harm of the beast.

8.5.2 When feed the egg poultry, may use the artificial lighting to extend the illumination time, but the total illumination time shall not exceed 16 hours every day.

The producer may increase illumination time appropriately according to the healthy condition of the egg poultry or its growth period (such as getting warm for the new born poultry).

8.5.3 Shall let all livestock and poultry go outdoors for free activities in the proper season. But the following may become an exception:

a) Due to the special construction of the livestock and poultry house, the livestock and poultry cannot go outdoors temporarily, but it shall be improved within a time limit;

b) The captive breeding is more conducive to the sustainable use of the land resources.

8.5.4 At the final fattening stage of the beef cattle, shall adopt the drylot feeding, but the fattening stage shall not exceed 1/5 of its breeding period, and the longest period shall not exceed 3 months.

8.5.5 Shall not adopt the cage breeding that the livestock and poultry are unable to contact with the soil, and shall not adopt the captive breeding, the drylot feeding and the tying type breeding that will limit the natural behavior of the livestock and poultry.

8.5.6 The gregarious livestock and poultry shall not be fed all alone, except sick animals, adult female animals and animals in its latter half of gestation.

8.5.7 Shall not use forced feeding.

8.6 Prevention and Treatment of Disease

8.6.1 The prevention and treatment of disease shall be performed according to the following principles:

a) Select the varieties with the good adaptability and disease resistance according to the regional characteristics;

b) Provide high quality fodder, proper nutrition and suitable activities, to improve the nonspecific immunity of the livestock and poultry;

c) Strengthen the management of the facilities and the environmental health, and maintain suitable breeding density for the livestock and poultry.

8.6.2 May use the disinfectants listed in Appendix B Table B.2 for the livestock and poultry farms. When adopt the disinfection treatment, shall let the livestock and poultry move away from the treatment area. The animal manure shall be cleaned regularly.

8.6.3 May use the botanical source preparations, the trace elements and the Chinese veterinarian, the acupuncture and moxibustion, and homeopathic treatment for the disease of the livestock and poultry.

8.6.4 May use the vaccine inoculation, and shall not use the genetic engineering vaccine (except the national compulsory immunization vaccines). When breeding field have the risk of certain diseases, and cannot use other methods to control, may use the emergency vaccine inoculation (including the vaccination with the purpose of prompting the antibody production in the maternal body).

8.6.5 Shall not use the antibiotic or the chemosynthetic veterinary drug for the preventive treatment of the livestock and poultry.

8.6.6 When using a variety of preventive measures is still unable to control the disease or the injury of the livestock and poultry, may use the conventional veterinary drug for the livestock and poultry under the

guidance of veterinary, but shall pass 2 times withdrawal time for that drug (if 2 times withdrawal time is less than 48 hours, shall reach 48 hours), after that, these livestock and poultry and its products may be sold as the organic products.

8.6.7 Shall not use antibiotic, chemosynthetic antiparasitic agent or other growth promoter to stimulate growth of the livestock and poultry. Shall not use hormone to control the reproductive behavior (such as estrus induction, synchronization of estrus and superovulation etc.), but hormone may be used for disease treatment of the individual animal under the veterinary supervision.

8.6.8 In addition to the statutory vaccination and the treatment of expelling parasites, the livestock and poultry with the breeding period less than 12 months may only accept one course of treatment with antibiotic or chemosynthetic veterinary drug; the livestock and poultry with the breeding period more than 12 months may accept up to three courses of treatment with the antibiotic or the chemosynthetic veterinary drug for every 12 months. If it will exceed the permitted course of treatment, it shall pass the specified conversion period.

8.6.9 As for the livestock and poultry which accept the treatment with antibiotic or chemosynthetic veterinary drug, the large animal shall be marked one by one; the poultry and the small animal may be marked by group.

8.7 Non-therapeutic Operation

8.7.1 The organic breeding emphasizes the respect of the individual characteristics of the animals. Shall breed the varieties which do not need to adopt the non-therapeutic operation as far as possible. Under the premise of reducing animal suffering as far as possible, may adopt the following non therapeutic operation to the livestock and poultry, when necessary, and may use anesthetics:

a) Physical castration;

b) Amputation of horn:

c) Passivating treatment of canine teeth for the piglet within 24 hours after birth;

d) Docking of lamb;

e) Cutting feather;

f) Retaining ring.

8.7.2 Shall not adopt the following non therapeutic operation:

a) Docking (except lamb);

b) Breaking beak, breaking toe;

c) Ironing wing;

d) Breaking teeth of piglet;

e) Other non-therapeutic operation without the definite permission.

8.8 Breeding

8.8.1 It is suitable to adopt the natural reproduction mode.

8.8.2 May use various breeding methods (such as artificial insemination) which will not have a strong impact on the genetic diversity of the livestock and poultry.

8.8.3 Shall not use the artificial or auxiliary reproductive technology (such as embryo transfer or clone) which will have a strong impact on the genetic diversity of the livestock and poultry.

8.8.4 Except for treatment purposes, shall not use the reproductive hormone to promote the ovulation and the delivery of the livestock and poultry.

8.8.5 If the female animal accepts the treatment of any prohibited substances during the later 1/3 period of its gestation period, its offspring shall pass the relevant conversion period.

8.9 Transportation and Slaughtering

8.9.1 During the period of loading and unloading, transportation, waiting for slaughter and slaughting of the livestock and poultry, shall have the clear marks and be easy to identify; during the period of loading and unloading, transportation and warehousing of other livestock and poultry products, and shall have the clear marks and be easy to identify.

8.9.2 During the period of loading and unloading, transportation, waiting for slaughter of the livestock and poultry, shall have the specialist in charge for the management.

8.9.3 Shall provide the appropriate transportation conditions, such as:

a) Avoid exposing the animals being slaughtered or the dead animals to the livestock and poultry by the sense of vision, hearing and smell;

b) Avoid mixing different groups of livestock and poultry; the organic livestock and poultry shall avoid mixing with the conventional products, and shall have the obvious marks;

c) Provide the rest time to relieve stress;

d) Ensure the quality and suitability of the mode of transport and the operating equipment; the means of transport shall be clean and be suitable for the transportation of livestock and poultry, without any sharp or protruding part, avoid hurting the animal;

e) Shall avoid the hunger of livestock and poultry in transit, shall provide the feed and water to the livestock and poultry as necessary;

f) Consider and try to meet the individual needs of the livestock and poultry;

g) Provide the appropriate temperature and the relative humidity;

h) When loading and unloading, shall give the minimum stress to the livestock and poultry.

8.9.4 The operation of transporting and slaughtering shall be mild as far as possible, and shall conform to the principles of the animal welfare. Shall not use the electric baton and similar device to drive the animals.

Shall not use chemosynthetic sedative before the transportation and in transit.

8.9.5 Shall slaughter the animal in the slaughter house which is approved by the government or has the qualification, and shall ensure the good health conditions.

8.9.6 Shall be slaughtered to the nearest site. Unless the distance from the farms to the slaughter house is too far, as a general rule, the time shall not exceed 8 hours in transit.

8.9.7 Shall not bind, hang and slaughter the livestock and poultry before losing consciousness, except the small poultry and other small animals. The tools which are used for losing consciousness before slaughter shall be in good working condition at any time. As a result of the religious or cultural reasons, it is not allowed to slaughter the livestock and poultry before losing consciousness, must slaughter the animal directly, and shall slaughter the animals in the shortest possible time under the mild environment.

8.9.8 The organic livestock and poultry and the conventional livestock and poultry shall be slaughtered separately, and the products after slaughter shall be stored up separately and have the clear marks. The color used for marking the animal body shall comply with the regulations of the national food hygiene.

8.10 Pest Control Operation

The pest control operation shall adopt the following methods according to the priority:

a) Precautionary measures;

b) Mechanical, physical and biological control methods;

c) May use the raticide allowed for use by the government and the substances listed in Appendix A Table A.2 in a safe way to the livestock and poultry in the breeding places.

8.11 Environment Impact

8.11.1 Shall take the full consideration to the fodder production capacity, health of the livestock and poultry and environment impact, and ensure the quantity of the livestock and poultry not exceed the maximum grazing capacity in the scope of breeding. Shall take the measures, to avoid the adverse impact on the environment due to the over grazing.

8.11.2 Shall guarantee the storage facilities have enough capacity for the manure of the livestock and poultry, and shall obtain the timely treatment and the rational utilization; as for all storage and processing facilities of the manure, shall avoid causing pollution to the underground and surface water in designing, construction and operation. The emissions of farm pollutants shall comply with the provisions of GB 18596.

9. Aquaculture

9.1 Conversion Period

9.1.1 As for the farm with the non-open type water area, when it is changed to the organic breeding from the conventional breeding, it shall pass the conversion period at least for 12 months;

9.1.2 As for each part of the production unit which is in the same non-open type water area, it shall be certificated separately. Only if the whole water completely conforms to the organic certification standards, it may obtain the organic certification.

9.1.3 If the production unit cannot carry out the organic conversion to each water body for breeding under

its jurisdiction, shall set up the strict parallel production management system. The management system shall meet the following requirements:

a) shall adopt the physical isolation measures between the organic breeding unit and the conventional breeding unit; as for the sessile aquatic organisms growing in the open water area, shall keep a certain distance between the organic breeding area and the conventional area, between the conventional agriculture and the industrial pollution sources.

b) the organic aquaculture system, including water quality, baitfeed, drugs, inputs and other elements related to the standard, shall be able to be inspected by the certification body;

c) The files and records between the conventional production system and the organic production system shall be set up separately;

d) The organic conversion farm shall implement the organic management continuously, and shall not shift between the organic management and the conventional management.

9.1.4 As for the wild sessile organism in the catching zone of the open water area, it may be certificated as the organic aquatic product in the following situations:

a) The water is not affected by the prohibited substances in this part;

b) The aquatic ecosystems is in a stable and sustainable status.

9.1.5 May input the aquatic organism of the conventional breeding, but shall pass the relevant conversion period. When input the biodiversity of non-native species, shall avoid the invasive species causing the permanent damage on the local ecological system. Shall not input the genetically modified organisms.

9.1.6 All input aquatic organisms shall adopt the organic breeding method at least during the later 2/3 time of the breeding period.

9.2 Site Selection of Breeding Farm

9.2.1 When select the breeding farm, shall take the consideration to maintain the aquaculture water ecological environment and the balance of the surrounding aquatic and the terrestrial ecosystems, and shall be conducive to keep the biodiversity in the water. The organic breeding farm shall not be affected by the adverse effect of the pollution sources and the conventional breeding farm.

9.2.2 The breeding area and fishing area shall be clearly defined, so as to inspect the elements, such as water quality, baitfeed, drugs etc.

9.3 Water Quality

The water quality of the organic breeding farm and the catching zone of the open water are of open water shall comply with the provisions of GB 11607.

9.4 Breed Aquatics

9.4.1 Basic Requirements of Breeding

9.4.1.1 Shall adopt the breeding methods which are suitable for the physiological habits of the breeding objects and the local conditions. Shall not adopt the permanent aerobic breeding methods.

9.4.1.2 Shall take the effective measures, to avoid the organisms from other breeding system going into the organic breeding farm and preying on the organic organisms.

9.4.1.3 Shall not adopt any man-made damage measure to the breeding objects.

9.4.1.4 May extend the illumination time, but the daily illumination time shall not exceed 16 hours.

9.4.1.5 As for the building materials and the production equipment used for the aquaculture, it shall not use the coatings and the synthetic chemicals, to avoid causing harmful effect on the environmental or the organisms.

9.4.2 Baitfeed

9.4.2.1 The baitfeed which is provided in the organic aquaculture shall be organic, wild or permitted by the certification body. When the quantity or the quality of the organic or wild baitfeed cannot meet the demand, may provide the conventional feed no more than 5% (calculated by the dry matter) of total feed quantity. When there is an unforeseen situation, after obtaining the assessment and the agreement from the certification body, may feed no more than 20% (calculated by the dry matter) of the conventional baitfeed in that year.

9.4.2.2 At least 50% animal protein in the baitfeed shall come from the byproduct of the food processing or the products which are suitable for the human consumption. When there is an unforeseen situation, shall reduce the proportion to 30% in that year.

9.4.2.3 May use the natural mineral additives, vitamins and trace elements; when it cannot meet the nutritional requirement of the aquatic animal, may use the minerals and the trace elements and the synthetic vitamins listed in Appendix B Table B.1.

9.4.2.4 Shall not use the night soil. Shall not directly use the animal manure without processing.

9.4.2.5 Shall not add or provide the following substances by any means in the baitfeed for the aquatic organism:

a) Synthetic growth promoting agent;

b) Synthetic attractant;

c) Synthetic antioxidants and preservatives;

d) Artificial coloring matter;

e) Non-protein nitrogen (urea etc);

f) Same organisms and its products with the breeding objects;

g) Bait feed from the chemical solvent extraction;

h) Amino acids from the chemical purification;

i) Genetically modified organisms or its products;

Under the special weather conditions, may use the synthetic baitfeed antiseptic, but shall obtain the permission by the certification body in advance, and the certification body shall stipulate the using period

and the quantity in accordance with the specific conditions.

9.4.3 Prevention and Treatment of Disease

9.4.3.1 Shall ensure the health of the breeding objects through the precautionary measures (such as optimal management, breeding and feeding). All management measures shall be aimed at improving the disease resistance of the organisms.

9.4.3.2 The breeding density shall not affect the health of the aquatic organisms, or cause the abnormal behavior. Shall monitor the biological density regularly, and adjust it according to the need.

9.4.3.3 May use quick lime, bleach, chlorine dioxide, tea seed cake, potassium permanganate and microbial agents to disinfect the aquatic water and the pond bed mud, to prevent the happening of the disease of aquatic organisms.

9.4.3.4 May use the natural medicines for prevention and treatment of the disease of aquatic organisms.

9.4.3.5 When the preventive measures and the natural medicine treatment are invalid, may use the conventional fishery drugs to the aquatic organisms. When carry out the conventional drug therapy, shall adopt the isolation measures for the sick organisms.

Only if the aquatic organisms which have used the conventional drugs pass 2 times withdrawal time of the used drugstore, may be sold as the organic aquatic organisms continually.

9.4.3.6 Shall not use antibiotics, chemosynthetic drugs and hormone to carry out the daily disease prevention for the aquatic organisms.

9.4.3.7 When there is the risk of certain diseases and it cannot be controlled by other management technology, or where it is provided for in the state laws, may use the vaccination for the aquatic organisms, but shall not use the genetically engineered vaccine.

9.4.4 Breeding

9.4.4.1 Shall respect the physiological and behavioral characteristics of the aquatic organisms, and reduce the interference to them. It is suitable to adopt the natural reproduction way, and not suitable to adopt the non-natural reproduction way, such as artificial insemination and artificial incubation etc. Shall not use parthenogenetic reproduction, genetic engineering or multiploid of the artificial induction to breed the aquatic organisms.

9.4.4.2 Shall select the varieties which are suitable for the local conditions with the good disease resistance. If it is needed to input the aquatic organisms when can meet the conditions, shall have the priority to select the organisms from the organic production system.

9.5 Fishing

9.5.1 The fishing amount of the organic aquatic organisms in the open water area shall not exceed the reproduction ability of the ecological system, and shall maintain the sustainable production of the natural waters and the survival of other species.

9.5.2 Shall use the mild fishing measures, so as to reduce the stress and the adverse impact on the aquatic organisms down to the minimum.

9.5.3 The specifications of the fishing tools shall be in conformity with the relevant provisions of the state.

9.6 Transportation of Fresh Aquatic Products

9.6.1 In transit, shall have the specialist in charge for managing the transportation objects, to keep the healthy status.

9.6.2 Water quality, water temperature, oxygen content, pH value of the water used for transportation and the loading density of the aquatic organisms shall satisfy the needs of the transportation species.

9.6.3 Shall try to reduce the frequency of the transportation.

9.6.4 The transportation equipment and materials shall not have the potential toxicity effects on the aquatic animals.

9.6.5 Before the transportation and in transit, shall not use the chemosynthetic sedative or the exhilarant to the aquatic animals.

9.6.6 The transport time shall be shortened as far as possible, and shall not cause the evitable impact or the physical damage on the transportation objects.

9.7 Slaughtering of Aquatic Animal

9.7.1 The slaughtering management and technology shall give full consideration to the physiology and the behavior of the aquatic animals, and shall conform to the principles of the animal welfare.

9.7.2 After the aquatic animals arrive at the destination, shall give a certain of recovery phase before slaughtering.

9.7.3 During slaughtering, shall reduce the stress and the pain to the aquatic animals as far as possible. Before slaughtering, shall make it in the unconscious status. Shall regularly check whether the equipment is in the good conditions, to ensure the aquatic animals loss the consciousness or die rapidly.

9.7.4 Shall avoid exposing the living aquatic animals to the dead aquatic animals or the aquatic animals being slaughtered directly or indirectly.

9.8 Environment Impact

9.8.1 The drainage of the non-open water area shall obtain the permission of the local administrative department of environmental protection.

9.8.2 Shall encourage the agricultural comprehensive utilization to the open water area or the bed mud.

9.8.3 If breed the aquatic organisms in the open water area, shall avoid or reduce the pollution to the water.

10. Bees and Bee Products

10.1 Conversion Period

10.1.1 The beekeeping shall pass the conversion period at least for 12 months.

10.1.2 As for the bee farm during the conversion period, if it is unable to obtain the comb foundation processed by the organic beeswax from the market or the other way, may use the conventional comb foundation with approval, but shall change all the comb foundation within 12 months. If it is unable to change,

the certification authority may decide to extend the conversion period.

10.2 Input of Bees

10.2.1 In order to update the swarm, the organic production unit may input 10% non-organic queen bee and swarm every year, but the honeycomb or the comb foundation for the queen bee and the swarm shall come from the organic production unit. In this case, it is no needed to pass the conversion period.

10.2.2 Due to the health problem or the catastrophic event, cause the massive death of bees, and cannot obtain the organic swarm, may use the non-organic bees to supplement the swarm, and shall comply with the requirements in Clause 10.1.

10.3 Scope of Collecting Honey

10.3.1 The bee farm shall be set up in the organic agricultural production area or in the area without using the prohibited substances at least for 36 months.

10.3.2 During the production season, there shall be enough honey plants within a range of 3 km to the bee farm (radius of gathering honey), including the crops of the organic production, the natural vegetation or the crops planted in an environmentally friendly way, and the clean water source.

10.3.3 Within 3km radius range to the beehive, there shall not have source of pollution that would have any impact on the health of the swarm, including the flowering crops which have used the prohibited substances, the genetically modified crops, the golf course, the wasteyard, the large residential areas and the busy roads etc.

10.3.4 If the bees are breeding outside in the natural (wild) area, shall take into consideration of the impact on the local insects.

10.3.5 The beehive storage area and the scope of gathering honey shall be clearly defined.

10.4 Feeding of Bees

10.4.1 When the period of gathering honey is ended, shall keep enough honey and pollen in the beehive, so that the swarm can pass the winter.

10.4.2 During the season of not gathering honey, shall provide the enough organic honey and pollen to the bees.

10.4.3 Due to the weather conditions or other special situations, when the swarm are facing hunger in lack of the honey, may adopt the artificial feeding for the bees; but it may only be carried out after the last period of gathering honey and 15 days before the next nectar flow. If can purchase the organic honey or the organic syrup, shall feed the honey or the syrup from the organic production. If cannot purchase the organic honey or the organic syrup, may feed the conventional honey or syrup within the stipulated time with the permission of the certification body.

10.5 Prevention and Treatment of Disease and Pest

10.5.1 Shall ensure the health and living conditions of the swarm through the health and management of the beehive, to prevent the happening of the parasitic mites and other harmful organisms. Specific measures include:

a) Select the robust swarm which is suitable for the local conditions, to weed out the weak swarm;

b) Take appropriate measures to cultivate and screen the queen bee with the disease resistance and the parasites resistance;

c) Clean and disinfect the facilities regularly;

d) Change the honeycomb regularly;

e) Keep enough honey and pollen in the beehive;

f) Mark number on the beehive one by one, so as to identify easily, and shall inspect the swarm regularly.

10.5.2 If any disease occurs, shall have the priority to adopt the treatment with the plants or the botanical source preparations or the homeopathy; shall not use the treatment with the plants or the botanical source preparations within 30 days before the nectar flow, and it shall not be used when the comb honey super is on the beehive.

10.5.3 In the case the treatment with the plants or the botanical source preparations or the homeopathy cannot control the disease, may use the substances listed on Appendix B Table B.3 for the control of disease, and may use the substances listed in Appendix B Table B.2 for the disinfection of the beehive or the beekeeping tools.

10.5.4 Shall place the beehive with the sick bees in the healing area or the isolation area which is far away from the healthy beehive.

10.5.5 Shall destroy the beehive and materials which are infected seriously by the sick bees;

10.5.6 Shall not use antibiotics or other substances not listed in Appendix B Table B.3, except when the health of the entire swarm is threatened. The beehive after processing shall be taken away from the organic production and be marked, and shall pass the conversion period for 12 months again. The bee products of that year shall not be certificated as the organic products.

10.5.7 Only if the bees are infected by the bee mite, may kill the swarm of the male bees.

10.6 Breeding of Queen Bee and Swarm

10.6.1 Encourage the cross breeding of different kinds of the swarm.

10.6.2 May select breeding, but shall not adopt the artificial insemination to the queen bee.

10.6.3 May kill the aging queen bee to replace the queen bee, but shall not cut wings.

10.6.4 Shall not kill the swarm in the autumn.

10.7 Beeswax and Beehive

10.7.1 The beeswax shall come from the production unit of the organic beekeeping.

10.7.2 The processed beeswax shall ensure the supply for the comb foundation of the organic bee farm.

10.7.3 As for the newly organized swarm or the swarm in the conversion period, may use the non-organic beeswax, but shall meet the following conditions:

a) It is unable to obtain the organic beeswax from the market;

b) There is evidence that the conventional beeswax is not polluted by the prohibited substances in the organic production; and it comes from the beeswax cover.

10.7.4 Shall not use the beeswax from the unidentified sources.

10.7.5 The beehive shall use the natural materials (such as the wood without the chemical processing) or the plastics covered with the organic beeswax, and shall not use wood preservative or the wood processed by other prohibited substances to produce and maintain the beehive.

10.7.6 The lead paint shall not be used on the surface of the beehive.

10.8 Harvesting and Processing of Bee Product

10.8.1 The swarm management and the honey harvest method shall be in order to protect the swarm and maintain the swarm as the goal; shall not kill the swarm or destroy the bee pupa in order to improve the bee production.

10.8.2 In the operation of honey extract, shall not use the chemical expellant.

10.8.3 The immature honey shall not be harvested.

10.8.4 When remove the impurity in the honey, the heating temperature shall not exceed the 47 ℃, and shall try to shorten the heating process.

10.8.5 Shall not take the honey from the hatching honeycomb (except the Chinese bee).

10.8.6 Shall try to adopt the mechanical method to remove the cover of the beehive, and shall avoid using the heating method to remove the cover of the beehive.

10.8.7 Shall precipitate the impurities in the honey by gravity to make honey. If use a fine mesh filter, its pore diameter shall be greater than or be equal to 0.2 mm.

10.8.8 All the material surface in contact with the facilities of taking honey shall be the stainless steel or be coated with the organic beeswax.

10.8.9 The surface of the honey container shall be coated with the coating allowed for use in the food and the beverage package, and shall be covered with the organic beeswax. Shall not make the honey in contact with the plating metal containers or the metal containers with the surface oxidation.

10.8.10 Shall prevent the bees going into the extracting facilities of the honey.

10.8.11 Shall wash the extracting facilities with the hot water every day to keep clean.

10.8.12 Shall not use the chemosynthetic substances (such as the cyanide) as the fumigation agent.

10.9 Storage of Bee Product

10.9.1 The finished product of the honey shall use the sealed packaging and shall be kept in storage under the stable temperature, to avoid honey metamorphism.

10.9.2 As for the site for taking honey and storing honey, shall prevent the invasion of the insect pests and the mice.

10.9.3 Shall not use chemosynthetic substances (such as the naphthalene) to the stored honey and the honey products.

11. Packaging, Storage and Transportation

11.1 Packaging

11.1.1 The package materials shall conform to the hygienic requirements and the relevant provisions of the state; it is suitable to use the repeatable, recoverable and biodegradable package materials.

11.1.2 The packing shall be simple and practical.

11.1.3 Shall not use the packaging or the containers which have contacted with the prohibited substances.

11.2 Storage

11.2.1 Shall clean the warehouse, and shall adopt the pest control measures.

11.2.2 May use the storage methods such as the room temperature storage, the dynamic controlled atmosphere, the temperature control, the drying and humidity control etc.

11.2.3 The organic products shall be stored separately as far as possible. If it is stored with the conventional products, shall assign a particular area in the warehouse, and adopt the necessary measures (such as packaging and labeling), to ensure the identification of the organic products and the conventional products.

11.3 Transportation

11.3.1 Shall use the dedicated transportation facility. If use the non-dedicated transportation facility, shall clean it before loading of the organic products, to avoid mixing with the conventional products and the pollution from the prohibited substances.

11.3.2 On the containers and/or packaging, shall have the clear organic label and the relevant instructions.

Appendix A

Appendix A (Normative Appendix)

Input Allowed for Use in the Organic Plant Production

Table A.1 Improvement of Soil Fertility and Improving Substances

Category	Name and Composition	Conditions of Usage
I. Plant and Animal Sources	Plant material (crop stalk, green manure etc.)	
	Animal manure and compost (including barnyard manure)	After composting, and become thoroughly decomposed;
	Anaerobes of excrements of the livestock and the plant materials Fermentation products (biogas manure)	
	Seaweed or seaweed products	Only directly obtained through the following channels: Physical process, including dehydration, refrigeration and grinding; extract with water or acid and/or alkali solution; Fermentation
	Timber, bark, sawdust, wood chips, wood ash, charcoal and humic substances;	Coming from the lumber without the chemical treatment after felling, ground coverage or through composting;
	Subsidiary products of animal origin (dried blood, digested tankage, bone meal, hoof powder, horn meal, fur, feathers and hair powder, fish meal, milk and milk products etc.);	Not add the prohibited substances, through composting or termination treatment
	Mushroom cultivation waste and earthworm cultivation substrate	Initial raw material of culture medium is limited to the products in this appendix, through composting;
	By-product of food industry	Through composting or fermentation treatment
	Plant ash	As the products after burning of fuel wood
	Peat	Does not contain the synthetic additives. Shall not be used for soil improvement; only allowed for use as potting media;
	Feed Grain	Cannot be processed by the chemical methods
II. Mineral Sources	Rock phosphate	Natural sources, cadmium content is less than or equal to 90mg/Kg phosphorus pentoxide
	Potassium powder	Natural sources, no enrichment by the chemical methods; Chlorine content is less than 60%.
	Borax	Natural sources, without chemical treatment, without adding the chemosynthetic substance;
	Microelement;	Natural sources, without chemical treatment, without adding the chemosynthetic substance;
	Magnesite powder;	Natural sources, without chemical treatment, without adding the chemosynthetic substance;
	Sulphur	Natural sources, without chemical treatment, without adding the chemosynthetic substance;
	Limestone, gypsum and chalk	Natural sources, without chemical treatment, without adding the chemosynthetic substance;
	Clay (such as perlite, vermiculite etc)	Natural sources, without chemical treatment, without adding the chemosynthetic substance;

Table A.1 (Continued)

Category	Name and Composition	Conditions of Usage
II. Mineral Sources	Sodium chloride	Natural sources, without chemical treatment, without adding the chemosynthetic substance;
	Calclime	Only used for soil pH adjustment of tea garden;
	Kiln dust	Without chemical treatment, without adding the chemosynthetic substance;
	Calcium magnesium carbonate	Natural sources, without chemical treatment, without adding the chemosynthetic substance;
	Epsom salt class	Without chemical treatment, without adding the chemosynthetic substance;
III. Microbial Origin	Biodegradable microbial processing By-product, such as wine and distilled spirits; By-product of processing industry	Without adding the chemosynthetic substance;
	Extractive of natural microorganism	Without adding the chemosynthetic substance;

Table A.2 Plant Protection Products

Category	Name and Composition	Conditions of Usage
I. Plant and Animal Sources	Toosedarin (extractive of melia australis, neem etc.)	Insecticide
	Natural pyrethrins (extracting solution of pyrethrum plants)	Insecticide
	Sophocarpidine and oxymatrine (extractive of sophora flavescens etc.)	Insecticide
	Rotenoid	Insecticide
	Cnidium lactone (extractive of fructus cnidii)	Pesticide, fungicide
	Berberine (extractive of coptis chinensis, golden cypress etc.)	Bactericide
	Emodin monomethyl ether (extractive of rheum officinale, polygonum cuspidatum)	Bactericide
	Plant oil (such as oleum menthae, pine oil, and coriander oil)	Insecticide, acaricide, ungicide, sprout inhibitor
	Oligosaccharide (chitosan)	Bactericide, plant growth regulator
	Natural attractant and nematicide (such as marigold, maidenhair, and mustard oil)	Nematicide
	Natural acid (such as vinegar, wood-vinegar, bamboo Vinegar)	Bactericide
	Mushrooms proteoglycan (extractive of mushroom)	Bactericide
	Hydrolyzed protein	Attractant, only under the condition with permission for use, and combine with the appropriate products in this appendix.
	Milk	Bactericide
	Beeswax	Used for grafting and trim
	Bee propolis	Bactericide
	Gelatin	Insecticide
	Lecithin	Fungicide
	Plant extract with the repelling action (extractive of garlic, mint, pepper, Chinese prickly ash, lavender, radix bupleuri and wormwood)	Repellent
	Natural enemies of insects (such as trichogramma, ladybird, green lacewing etc.)	Control of insect pests

Table A.2 (Continued)

Category	Name and Composition	Conditions of Usage
II. Mineral Sources	Copper salt (such as copper sulfate, copper hydroxide, copper oxychloride, octylic acid copper etc.)	Fungicide, prevent excessive application and cause the pollution of copper.
	Lime sulphur	Fungicide, insecticide, acaricide
	Bordeaux mixture	Fungicide, the maximum usage of copper per hectare every year shall not exceed 6kg.
	Calcium hydroxide (lime water)	Fungicide, insecticide
	Sulphur	Fungicide, acaricide, Repellent
	Potassium permanganate	Fungicide, bactericide; only used for fruit trees and vines;
	Potassium bicarbonate	Fungicide
	Paraffin oil	Insecticide, acaricide
	Light material oil	Insecticide, fungicide; only used for fruit trees, grape and tropical crops (such as banana);
	Calcium chloride	Used for the treatment of acalcerosis
	Kieselguhr	Insecticide
	Clay (such as bentonite, pearlite, vermiculite, zeolite etc.)	Insecticide
	Silicate (sodium silicate, quartz)	Repellent
	Ferric sulfate (ferric ion)	Invertebrate poison
III. Microbial Origin	Fungi and extractive agent of fungi (such as beauveria bassiana, verticillium, trichoderma etc.)	Insecticide, Bactericide, Herbicide
	Bacteria and extractive of bacteria (such as bacillus thuringiensis, bacillus subtilis, bacillus cereus, bacillus licheniformis, pseudomonas fluorescens etc.)	Insecticide, Bactericide, Herbicide
	Virus and extractive of virus (such as nuclear polyhedrosis virus, granulosis virus etc.)	Insecticide
IV. Others	granulosis virus	Fungicide
	Carbon dioxide	Insecticide, used for storage facilities;
	Ethyl alcohol	Bactericide
	Sea salt and saline water	Bactericide, only used for seed processing, especially the rice seeds;
	Alums	Bactericide
	Soft soap (green soap)	Insecticide
	Ethylene	Accelerate the ripening of banana, kiwi fruit, persimmon; adjust the flower of pineapple; inhibiting germination of potatoes and onions;
	Quartz sand	Fungicide, acaricide, Repellent
	Insect sex pheromones	Only used for trap and emitting vessel;
	Diammonium hydrogen phosphate	Attractant, only used for trap;
V. Trap, Barrier	Physical measures (such as color trap, mechanical trap);	
	Covering (net)	

Table A.3 Detergents and Disinfectants

Name	Conditions of Usage
Acetic acid (non synthetic)	Cleaning Equipment
Vinegar	Cleaning Equipment
Ethyl alcohol	Disinfection
Isopropyl alcohol	Disinfection
Hydrogen peroxide	Only food grade hydrogen peroxide, equipment cleaning agents;
Sodium carbonate, sodium bicarbonate	Sanitization of Equipment
Sodium carbonate, sodium bicarbonate	Sanitization of Equipment
Bleaching agent	Including calcium hypochlorite, chlorine dioxide or sodium hypochlorite, may be used to disinfect and clean the food contact surfaces; The chlorine concentration of the wash water which will contact with the plant products directly shall comply with requirements of GB
Peracetic acid	Sanitization of Equipment
Ozone	Sanitization of Equipment
Potassium hydroxide	Sanitization of Equipment
Sodium hydroxide	Sanitization of Equipment
Citric acid	Cleaning Equipment
Soap	Only the biodegradable. May be used for cleaning equipment.
Soap base algicide/fog remover	Algicide, disinfectant and bactericide, used for clean and irrigation system, not including the prohibited substances.
Potassium permanganate	Sanitization of Equipment

Appendix B (Normative Appendix)

Substances allowed for use in the organic animal breeding

Table B.1 Additives and Materials for Animal Nutrition

No.	Name	Description	INS
1	Fe	Ferrous sulfate monohydrate, iron sulfate heptahydrate, ferrous carbonate;	1
2	Iodine	Anhydrous calcium iodate, calcium iodate hexahydrate, sodium iodide;	2
3.	Cobalt	Cobaltous sulfate monohydrate, cobaltous sulfate heptahydrate;	3
4	Copper	Copper sulfate pentahydrate	4
5	Manganese	Manganese carbonate, manganous oxide, manganic oxide, manganese sulfate monohydrate, manganese sulfate tetrahydrate;	5
6	Zinc	Zinc oxide, zinc carbonate, zinc sulphate monohydrate, zinc sulfate heptahydrate	6
7	Molybdenum	Sodium molybdate	7
8	Selenium	Selenium	8
9	Sodium	Sodium chloride, sodium sulfate;	
10	Calcium	Calcium carbonate (rock flour, shell powder), calcium lactate	
11	Phosphorus	Calcium hydrophosphate, monocalcium phosphate, tricalcium phosphate;	
12	Magnesium	Magnesium oxide, magnesium chloride, magnesium sulfate;	
13	Sulphur	Sodium sulfate	
14	Vitamin	Vitamin come from the feed source with the natural growth. When feed the monogastric animal, may use the synthetic vitamin which has the same structure with the natural vitamin. If the ruminant cannot obtain the natural vitamin, may use the synthetic vitamin A, D and E, which are the same with the the natural vitamin.	
15	Microorganism	Used for the husbandry technology, not the transgenic/genetically engineering organisms or products.	
16	Yeast	Silage additives, not the transgenic/genetically engineering organisms or products.	
17	Brewers yeast	Used for the animal nutrition.	
18	Enzyme	Silage additives, used for the husbandry technology, not the transgenic/genetically engineering organisms or products.	
19	Sorbic acid	Antiseptic	200
20	Formic acid	Antiseptic and silage additives, be used only when the weather cannot meet the conditions of being fully fermented.	236
21	Acetic acid	Antiseptic and silage additives, only when the weather cannot meet the conditions of being fully fermented.	260
22	Lactic acid	Antiseptic and silage additives, be used only when the weather cannot meet the conditions of being fully fermented.	270
23	Propionic acid	Antiseptic and silage additives, be used only when the weather cannot meet the conditions of being fully fermented.	280

Table B.1 (Continued)

No.	Name	Description	INS
24	Citric acid	Antiseptic, be used only when the weather cannot meet the conditions of being fully fermented.	330
25	Calcium stearate	Natural sources, adhesion agent and anti-caking agent;	470
26	Silicon dioxide	Adhesion agent and anti-caking agent	551b
27	Sea Salt	Silage additives	
28	Coarse salt	Silage additives	
29	Whey	Silage additives	
30	Sugar	Silage additives	
31	Sugar beet pulp	Silage additives	
32	Cereal flours	Silage additives	

Table B.2 Detergents and disinfectants allowed for use in the animal breeding sites

Name	Conditions of Usage
Potash soap and soda soap	
Water and steam	
Lime water (calcium hydroxide solution)	
Lime (calcium oxide)	
Calcined lime (calcium hydroxide)	
Sodium hypochlorite	Used for the disinfection of facilities and equipment.
Calcium hypochlorite	Used for the disinfection of facilities and equipment.
Chlorine dioxide	Used for the disinfection of facilities and equipment.
Potassium permanganate	May use 0.1% potassium permanganate solution, to avoid having too strong corrosive.
Sodium hydroxide	
Potassium hydroxide	
Hydrogen peroxide	Only food grade, used as the external disinfectant. May be used as a disinfectant and be added to the drinking water for the farm animal.
Botanical source preparations	
Citric acid	
Peracetic acid	
Formic acid	
Lactic acid	
Oxalic acid	
Isopropyl alcohol	
Acetic acid	
Ethyl alcohol	For disinfection and sterilization.
Iodine (such as iodine in alcohol)	As a cleaner, shall use the hot water to flush; only non-elemental iodine, the volume percentage shall not exceed 5%.
Nitric acid	Used for cleaning the milk equipment, shall not be in contact with the livestock and poultry or the land under the organic management.
Phosphoric acid	Used for cleaning the milk equipment, shall not be in contact with the livestock and poultry or the land under the organic management.
Formaldehyde	Used for the disinfection of facilities and equipment.
Products used for cleaning the nipple and the disinfection shall comply with the relevant national standards.	
Sodium carbonate	

Table B.3 Materials of disease and pest control operation allowed for use in the beekeeping

Name	Conditions of Usage
Methanoic acid (formic acid)	Control of parasitic mite. Use of this kind of substance may be stopped after the final honey harvest and 30 days before adding the honey storage box.
Lactic acid, acetic acid, oxalic acid;	Control of plant diseases and insect pests
Menthol	Control the bees respiratory parasitic mites.
Natural essential oil (thymol crystals, eucalyptol or camphor)	Repellent
Sodium hydroxide	Control of disease
Potassium hydroxide	Control of disease
Sodium chloride	Control of disease
Plant ash	Control of disease
granulosis virus	Control of disease
Sulphur	Only be used for the disinfection of beehive and honeycomb.
Bacillus thuringiensis	Non-GMO
Bleaching agent (calcium hypochlorite, chlorine dioxide or sodium hypochlorite)	Disinfection of beekeeping tools
Steam and flame	Disinfection of beehive
Agar	Only water extraction.
Raticide (Vitamin D)	Used for control of rat damage.

Appendix C (Informative Appendix)

Code of Evaluating the Use of Other Input in the Organic Production

In the case that the products (involving the production and the breeding of the organic plants and animals) listed on Appendix A and B cannot meet the requirements, may use the evaluation criterion described in this standard to evaluate other substances used in the organic agriculture except Appendix A and B.

C.1 Principles

C.1.1 Improvement of Soil Fertility and Improving substances

C.1.1.1 This substance is to achieve or to maintain the soil fertility or to meet the special nutritional requirements. It is necessary for the special soil improvement and the crop rotation measures, but the methods and the substances described in this part and Appendix A cannot satisfy and replace it.

C.1.1.2 This substance is come from plant, animal, microbial or mineral, and may go through the following treatment:

a) Physical (mechanical, heat) treatment;

b) Enzyme treatment;

c) Microorganisms (compost, digestion) treatment.

C.1.1.3 Through the reliable test data, it has proved that the using of this substance will not cause or produce the unacceptable impact or pollution on the environment, including the impact or the pollution on the soil organisms.

C.1.1.4 The using of this substance shall not cause the unacceptable impact on the quality and the safety of the finished products.

C.1.2 Plant Protection Products

C.1.2.1 The substance is necessary for the prevention and the control of pest or special disease, and except this substance, there is no other biological and physical methods or the alternative method of the plant breeding and (or) the effective management of technology may be used for the prevention and the treatment of this kind of the pest or special disease.

C.1.2.2 The substance (active ingredients) is come from plant, animal, microbial or mineral, and may go through the following treatment:

a) Physical treatment;

b) Enzyme treatment;

c) Microorganisms treatment;

C.1.2.3 Through the reliable test data, it has proved that the using of this substance shall not cause or produce the unacceptable impact or pollution on the environment.

C.1.2.4 If the quantity of some substance is not enough in the natural form, may consider using the

chemosynthetic substance which has the same nature with the natural substance, such as the chemosynthetic ectohormone (sex attractant), but the precondition is that the using shall not cause the pollution on the environment or the products directly or indirectly.

C.1.3 The input which is allowed for use of the animal nutrition and the feed production.

C.1.3.1 The substance is to meet the special nutritional requirements of the animals, or it is necessary for the feed processing, but the methods and the substances described in this part and Appendix B Table B.1 cannot satisfy and replace it.

C.1.3.2 The substance (active ingredients) is come from plant, animal, microbial or mineral, and may go through the following treatment:

a) Physical treatment;

b) Enzyme treatment;

c) Microorganisms treatment;

C.1.3.3 Through the reliable test data, it has proved that the using of this substance shall not cause or produce the unacceptable impact or pollution on the environment.

C.1.4 The input which is allowed for use of cleaning and disinfecting the livestock and poultry farm, the prevention and control of bees disease and pest.

C.1.4.1 The substance is necessary for cleaning and disinfecting the farm, the prevention and control of bees disease and pest, but the methods and the substances described in this part and Appendix B Table B.2 or B.3 cannot satisfy and replace it.

C.1.4.2 The substance (active ingredients) is come from plant, animal, microbial or mineral, and may go through the following treatment:

a) Physical treatment;

b) Enzyme treatment;

c) Microorganisms treatment;

C.1.4.3 Through the reliable test data, it has proved that the using of this substance shall not cause or produce the unacceptable impact or pollution on the environment.

C.1.4.4 If the quantity of some substance is not enough in the natural form, may consider using the chemosynthetic substance which has the same nature with the natural substance, but the precondition is that the using shall not cause the pollution on the environment or the products directly or indirectly.

C.2 Evaluation Procedure

C.2.1 Necessity can only use certain input in case of need.

The necessity of the input of some substance shall be evaluated through the aspects of the output, the quality of products, the environmental safety, the ecological protection, the landscape and the survival conditions of humans and animals. The using of some input may be limited to:

a) Special crops (especially the perennial crops);

b) Special area;

c) Special conditions of using the substance.

C.2.2 Properties and Production Methods of Input

C.2.2.1 Properties of Input

The source of the input is generally come from (in priority order):

a) The organic matter (plants, animals and microorganisms);

b) Mineral.

May use the chemosynthetic substance which is equal to the natural substance. Where possible, shall have the priority to select the renewable input. Secondly, shall select the input of the mineral source; thirdly, may select the input which is equal to the natural substance in the chemical properties. When the input with the same chemical properties is allowed for use, shall take into consideration of the ecological, technical or economic reasons.

C.2.2.2 Production Methods

The ingredients of input may go through the following treatment:

a) Mechanical treatment;

b) Physical treatment;

c) Enzyme treatment;

d) Microbial action treatment;

e) Chemical treatment (as an exceptional case and shall be restricted).

C.2.2.3 Collection

The raw material collecting of input shall not affect the stability of the natural environment, and shall not affect the survival of any species in the collecting area.

C.2.3 Environmental Safety

The input shall not do harm to the environment or have a lasting negative impact on the environment. The input also shall not cause the unacceptable pollution on the surface water, the underground water, the air and the soil. Shall evaluate the processing, the using and the decomposition course of these substances at all stages.

Shall take into consideration of the following features of the input:

a) Biodegradablity.

All inputs shall be biodegradable as the carbon dioxide, the water and (or) its mineral form.

As for the input which has the high acute toxicity to the non-target organisms, its half-life period shall not exceed 5 days.

As for the input of the non-toxic natural material, there is no specified degradation time limit.

b) High acute toxicity to the non-target organisms;

When the input has the high acute toxicity to the non-target organisms, it shall be restricted for use. Shall take measures to ensure the survival of these non-target organisms. May stipulate the maximum permissible usage. If it is unable to take measures to ensure the survival of these non-target organisms, shall not use the input.

c) Long-term chronic toxicity.

Shall not use the input which will accumulate in the organisms or the biological system, and shall not use the input which is known or suspicious with the mutagenicity or the carcinogenicity. If the input of these substances may cause danger, shall take the sufficient measures to reduce the danger to the acceptable level and prevent the negative impact on the environmental for a long duration.

d) Chemosynthetic substance and heavy metal;

The input shall not contain the chemosynthetic substance (heteroplasia chemosynthetic product) with the quantity of damage. Only if its properties are as same as the natural substances, may use the chemosynthetic substances.

Shall control the heavy metal content of the input as far as possible. Due to the lack of substitutes, and because they have been used traditionally for a long period of time, the copper and the copper salt are allowed for use at present, but the copper in any form shall be regarded as being allowed for use temporarily, and in terms of its impact on the environment, shall be restricted for use.

C.2.4 Impact on the human health and the quality of the products

C.2.4.1 Health of Human Body

The input shall be harmless to the human body. Shall take into consideration of the processing, the using and the decomposition course of the input at all stages; shall take measures to reduce the danger of using, and establish the standards for the use of input in the organic agriculture.

C.2.4.2 Quality of Products

The input shall not have the negative effects on the quality of products (such as the taste, the guarantee period and the appearance quality etc.).

C.2.5 Ethical Aspect -- Living Conditions of Animals

The input shall not have the negative effects on the natural behavior or the bodily functions of the animals in the farm.

C.2.6 Social and Economic Aspects

The senses of consumers: the input shall not cause the consumers to collide or disgust the organic products. The consumers may think that some input is unsafe to the environment or the health of human body, although this has not been confirmed in science. The problems of input (such as the genetic engineering problems) shall not disturb the overall feeling or opinions on the natural or organic products.

Appendix D (Normative Appendix)

Animal House and Activity Space for Different Kinds of Animals in the Breeding of Livestock and Poultry

Table D.1 Livestock

Livestock species	Minimum live weight	Indoor Area	Outdoor Area
		m^2/head	m^2/head
Breeding and fattening bovid and equus animals	≤100kg	1.5	1.1
	≤200kg	2.5	1.9
	≤350kg	4.0	3.
	≥350kg	5	3.7
Dairy cattle		6	4.5
Breeding oxen		10	30
Sheep and goat		1.5 (adult sheep)	2.5
		0.35 (lamb)	0.5
Lactation sow (with piglet)		7.5 (adult sow)	2.5
Fattening pig	≤50kg	0.8	0.6
	≤85kg	1.1	0.8
	≤110kg	1.3	1
Weaned pig	≥40 days or ≤30kg	0.6	0.4
Breeding sow		2.5	1.9
Breeding boar		6	8.0

Table D.2 Poultry

Poultry species	Indoor Area (the available net area for animal)		Outdoor Area (activity area m^2/head)
	Animal quantity head/m^2	Nest	
Egg chicken	6	7 heads/nest or 120cm2/head	4, the annual manure output (calculated by nitrogen)≤ ≤170kg/ha
Fattening poultry (fixed poultry housing)	10 (live-weight≤21 kg/m^2)		Meat chicken and galeeny 4 duck 4.5 turkey 10 goose 15 For all above poultry, the annual manure output (calculated by nitrogen)≤170 kg/ha
Fattening poultry (moveable poultry housing)	16 (live-weight≤30 kg/m^2)		2.5, the annual manure output (calculated by nitrogen) ≤170 kg/ha

References

[1] CAC/GL 32-1999, Guidelines for the production, processing, labelling and marketing of organically produced foods. Adopted 1999. Revisions 2001, 2003, 2004 and 2007. Amendments 2008 and 2009.

[2] Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91

[3] Commission Regulation (EC) No 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control

[4] 7 CFR Part 205, National Organic Program

[5] CAN/CGSB-32.310-2006, Organic Production Systems General Principles and Management Standards

[6] CAN/CGSB-32.311-2006, Organic Production Systems Permitted Substances Lists

National Standards of People's Republic of China

GB/T 19630.2-2011

National Food Safety Standards

Organic Product - Part 2: Processing

Issued on: 2011-12-05 Implemented on: 2012-03-01

Issued by the Administration of Quality Supervision, Inspections and Quarantine the People's Republic of China & China Standardization Management Committee

Foreword

The GB/T 19630 “Organic Products” is composed of four parts, which are:

- Part 1: Production
- Part 2: Processing
- Part 3: Labeling and Marketing
- Part 4: Management System

This is Part 2 of GB/T 19630.

This Part is drafted in accordance with the rules provided in the Directives for Standardization - Part I: Structure and Drafting of Standards (GB/T 1.1-2009).

This Part is to replace Organic Products - Part 2: Processing (GB/T 19630.2-2005). As compared to GB/T 19630.2-2005, the main amendments are as follows:

- Adjustment made to the section of “Scope” by: making it clearer that the products covered in this Part shall include animal feeds, and deleting the restriction on organic textiles to the products from cotton or silk fiber materials;
- Addition of GB 2721-Hygienic Standard for Food Grade Salt and GB/T 16764-Hygienic Standard for Formula Feed Enterprises in the section of “Normative References”;
- Addition of feed additive (see clause 3.3) in the section of “Terms and Definitions”, as well as deletion of ionizing radiation (see clause 3.4 in 2005 Version) from the same section;
- Clause 4.1 and 4.2 in 2005 version were revised to clause 4.1 (General Principles) in the current version, and certain contents were supplemented or made clearer as follows: 1) more definite works will be done to ensure “organic nature” of products in each of the following 3 links: selection of ingredients, processing, and prevention from mixture with inorganic products; 2) an organic processing plant shall comply with the requirements provided in GB/T 16764; and 3) no negative impact, or merely minimum negative impact, can be caused to the environment.
- Addition of the requirements for feed processing in the section of “Ingredients, Additives and Processing Aids” (see clause 4.2.1.6);
- The provisions for parallel production was simplified in the section of “Processing” (see clause 4.2.2.2), and certain specific processing requirements (e.g. purge processing) (see clause 4.4.4.15 in 2005 Version) were deleted from the same section;
- Addition of the provisions for application of disinfectants in the section of “Prevention and Control of Pests” (see clause 4.2.3.3);
- Have the requirements for records in the course of storage and transportation included in GB/T

19630.4 (see clause 4.7.5 and 4.8.4 in GB/T 19630.4-XXXX 4.2.6 l, 2005);

- Amendment was made to the section of “Textile Processing” regarding the provisions for the time of making and enforcing an environment improvement plan (see clause 4.10.2 g in 2005 Version), and the provisions of “on processing plant hygiene”, “on pest control”, “on storage”, “on transportation”, “on packaging” and “on ingredients, additives and processing aids” (see clause 4.10.2l in 2005 Version) were deleted from the same section;

- Rearrangement was made to the substances listed in Annex A-Food Additives, Processing Aids and Other Substances Allowed in Organic Food Processing, and consequently it was set forth separately for table A.1-List of Food Additives and table A.2-List of Processing Aids (see Annex A) to this Part; and

- Addition of Annex B-Feed Additives Allowed in Organic Feed Processing to this Part (see Annex B);

Please note that some provisions in this Part may be involved certain patents.

The authority issuing this Part is not responsible for identifying any of such patents. This Part was proposed by the Certification and Accreditation Administration of the People's Republic of China.

This Part was drafted by: WIT Co., Ltd., Organic Food Development and Certification Center of China, China Agricultural University, China Organic Food Certification Center, China National Accreditation Service for Conformity Assessment, Shandong Environment Protection Bureau, and CNCA Registration Department.

The main drafters of this Part 2 are: Lu Zhenhui, Yuan Qing, Wang Hui, Wang Yungang, Liu Xiande, QiaoYuhui, MengFanqiao, Luan Xhihua, Tai Congmei, Tan Hong, Chen Yunhua, Xu Na, Dai Jinping, and Wang Maohua.

The publication history of the standard to be replaced with this Part is as follows:

- GB/T 19630.2-2005

National Food Safety Standards

Organic Products Part 2: Processing

1. Scope

This Part of GB/T 19630 provides the general standards and requirements for the processing of organic products.

This Part shall apply to foods, animal feeds, textiles and other organic products (as well as the packaging, storage and transportation of these products) made from the raw materials produced in accordance with GB/T 19630.1.

2. Normative References

The following normative documents constitute an integral part of this Part. For a reference document with issue date, only the dated version of it shall apply to this Part. For a reference document without issue date, the latest version of it, including all the amendments thereof, shall apply to this Part.

GB 2721 Hygienic Standard for Food Grade Salt

GB 2760 Hygienic Standards for Food Additives in Use

GB 4287 Discharge Standard of Water Pollutants for Dyeing and Finishing of Textile Industry

GB 5749 Sanitary Standard for Drinking Water

GB 14881 General Hygienic Standard for Food Enterprises

GB/T 16764 Hygienic Standard for Formula Feed Enterprises

GB/T 18885 Technical Specifications of Ecological Textiles

GB/T 19630.1 Organic Products - Part 1: Production

3. Terms and Definitions

The terms used in this Part shall be defined as follows:

3.1 Ingredients

The substances, including food additives, that may be used in the manufacturing or processing of, and still exist (including in the form of any modified nature) in, a product.

3.2 Food additives

The synthetic or natural substances that are added in a food in order to improve the food's color, fragrance, taste, shape and/or nutrition, or as necessary for preservation or processing of the food.

3.3 Feed additives

The substances that are added in small amount in animal feeds in the course of processing, manufacturing and usage of the feeds, including nutritional feed additives and general feed additives.

3.4 Processing aids

The substances or other materials (excluding any equipment or utensil) which by itself are used not as the ingredients of a product, but are used in the course of the processing, formulating or handling of the product merely for achieving a processing goal.

4. Requirements

4.1 General Principles

4.1.1 In order to keep the organic nature of a product after being processed, the processing under this Part, as well as all the procedures thereafter, shall be effectively controlled as follows:

a) Unless otherwise required by applicable law, the ingredients of the product shall be obtained mainly from the organic agricultural system prescribed in GB/T 19630.1, and the amount of inorganic ingredients, if any, used in the product must be reduced as far as possible;

b) The nutritional ingredients and original nature of the product shall be retained in the course of processing as far as possible; and

c) The processing and subsequent procedures of organic products shall be separated from that of inorganic products in terms of time and space.

4.1.2 The processing of organic products shall comply with the requirements provided in the applicable laws and regulations. The plants for organic food processing shall comply with the requirements provided in GB 14881. The plants for organic feed processing shall comply with the requirements provided in GB/T 16764. Other organic product processing plants shall comply with their respective national and industrial regulations.

4.1.3 The processing of organic products shall cause no negative impact, or merely minimum negative impact, on the environment.

4.2 Foods and Feeds

4.2.1 Ingredients, additives and processing aids

4.2.1.1 A final product shall consist of at least 95%, in terms of mass or volume, of the organic ingredients coming from the organic agricultural system prescribed in GB/T 19630.1.

4.2.1.2 Inorganic agricultural ingredients may be used in a product when organic ingredients are unable to meet demand. However, the amount of inorganic ingredients in this case may not be more than 5% of the total ingredients in the product. The inorganic ingredients shall be substituted with organic ingredients when it is possible to obtain such organic ingredients in any way.

4.2.1.3 It is not allowed for an ingredient to include organic elements, conventional elements and converted elements at the same time.

4.2.1.4 The water and table salt used as ingredients shall comply with the requirements provided in GB 5749 and GB 2721, and may not be counted in the ingredients as required in clause 4.2.1.1.

4.2.1.5 It is allowed for the processing of an organic food to use the food additives and processing aids set forth in table A.1 and A.2 of Annex A in accordance with GB 2760.

4.2.1.6 It is allowed for the processing of an organic feed to use the feed additives and processing aids set forth in Annex B in accordance with the applicable laws and regulations.

4.2.1.7 Other substances used in a product shall firstly meet the requirements provided in GB 2760 and be assessed in accordance with the procedures provided in Annex C.

4.2.1.8 It is allowed to use mineral substances (including microelements), vitamins and amino acids as ingredients in a product when:

a) It is unable to obtain a substitute substance meeting the requirements provided in this Standard;

b) The product is unable to be manufactured or preserved in normal conditions or cannot meet certain quality criteria if without these ingredients; or

c) Otherwise required by the applicable laws and regulations.

4.2.1.9 It is not allowed to use any ingredients, additives or processing aids obtained from GMO substances.

4.2.2 Processing

4.2.2.1 It is allowed to use mechanical, freezing, heating, microwaving or smoking methods or the technology of microbial fermentation in the course of processing a kind of food or feed without destroying the main nutritional ingredients in the food or feed. It is allowed to use the technology of extraction, concentration, sedimentation and filtration in the course of processing a kind of food or feed without adding any other kind of chemical reagent in the course of extraction or concentration, and the solvent used for extraction is limited to water, ethanol, animal/plant oil, vinegar, carbon dioxide, nitrogen or carboxylic acid only.

4.2.2.2 Certain necessary measures shall be adopted in order to prevent from the mixture of organic products and inorganic products or to avoid the pollution of an organic product by any banned substance.

4.2.2.3 The water used for processing shall comply with the requirements provided in GB 5749.

4.2.2.4 Irradiation is not allowed in the course of processing or storage.

4.2.2.5 It is not allowed to use asbestos or any other kind of material that may be polluted by a hazardous substance for filtration.

4.2.3 Prevention and Control of Pests

4.2.3.1 In order to prevent from pests, following measures shall be taken at the first step:

a) Eliminate the conditions for breeding pests;

b) Prevent pests from access to the equipment for organic processing or handling; and

c) Prevent pest breeding through control of temperature, humidity, illumination, air and other environmental factors .

4.2.3.2 It is allowed to use machinery, pheromonal, odorous or viscous tools, physical barriers, diatomite or acousto-optic appliances for prevention and control of pests.

4.2.3.3 It is allowed to use ethanol, calcium hypochlorite, sodium hypochlorite, chlorine dioxide and hydrogen peroxide as a disinfector in the course of an organic processing. The disinfector shall be approved before being used in the course of an organic processing. It is not allowed to use any disinfector that may have any poisonous or harmful residue.

4.2.3.4 It is encouraged to spray Chinese herbs, or fumigate with Chinese herbs, but not with sulfur, to handle the serious pest invasion in the premises for processing or storing organic products.

4.2.4 Packaging

4.2.4.1 It is encouraged to use the packaging materials made of wood, bamboo, plant stems or leaves or paper, although it is allowed to use other kind of packaging materials that meet applicable hygienic requirements.

4.2.4.2 The materials used for packaging shall all be of food-grade packaging materials. A package shall be simple and practical and take into consideration of the biodegradation and recycling of the packaging materials. Excessive packaging shall be avoided.

4.2.4.3 It is allowed to use carbon and nitrogen as packing fillers.

4.2.4.4 It is not allowed to use any packaging material that contains synthetic fungicide, preservative or fumigant agent.

4.2.4.5 It is not allowed to contain any organic product with a bag or vessel that has been accessed by a banned substance.

4.2.5 Storage

4.2.5.1 It is not allowed for an organic product to be polluted by any other substance in the course of storage.

4.2.5.2 The warehouse for storing an organic product shall be clean, pest-free and without any harmful residue.

4.2.5.3 Besides the method of normal temperature storage, following methods may be used for storage of organic products:

a) Air conditioning in the storage rooms;

b) Temperature control;

c) Drying; and

d) Moisture control.

4.2.5.4 An organic product shall be stored separately. If an organic product has to be stored in a warehouse together with any other conventional product, a special area shall be allotted to the organic

product and certain necessary measures shall be taken to ensure that the organic product will not be mixed with other products.

4.2.6 Transportation

4.2.6.1 The vehicle or any other appliance used for transportation of an organic product shall be cleansed before loading the product.

4.2.6.2 It shall be avoided in the course of transportation for an organic product to be mixed with a conventional product or polluted by other substances.

4.2.6.3 The organic certification label and the description thereabout on the outer package of an organic product may not be stained or damaged in the course of transportation.

4.3 Textiles

4.3.1 Raw material

4.3.1.1 The textiles shall be made from fibrous materials being of 100% organic nature.

4.3.1.2 It shall cause as little as possible negative impact on the environment in the course of processing raw materials into fibers.

4.3.1.3 As for the non-textile raw materials used in a textile product, no harmful impact may be caused on the environment or human being in the course of manufacturing, use and rejects handling of such non-textile raw materials.

4.3.2 Processing

4.3.2.1 Suitable working methods shall be used for processing of textiles so that the environment will be affected as little as possible.

4.3.2.2 No substance harmful to the environment or human body may be used. The processing aids used for a textile product may not contain any substance that is carcinogenic, teratogenic, mutagenic or allergenic. The LD50 for the poisonous oral solution used for mammals shall be greater than 2000mg/kg.

4.3.2.3 No substance prone to bioaccumulation or non-biodegradable may be used.

4.3.2.4 The energy consumed in the course of textile processing shall be at the minimum level, and renewable resources shall be used for the processing as far as possible.

4.3.2.5 If the separation of an organic processing from a conventional processing in terms of equipment or technology will cause an obvious negative impact on the environment, while there is no risk for the organic product to be accessed by the circulating fluid used in the conventional processing (alkali wash, starching, rinsing etc.) if without such separation, it may be allowed to be not separated between the organic processing and conventional processing; provided, however, that the processing plant shall ensure the organic textile product be not polluted by any banned substance.

4.3.2.6 An processing entity shall use an effective technology in wastewater treatment so that the pollutant concentration in the wastewater will not surpass the level provided in GB 4287.

4.3.2.7 An processing entity shall make and implement a plan for environment control and improvement in the course of manufacturing process.

4.3.2.8 The surfactants used in the course of cocoon cooking or wool washing shall be those readily biodegradable.

4.3.2.9 The slurry used for processing shall be degradable, or may be recycled at 80% in the minimum.

4.3.2.10 Sodium hydroxide or other alkaline materials may be allowed for mercerizing, but shall be recycled as far as possible.

4.3.2.11 The oil selected for spinning, weaving or knitting (i.e. used for needles) shall be those readily biodegradable, or extracted from plants.

4.3.3 Dyestuff; dyeing and finishing

4.3.3.1 Shall use the dyes derived from plants or minerals.

4.3.3.2 Harmful dyes and substances forbidden in GB/T 18885 must not be used.

4.3.3.3 Natural thickening agents for printing and dyeing may be used.

4.3.3.4 Biological degradable softening agents may be used.

4.3.3.5 Substances that can produce organic halogen compounds in wastewater must not be used in cleaning up printing or dyeing equipment.

4.3.3.6 Heavy metal content in dyestuff must not exceed the tolerance level set forth in Table 1 below.

Table 1 Tolerance Levels of Heavy Metal Contents in Dyestuff (the original source of the reference figures for the tolerances shall be given in the preparation instruction)

Name of metal	Tolerance level/(mg/kg)	Name of metal	Tolerance level/ (mg/kg)	Name of metal	Tolerance level/ (mg/kg)
Sb	50	As	50	Ba	100
Pb	100	Cd	20	Cr	100
Fe	2500	Cu	250	Mn	1000
Ni	200	Hg	4	Se	20
Ag	100	Zn	1500	Sn	250

4.3.4 Finished products

4.3.4.1 Auxiliaries (lining, ornament, button, zipper, suture, etc.) shall be made of materials harmless to the environment, and natural materials are encouraged to be used as far as possible.

4.3.4.2 Processing aids detrimental to the environment or human being may not be used in the processing (e.g. sand washing and water washing) of finished products.

4.3.4.3 The content of harmful substances in a finished product may not exceed the tolerance level provided in GB/T 18885.

Annex A (Normative)

Food Additives, Processing Aids and Other Substances Allowed in Organic Food Processing

A.1 Food additives

Table A.1 List of Food Additives

No.	Name	Conditions of Use	INS
1	Arabic gum	Thickening agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	414
2	Karaya gum	Stabilizing agent. Applied to milk, water-in-oil fat emulsions and those foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	416
3	Silicon dioxide	Anticaking agent. Applied to dehydrated egg products, milk powder, cocoa powder, cocoa butter, powdered sugar, solid compound seasoning, solid drink and spices in the limited amount of use as provided in GB 2760-2011.	551
4	Sulfur dioxide	Bleaching agent/preservative/antioxidant. Applied to unsweetened wine in the maximum amount of 50 mg/L. Applied to sweetened wine in the maximum amount of 100mg/L. Applied to red wine in the maximum amount of 100mg/L. Applied to white wine and rosé wine in the maximum amount of 150mg/L. The maximum amount of use is calculated at the residue of sulfur dioxide.	220
5	Glycerine	Water retention agent/emulsifying agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	422
6	Guar gum	Thickening agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand. Applied to watery cream or the formula foods for older infants and young children in the limited amount of use as provided in GB 2760-2011.	412
7	Pectins	Emulsifying agent/stabilizing agent/thickening agent. Applied to fermented milk, watery cream, butter and concentrated butter, raw wet flour products (noodles, dumpling wrappers, wonton wrappers, Shumai wrappers, etc.), raw dry flour products, sugar and syrup (brown sugar, red sugar, maple syrup, etc.), spices and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand. Applied to fruit and vegetable juice (syrup) in the limited amount of use as provided in GB2760-2011.	440
8	Potassium alginate	Thickening agent. Applied to the foods other than those set forth in Table A.3 of GB2760-2011 in appropriate amount of use necessary for production demand.	402
9	Sodium alginate	Thickening agent. Applied to fermented milk, watery cream, butter and concentrated butter, raw wet flour products (noodles, dumpling wrappers, wonton wrappers, Shumai wrappers, etc.), raw dry flour products, fruit and vegetable juice (syrup), spices and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand. Applied to sugar and syrup (brown sugar, red sugar, maple syrup, etc.) in the limited amount of use as provided in GB 2760- 2011.	401
10	Carob bean gum	Thickening agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand. Applied to the formula foods for infants and young children in the limited amount of use as provided in GB 2760-2011.	410

Table A.1 (Continued)

No.	Name	Conditions of Use	INS
11	Xanthan gum	Thickening agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand. Stabilizing agent/thickening agent, applied to watery cream, fruit and vegetable juice (syrup) and spices in appropriate amount of use necessary for production demand, applied to butter and concentrated butter, raw wet flour products (noodles, dumpling wrappers, wonton wrappers, Shumai wrappers, etc.), raw dry flour products, sugar and syrup (brown sugar, red sugar, maple syrup, etc.)in the limited amount of use as provided in GB2760-2011.	415
12	Potassium metabisulphite	Bleaching agent/preservative/antioxidant. Applied to beer in the limited amount of use as provided in GB2760-2011.Applied to unsweetened wine in the maximum amount of 50mg/L. Applied to sweetened wine in the maximum amount of 100mg/L. Applied to red wine in the maximum amount of 100mg/L. Applied to white wine and rosé wine in the maximum amount of 150mg/L. The maximum amount of use is calculated at the residue of sulfur dioxide.	224
13	L(+)−Tartaric acid, Tartaric acid	Acidity regulator. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	334
14	Potassium bitartarate	Leavening agent. Applied to wheat flour, wheat flour products and bakery products in appropriate amount of use necessary for production demand.	336
15	Carrageenan	Thickening agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand. Emulsifying agent/stabilizing agent/thickening agent. Applied to watery cream, butter and concentrated butter, raw wet flour products (noodles, dumpling wrappers, wonton wrappers, Shumai wrappers, etc.), fruit and vegetable juice (syrup) and spices in appropriate amount of use necessary for production demand. Applied to raw dry flour products, sugar and syrup (brown sugar, red sugar, maple syrup, etc.) and the formula foods for infants and young children in the limited amount of use as provided in GB 2760-2011.	407
16	Vitamin C (ascorbic acid)	Antioxidant. Applied to concentrated fruit and vegetable juice (syrup) and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand. Flour treatment agent. Applied to wheat in the limited amount of use as provided in GB2760-2011.	300
17	Calcium hydrogen phosphate	Leavening agent. Applied to wheat flour, wheat flour products, raw wet flour products (noodles, dumpling wrappers, wonton wrappers, Shumai wrappers, etc.), bakery foods and puffed foods within the scope and in the limited amount of use as provided in GB 2760-2011.	341ii
18	Calcium sulfate (natural)	Stabilizing agent/coagulating agent/thickening agent/acidity regulator. Applied to bean products in appropriate amount of use necessary for production demand. Applied to breads, cakes, biscuits, cured meat products (bacon, preserved ham, Pressed salted duck, Chinese ham, Lap Cheong, etc.) (Lap Cheong only) and sausages in the limited amount of use as provided in GB 2760-2011.	516
19	Calcium chloride	Coagulating agent/stabilizing agent/thickening agent. Applied to watery cream and bean products in appropriate amount of use necessary for production demand. Applied to canned fruits, jams, canned vegetables, decorative candy, decorative crest and sweet juice, flavored syrup and other drinking water in the limited amount of use as provided in GB 2760-2011.	509
20	Potassium chloride	Applied to salt and salt substitutes in the limited amount of use as provided in GB 2760-2011.	508
21	Magnesium chloride (natural)	Stabilizing agent and coagulating agent. Applied to bean products in appropriate amount of use necessary for production demand.	511

Table A.1 (Continued)

No.	Name	Conditions of Use	INS
22	Gelatin	Thickening agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	
23	Citric acid	Acidity regulator, which shall be made from carbohydrate through microbial fermentation. Applied to the formula foods for infants and young children, the complementary food for infants and young children and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	330
24	Tripotassium citrate.	Acidity regulator. Applied to the formula foods for infants and young children, the complementary food for infants and young children and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	332ii
25	Trisodium citrate	Acidity regulator. Applied to the formula foods for infants and young children, the complementary food for infants and young children and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	331iii
26	Malic acid,	This may not be obtained from GMO. and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	296
27	Calcium hydroxide	Acidity regulator. Applied to milk powder (including sweetened milk powder), cream powder (including the products made from cream power) and the formula foods for infants in appropriate amount of use necessary for production demand.	526
28	Agar	Thickening agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	406
29	Lactic acid	Acidity regulator, which may not be obtained from GMO. Applied to the formula foods for infants and young children and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	270
30	Sodium lactate	Water retention agent/acidity regulator/antioxidant/leavening agent/thickening agent/stabilizing agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand. Applied to raw wet flour products (noodles, dumpling wrappers, wonton wrappers, Shumai wrappers, etc.) in the limited amount of use as provided in GB 2760-2011.	325
31	Calcium carbonate.	Leavening agent/powder treatment agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	170i
32	Potassium carbonate	Acidity regulator. Applied to the formula foods for infants and young children and the foods other than those set forth in Table A.3 of GB 2760-2011in appropriate amount of use necessary for production demand. Applied to flour foods (excluding raw wet flour products and raw dry flour products) in the limited amount of use as provided in GB 2760-2011.	501i
33	Sodium carbonate	Acidity regulator. Applied to raw wet flour products (noodles, dumpling wrappers, wonton wrappers, Shumai wrappers, etc.), raw dry flour products and the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	500i
34	Ammonium hydrogen carbonate	Leavening agent. Applied to the foods other than those set forth in Table A.3 of GB 2760-2011 in appropriate amount of use necessary for production demand.	503ii

Table A.1 (Continued)

No.	Name	Conditions of Use	INS
35	Potassium nitrate	Color retention agent/preservative agent. Applied to meat products in the maximum amount of 80mg/kg, with the maximum residue of 30mg/kg (calculated on sodium nitrite).	252
36	Sodium nitrite	Color retention agent/preservative agent. Applied to meat products in the maximum amount of 80mg/kg, with the maximum residue of 30mg/kg (calculated on sodium nitrite).	250
37	Annatto extract(bixin, norbixin)	Coloring agent. Applied to processed cheese, grease or grease products (creamer only), frozen drinks (excluding edible ices), fruit sauces, chocolate and chocolate products, cocoa products (except for 05.01.01), CBR and similar CBR products, candies, flour paste (e.g. the dragging paste used for fish or poultry meat), coating flour and frying flour in the limited amount of use as provided in GB 2760-2011.	160b

A.2 Processing aids

Table A.2 List of Processing Aids

No.	Name in Chinese	Name in English	INS
1	氮气 Nitrogen	Nitrogen. Used for food preservation. Only non-petroleum source being free ofpetroleum –free nitrogen is allowed.	941
2	二氧化碳（非石油制品）Carbon dioxide (non-petroleum product).	Non-petroleum product, used as preservative or processing aid for carbonated drinks and other fermented liquors (aerated).	290
3	高岭土 Kaolin	Kaolin. Clarifying or filtrating aid, used for processing and fermentation in making grape wine, fruit wine, and mixed liquor.	559
4	固化单宁 Immobilized tannin.	Clarifying agent, used for processing and fermenting of mixed liquor.	
5	硅胶 Silica gel	Silica gel. Clarifying agent, used for processing of beer, grape wine, fruit wine, mixed liquor and millet wine.	
6	硅藻土 Diatomaceous earth	Diatomaceous earth. Used as filtrating aid.	
7	活性炭 Activated Carbon	Processing aids	
8	硫酸 Sulfuric acid	Sulfuric acid. Flocculating agent, used for beer processing.	
9	氯化钙 Calcium chloride	Calcium chloride. Processing aid, used for processing of bean products.	509
10	膨润土（皂土、斑脱土）Bentonite	Adsorbing agent/filter aid/clarifying agent, used for processing and fermentation in making grape wine, fruit wine, millet wine and mixed liquor.	
11	氢氧化钙 Calcium hydroxide	Calcium hydroxide. Used as additive for corn flour; used as sugar processing aid.	526
12	氢氧化钠 Sodium hydroxide	Sodium hydroxide. Acidity regulator used as processing aid.	524
13	食用单宁 Edible tannin	Edible tannin. Used for processing of millet wine, beer, grape wine and mixed liquor; used for grease decolorization.	181
14	碳酸钙 Calcium carbonate	Processing aids	170i
15	碳酸钾 Potassium Carbonate	Potassium carbonate. Used for grape drying.	501i
16	碳酸镁 Magnesium carbonate	Magnesium carbonate. Processing aid, used for flour milling.	504i
17	碳酸钠 Sodium carbonate	Sodium carbonate, used for production of sugar.	500i
18	纤维素 Cellulose	Cellulose. Used for production of gelatin.	
19	盐酸 Hydrochloric acid	Hydrochloric acid.	507
20	乙醇 Ethanol	Ethanol. Organic source is necessary for the ethanol used as raw material.	
21	珍珠岩 Pearl rock	Pearl rock. Filter aid, used for processing and fermentation in making beer, grape wine, fruit wine and mixed liquor.	
22	滑石粉 Tale powder	Tale powder. Releasing agent, used for candy processing.	553iii

A.3 Condiments & Seasonings

a) Essential oil, i.e. the natural perfume extracted through mechanical and physical methods with oil, water, alcohol or carbon dioxide as solvent;

b) Condiments and seasonings in natural smoky flavor;

c) Natural condiments and seasonings, which must be assessed and approved in accordance with the standards that are provided in Annex C for assessment of additives and processing aids.

A.4 Microbial Products

a) Microbial natural products, except for GMO and GMO products;

b) Starter culture, which is free of bleaching agent and organic solvent in the course of its manufacturing process.

A.5 Other Ingredients

a) Drinking water;

b) Table salt;

c) Mineral substance (including microelement) and vitamin, allowed when required by law, or when It is proved to be in serious deficiency in a food.

Annex B (Normative)

Feed Additives Allowed in Organic Feed Processing

Table B.1 List of Feed Additives

No.	Name	Instruction	INS
1	Iron	Ferrous sulfate, ferrous carbonate.	
2	Iodine	Calcium iodate, six water calcium iodate, potassium iodide, sodium iodide.	
3	Cobalt	Cobalt sulfate, cobalt chloride.	
4	Copper	Pentahydrate copper sulphate, cupric oxide (applicable to cud chewers)	
5	Manganese	Carbonate manganese and manganese oxide, manganese sulfate, manganese chloride.	
6	Zinc	Zinc carbonate, zinc oxide, zinc sulfate.	
7	Molybdenum	Sodium molybdate	
8	Selenium	Sodium selenite	
9	Sodium	Sodium chloride, sodium sulfate.	
10	Calcium	Calcium carbonate (e.g. lime stone powder and shell powder), calcium lactate.	
11	Phosphorous	Calcium hydrogen phosphate, calcium dihydrogen phosphate, tricalcium phosphate.	
12	Magnesium	Magnesium oxide, magnesium chloride, magnesium sulfate.	
13	Sulfur	Sodium sulfate	
14	Vitamin	Must be obtained from the natural raw materials of feeds. Synthetic vitamin with same natural effect is allowed in feeding monogastric animals. If it is unable to obtain natural source vitamin for cud chewer feeding, synthetic vitamin A, D and C with same natural effects are allowed.	
15	Microorganism	Bacillus licheniformis, bacillus subtilis, discrepancy of bifidobacterium, dung enterococcus, excrement enterococcus, lactic acid bacteria, lactobacillus acidophilus, lactobacillus casei, lactobacillus lactic acid, plant lactobacillus, lactic acid bacteria, pediococcuspentosaceus, protein production candida yeast, saccharomyces cerevisiae, swamp Red Pseudomonas, bulgaria lactobacillus (only applicable to silages and the feeds for pigs and chickens).	
16	Enzyme	Silage additive	
17	Sorbic acid	Preservative	200
18	Formic acid	Preservative, applied to silage only when it is unable to have silage fully fermented under weather conditions.	236
19	Acetic acid	Preservative, applied to silage only when it is unable to have silage fully fermented under weather conditions.	260
20	Lactic acid	Preservative, applied to silage only when it is unable to have silage fully fermented under weather conditions.	270
21	Propionic acid	Preservative, applied to silage only when it is unable to have silage fully fermented under weather conditions.	280
22	Citric acid	Preservative	330
23	Calcium stearate	Obtained from natural sources, used for adhesive agent and anticaking agent.	470
24	Silicon dioxide	Used for adhesive agent and anticaking agent.	551b

Annex C (Informative)

Guidelines for Assessment of Additives and Aids Used in Organic Processing

The allowed additives and processing aids set forth in Annex A and Annex B will not cover all the substances meeting the conditions for organic production. A substance uncovered in Annex A or Annex B shall be assessed in accordance with the following guidelines before determining whether it is the one that may be used in organic processing.

C.1 Principles

An additive or processing aid may be used in organic processing only when it is necessary and, if the use is a must, following principles shall be observed:

a) Retain the organic nature of the product; and

b) The product is unable to be produced or preserved if without such additive or processing aid.

C.2 Conditions for Approval of Food/Feed Additive and Processing Aid

Following conditions shall be met for an additive or processing aid before being approved in producing an organic product:

a) No other acceptable technology is available for processing or preservation of the product;

b) The use of the additive or processing aid will be as far as possible reduce the physical or mechanical damage that may be caused by other technological options.

c) An alternative method (e.g. cut down on transport time or improve storage facilities) will not effectively maintain the product in health conditions;

d) Natural source substances are insufficient to substitute for the additive or processing aid in terms of either quality or quantity;

e) The additive or processing aid will not be harmful to the organic integrity of the product;

f) The use of the additive or processing aid, including, but not limited to pigments and spices, will not get the customers confused with the impression of that the quality of the product seems to be better than its raw materials.

g) The use of the additive or processing aid will not be harmful to the overall quality of the product.

C.3 Order of Precedence for Use of Food/Feed Additives and Processing Aids

C.3.1 The following options, if available, shall be given in priority to the use of any additive or processing aid:

a) The crop being produced in accordance with organic certification requirements, including the products (e.g. the flour used as thickening agent and the plant oil used as releasing agent) made there from that are free of any additive;

b) The foods or raw materials that are obtained from plant or animal sources merely through a simple

mechanical or physical method, e.g. salting;

C.3.2 The second option:

a) The pure food ingredients, e.g. starch, tartrate and pectin, that are made by means of enzyme or through physical method;

b) The substances and microorganisms, e.g. acerola, fruit juice, starter culture and other enzymes and microorganisms, that are made from the materials being not of an agricultural source.

C.3.3 None of the following additives and processing aids may be used in an organic product:

a) The substance having the same nature with that of a natural substance;

b) The synthetic substance e.g. cross-linked and acetylated starches, that is basically “new structure of ingredients” or of non-natural source;

c) GMO additives or processing aids;

d) Synthetic pigments and synthetic preservatives.

The carriers and preservatives used in this case for making an additive or processing aid shall also be taken into account.

National Standards of People's Republic of China

GB/T 19630.3-2011

National Food Safety Standards

Organic Product - Part 3: Labeling and Marketing

Issued on: 2011-12-05 Implemented on: 2012-03-01

Issued by the Administration of Quality Supervision, Inspections and Quarantine the People's Republic of China & China Standardization Management Committee

Foreword

GB/T 19630 “Organic Product” is divided into four parts:

- Part 1: Production
- Part 2: Processing
- Part 3: Labeling and Marketing
- Part 4: Management System

This Part is the third part of GB/T 19630.

This Part is drafted according to the rules provided for in GB/T 1.1-2009 “Directives for Standardization Part 1: Structure and Compilation of Standards”.

This Part takes the place of GB/T 19630.1-2005 “Organic Product Part 3: Labeling and Marketing”.

Compared with GB/T 19630.1-2005, the main technical changes are as follows:

- Add the restriction on use of characters, designs, symbols which are indirectly implied as the organic products (see 4.2);
- Add the provision, “Shall not misguide consumers to consider the conventional products as the organic conversion products, or consider the organic conversion products as the organic products”. (see 4.3)
- Delete the provisions related to the labeling character (see 4.5 in 2005 Edition);
- Delete the provisions of labeling according to the requirements of the foreign codes or the foreign contract buyer (see 4.7 in 2005 Edition);
- Delete the relevant requirements of the organic product labeling of the certification body (see 5.1, 5.2, 7.2, 7.3, and 5.1, 5.2, 5.3, 8 in 2005 Edition);
- Change the method of round numbers for the computed result of the organic ingredients percentage, where it is changed into being rounded down, and the text description is changed into English alphabet (see 6.2, 6.3, 6.4);
- Add the provision that “Product marked with ‘Organic’ shall have the Certification Mark of China Organic Product or the Certification Mark of China Organic Conversion Product and its sole number on the certificated product or the minimum sales package of the product” (see 7.2);
- Add the provision about the method of using the Certification Mark of China Organic Product/Organic Conversion Product on the product or the package thereof (see 7.3);
- Add the provision that “When purchase the organic products, the seller shall request for the sale

license of the organic product" (see 8.2);

- Delete the provision that "Product which does not comply with the labeling requirements of this Part in GB/T 19630 shall not be sold as the organic product" (see 9.6 in 2005 Edition).

Please note that some contents of this document may involve patents. The issuing authority of this document is not be responsible for the recognition these patents.

This Part is presented by the Certification and Accreditation Administration of the People's Republic of China. Some authorities proposing this Part: China National Institute of Standardization, Nanjing Organic Food Development and Certification Center, the National Certification and Accreditation Administration, the Certification and Accreditation Administration of the People's Republic of China, Beijing Entry-Exit Inspection and Quarantine Bureau, the National Standards and Regulations Center of General Administration of Quality Supervision, Beijing Continental Hengtong Certification Co., Ltd., major drafters of this Part of China Agricultural University: Yang Li, Yu Kai Jin, Xie Wei Hua, Liu Jun, Hua, Qiao Yu Hui, Yang Zhi Gang, Chen Yun Hua, Xu Na, Wang Mao Hua, Fu Qiang, Wu Xing Xia, Meng Dong, Qu Li, Liu Wen, Meng Fan Qiao.

This Part takes the place of all previous standard editions as follows:

- GB/T 19630.3-2005.

National Food Safety Standards

Organic Products Part 3: Labeling and Marketing

1. Scope

This Part in GB/T 19630.3 provides the general specifications and requirements about the labeling and marketing of the organic product.

This Part shall apply to the production according to GB/T 19630.1 or the processing according to GB/T 19630.2 and the labeling and sale of the certificated products.

2. Normative Quotations and References

For the application of this document, the following documents are indispensable. For the reference document with date, only the edition with date shall apply to this document. For the reference document without date, the latest edition (including all modification lists) shall apply to this document.

GB/T 19630.1 Organic Product Part 1: Production

GB/T 19630.2 Organic Product Part 2: Processing

GB/T 19630.4 Organic Product Part 4: Management System

3. Terms and Definitions

The following terms and definitions shall apply to this Part.

3.1 Labeling

The mark which is on the product for sale, package of product, label of product, or explanatory materials along with the product, in the form of writing, printing, or graphics.

3.2 Certification Mark

The proprietary symbols and patterns or the combination of symbols, patterns and text which can prove the production or the processing process of the products comply with the organic standard, and has passed the certification.

3.3 Marketing

The activities such as wholesale, direct selling, sales through exhibition, sale by proxy, distribution, retail or the product launch in any other way.

4. General Principles

4.1 The organic products shall have the labeling according to the requirements of the relevant state laws and regulations and standards.

4.2 The term “organic” or other characters, designs, symbols which are indirectly implied as the organic products and the certification mark of China organic product only apply to the labeling of the certificated organic products which are produced and processed according to the requirements of GB/T 19630.1, GB/T

19630.2 and GB/T 19630.4, unless the meaning of “organic “has nothing to do with this standard completely.

4.3 “Organic” and “Organic Products” only apply to the products with the organic product certification; “Organic Conversion” and “Organic Conversion Products” only apply to the products with the conversion product certification. Shall not mislead consumers to consider the conventional products as the organic conversion products, or consider the organic conversion products as the the organic products.

4.4 The characters, designs, symbols of the labeling shall be clear and conspicuous. Graphics and symbols shall be intuitive and normative. The color or background color or bottom color of text, graphics and symbols shall be the contrasting colors.

4.5 The labeling and the certification mark of the imported organic products shall comply with this provision.

5. Product Labeling Requirements

5.1 Only if the organic ingredients content is equal to or higher than 95%, and the product has obtained the certification, it may use the “organic” label in front of the product name, and may use the certification mark of China organic product on the package.

5.2 Only if the organic ingredients content is equal to or higher than 95%, and the product has obtained the organic conversion certification, it may use the “organic conversion” label in front of the product name, and may use the certification mark of China organic conversion product on the package.

5.3 If the organic ingredients content is lower than 95% or is equal to or higher than 70%, it may use the “organic ingredients production” label in front of the product name, and shall indicate the proportion of organic ingredients with certification.

5.4 If the organic ingredients content is lower than 95% or is equal to or higher than 70%, the organic ingredients are the conversion products, it may use the “organic conversion ingredients production” label in front of the product name, and shall indicate the proportion of organic conversion ingredients with certification.

5.5 If the organic ingredients content is lower than 70%, it may only use the “organic” label in front of the organic ingredients name on the product ingredients, and shall indicate the proportion of organic conversion ingredients.

5.6 If the organic ingredients content is lower than 70%

6. Calculation of Organic Ingredients Percentage

6.1 The calculation of organic ingredients percentage does not contain the water and the salt which are added during the processing process in the form of ingredients.

6.2 As for the organic products in the form of solid, its organic ingredients percentage shall be calculated according to the formula (1):

$$Q = \frac{W_1}{W} \times 100\% \qquad \cdots\cdots\cdots\cdots\cdots (1)$$

Here,

Q – Organic ingredients percentage at the unit of percent (%);

W1 – Total weight of the organic ingredients at the unit of kilogram (kg);

W – Total weight of product at the unit of kilogram (kg).

Note: the computed result shall be rounded down.

6.3 As for the organic products in the form of liquid, its organic ingredients percentage shall be calculated according to the formula (2) (as for the product which is made from the concentrate after recombination, shall calculate the organic ingredients percentage based on the ingredients and the concentrate of the finished product):

$$Q = \frac{V_1}{V} \times 100\% \qquad \cdots\cdots\cdots\cdots\cdots\cdots (2)$$

Here,

Q – Organic ingredients percentage at the unit of percent (%);

V1 – Total volume of organic ingredients at of the unit of litre (L);

V – Total volume of product at the unit of litre (L).

Note: the computed result shall be rounded down.

6.4 As for the organic products which contain the solid and liquid forms, its organic ingredients percentage shall be calculated according to the formula (3):

$$Q = \frac{W_1 + W_2}{W} \times 100\% \qquad \cdots\cdots\cdots\cdots\cdots\cdots (3)$$

Here,

Q – organic ingredients percentage at the unit of percent (%);

W1 – Total weight of the solid organic ingredients in the product at the unit of kilogram (kg);

W2 – Total weight of the liquid organic ingredients in the product at the unit of kilogram (kg). Note: the computed result shall be rounded down.

7. Certification Mark of China Organic Product

7.1 The requirements of graphics and color about the Certification Mark of China Organic Product or the Certification Mark of China Organic Conversion Product are as shown in figure 1 and figure 2.

7.2 The product marked with „Organic" shall have the Certification Mark of China Organic Product or the Certification Mark of China Organic Conversion Product and its sole number, the name of the certification body or its labeling on the certificated product or the minimum sales package of the product.

7.3 The Certification Mark of China Organic Product/Organic Conversion Product can be directly place on the product or the minimum package by the paste or printing according to the feature of the product.

As for products in bulk or nude packing, and the fresh animal products, the Certification Mark of China Organic Product and the copies of the certification shall be shown on the appropriate locations within the special region for sale. As for the materials which are not for the direct retailing, it may not apply.

7.4 The printed Certification Mark of China Organic Product and Certification Mark of China Organic Conversion Product shall be clear and obvious.

7.5 The Certification Mark of China Organic Product and the Certification Mark of China Organic Conversion Product printed on the certificated labels, the manuals and the advertising material may be enlarged or reduced in proportion, but may not change the shape and the color.

Figure 1 Certification Mark of China Organic Product

Figure 2 Certification Mark of China Organic Conversion Product

8. Sales

8.1 To ensure the integrity and the traceability of the organic products, the seller shall adopt (but not limited to) the following measures during the sales process:

☐ the organic products shall avoid mixing with the non-organic products;

☐ the organic products shall avoid being in contact with the substances which are banned in this standard.

☐ establish the records of purchase, transportation, storage, warehousing and sales for the organic products.

8.2 When purchase the organic products, the seller shall request for the supporting materials, such as the organic product certification and the sale license of the organic product etc.; as for the products that its organic ingredients content is lower than 95% and use the “organic ingredients production” label, the supporting materials shall prove the source of the organic products.

8.3 When the producers and sellers purchase, they shall verify the authenticity of the certification of the organic products, and shall keep the copy of the certification.

8.4 As for products in bulk or nude packing, as well as the fresh animal products, shall set up the sales zone or the display counters of the organic products, and shall be separated from the sales zone or the display counters of the non-organic products.

8.5 In the sales zone or the display counters of the organic products, shall place the copies of the certification of the organic products on the significant position.

National Standards of People's Republic of China

GB/T 19630.4-2011

National Food Safety Standards

Organic Product - Part 4: Management System

Issued on: 2011-12-05 Implemented on: 2012-03-01

Issued by the Administration of Quality Supervision, Inspections and Quarantine the People's Republic of China & China Standardization Management Committee

Foreword

The GB/T 19630 “Organic Product” is composed of four parts, which are:

- Part 1: Production
- Part 2: Processing;
- Part 3: Labeling and Marketing; and
- Part 4: Management system

This is the Part 4 of GB/T 19630.

This Part was drafted in accordance with the rules set forth in the Directives for Standardization - Part I: Structure and Drafting of Standards (GB/T 1.1-2009).

This Part is to replace Organic Products - Part 4: Management System (GB/T 19630.4-2005). As compared to GB/T 19630.4-2005, the main technical amendments are as follows:

- Added “Table of Contents”;
- Adjustment made to the section of “Scope” by deletion of “related supplying links”;
- Deleted the term “production base” and its definition (see Clause 3.4 in 2005 Version);
- Added “management of organic labels”, “retrospective system and product recall” and “continuous improvement system” in the section of “manuals for quality management of the production, processing and handling of organic products”, and deleted “planning implementation of the production, processing and handling of organic products” and “audit tracking” from the same section;
- Added “procedures for sanitation and pest control in processing plants” and “procedures for management of labels and lot numbers” (see Clause 4.2.5 g and h) in the section of “operational procedures for production, processing and handling of organic products”;
- Added “account records for all production inputs”, “records for plant harvesting”, “records for slaughtering, fishing and extraction in processing animal products (including bee products)”, “records for management and use of organic labels”, “records for training” and “records for internal inspection” in the section of “records” (see Clause 4.2.6 o and p);
- Deleted the provisions for minimum year(s) of experience required for the management staff and internal inspectors engaged in the production, processing and/or handling of organic products;
- Added the title of “retrospective system and product recall” and the provisions for product recall (see Clause 4.5);
- Added the provisions for complaints (see Clause 4.6);

Please note that some provisions in this Part may be involved with certain patents. The authority issuing this Part is not responsible for identifying any of such patents.

This Part was proposed by the Certification and Accreditation Administration of the People's Republic of China.

This Part was drafted by: China Organic Food Certification Center, CNCA Registration Department, Organic Food Development and Certification Center of China, China National Accreditation Service for Conformity Assessment, and China Certification & Accreditation Institute.

The main drafters of this Part are: Guo Chunmin, Luan Zhihua, Li Xianjun, Gao Xiuwen, Wang Maohua, Zhang Jibing, Shi Songkai, Cong Linye, Chen Yunhua, Xu Na, Tang Maozhi, and Yang Xehui.

The publication history of the standard to be replaced with this Part is as follows:

- GB/T 19630.4-2005

National Food Safety Standards

Organic Products Part 4: Management System

1. Scope

This GB/T 19630 - Part 4 sets forth the general standards and requirements for the management system necessary to be developed and maintained in the production, processing and handling of organic products.

This Part shall apply to anyone engaged in the production, processing and/or handling of organic products.

2. Normative References

The following normative documents constitute an integral part of this Part. For a reference document with issue date, only the dated version of it shall apply to this Part. For a reference document without issue date, the latest version of it, including all the amendments thereof, shall apply to this Part.

GB/T 19630.1 Organic Products- Part 1: Production

GB/T 19630.2 Organic Products- Part 2: Processing

GB/T 19630.3 Organic Products- Part 3: Labeling and Marketing

3. Terms and Definitions

The terms used in this Part shall be defined as follows:

3.1 Organic producer

Any individual or organization engaged in organic planting, organic farming and wild plant collection in accordance with this Standard that has been certificated by an organic certification agency in respect of his/her/its products and production units and licensed to use organic labels on the products.

3.2 Organic processor

Any individual or organization engaged in organic processing in accordance with this Standard that has been certificated by an organic certification agency in respect of his/her/its products and processing units and licensed to use organic labels on the products.

3.3 Organic handler

Any individual or organization engaged in the transportation, storage, packaging and/or trading of organic products in accordance with this Standard that has been certificated by an organic certification agency in respect of his/her/its products and business units and licensed to use organic certification labels on the products.

3.4 Internal inspector

A person of the management staff in any organization engaged in the production, processing and/or handling of organic products that is responsible for internal inspection of the organic management system in the organization and assists an organic certification agency in the course of examination and certification.

4. Requirements

4.1 General Principles

4.1.1 An organic producer, processors or handler shall have acquired the land use right and business license lawful and necessary for his/her/its business.

4.1.2 An organic producer, processor or handler shall develop and maintain a management system for the production, processing and handling of organic products in accordance with the requirements as set forth in GB/T 19630.1, GB/T 19630.2 and GB/T19630.3. Such management system shall appear in the form of the documents as required in this Clause 4.2 and ought to be maintained and implemented accordingly.

4.2 Documentation Requirements

4.2.1 Document contents

The documents required for the management system of the production, processing and handling of organic products shall include:

a) The location maps for production units and processing/handling bases;

b) The manual for management of the production, processing and handling of organic products;

c) The operational procedures for the production, processing and handling of organic products; and

d) The complete records of the production, processing and handling of organic products.

4.2.2 Document control

The documents required for the management system of the production, processing and handling of organic products shall be timely updated, the valid and effective version of which must be available in use.

4.2.3 Location maps for production units and processing/handling bases

The location map for a production unit or processing/handling base shall be made in proper scale and show information, including but not limited to:

a) The deployment of farming plots, the deployment of wild plant collection areas, fishing grounds, aquatic farms, bee farms and beehives, the deployment of livestock and poultry farms, free activity areas, free grazing lands and manure treatment sites, and the deployment of the areas for processing and handling organic products;

b) River, well and/or other water sources;

c) Adjacent and/or boundary lands;

d) Separation areas for livestock and poultry quarantine;

e) The deployment of plants, warehouses and other related premises for processing and/or packaging of organic products; and

f) The thing in the production unit that may definitely reflect the characteristic of the unit.

4.2.4 Manual for management of the production, processing and handling of organic products

A manual shall be prepared and maintained for management of the production, processing and/or handling of organic products. Such manual shall include but not limited to:

a) The brief biography of each organic producer, processor and handler;

b) The policies and goals for management of organic producers, processors and handlers;

c) An organizational chart and the functions and responsibilities for each job position in the organization;

d) The information about management of organic labels;

e) The information about retrospective system and product recall;

f) The information about internal inspection;

g) The information about management of documents and records;

h) The information about customer complaints and the handling thereof; and

i) The information about continuous improvement.

4.2.5 Operational procedures for production, processing and handling of organic products

Procedures for production, processing and/or handling of organic products shall be made and implemented. Such procedures shall include, but not limited to:

a) The production and technology procedures for crop farming, edible mushroom cultivation, wild plant collection, livestock farming, fishing/aquatic farming and/or beekeeping;

b) The control procedures for preventing from the pollution of banned substances in the course of the production, processing and handling of organic products;

c) The procedures for preventing from mixture of organic products and inorganic products;

d) The procedures for harvesting plants and the operational procedures for the transportation, processing and storage of plants after harvesting;

e) The operational procedures for slaughtering, fishing, extraction, processing, transportation and storage of animal products;

f) The procedures for maintaining and cleaning of vehicles, machines and warehouse facilities;

g) The procedures for sanitation and pest control in processing plants;

h) The procedures for management of labels and lot numbers; and

i) The procedures for employee welfare and labor protection.

4.2.6 Records

An organic producer, processor or handler shall keep business records in any event. The records shall be clear and accurate, and can be used as the valid evidence for the activities occurring in the production, processing and/or handling of organic products. The records shall be kept for at least 5 years, and shall include but not limited to:

a) The historical records of the production unit, the time and quantity (if any) for the production unit using any banned substance;

b) The information about the types, sources and quantities of reproductive materials such as seeds, seedlings and breeding livestock/poultry;

c) The records for fertilizer production process;

d) The fertilizer types, amounts and application time for soil fertility, and the land parcels in which the fertilizers are used;

e) The names, elements, application cause, usage amounts and application time of the substances used for control of pests, disease and weeds;

f) For an animal farm, the details (e.g. varieties, sources, identification methods, quantities, date of storage/retrieval, and destination) for all the animals taken into or out of the farm;

g) For an animal farm, the details for all the drugs used in the animal farm, including but not limited to name of the drugs, active ingredients, application cause, usage amounts, the method for identifying a treated animal, the amount of treated animals, the date for starting animal treatment, and the earliest date for selling the animals or animal products;

h) For an animal farm, the details (types, elements, application time, usage amounts etc.) for all the animal feeds and feed additives used in the farm;

i) The account records (sources, purchase amounts, usage amounts, destination, stocks etc.) and purchasing documents for all product inputs;

j) The records for plant harvesting including, but not limited to, the records for plant types, quantities, date of harvesting, method of harvesting, and production lot numbers;

k) The records for slaughtering, fishing and extraction of animal (bee) products;

l) Processing records including, but not limited to, the records for purchase of raw materials, warehouse receiving, processing, packaging, labeling, storage, warehouse outward delivery, and transportation;

m) The records for prevention and control of pests in processing plants, and the records for cleaning the facilities used in processing, storage and transportation;

n) Sales records and the records for management of organic labels;

o) Training records; and

p) The records for internal inspections.

4.3 Resource Management

4.3.1 An organic producer, processor or handler shall have the resources necessary and suitable for its scale and technology in producing, processing and/or handling organic products.

4.3.2 An organic producer, processor or handler shall have an officer dedicated for management of the production, processing and/or handling of organic products. Such officer shall:

a) Be one of persons-in-charge of the entity; and

b) Understand the applicable laws and regulations and related requirements;

c) Understand the requirements in GB/T 19630.1, GB/T 19630.2, GB/T 19630.3, and this Part;

d) Have the technology, knowledge or experience in agricultural production, processing and/or handling; and

e) Be familiar with the management system and procedures in the entity for the production, processing and/or handling of organic products.

4.3.3 An organic producer, processor or handler shall have an internal inspector. Such internal inspector shall:

a) Be familiar with the applicable laws and regulations and related requirements;

b) Be relatively independent from that to be inspected;

c) Be familiar with and have a good command of the requirements in GB/T 19630.1, GB/T 19630.2, GB/T 19630.3 and this Part;

d) Have the expertise or experience in agricultural production, processing and/or handling; and

e) Be familiar with the management system and procedures in the entity for the production, processing and/or handling of organic products.

4.4 Internal Inspection

4.4.1 An organic producer, processor or handler shall have an internal inspection system to ensure that the procedures for the production, processing and/or handling of organic products will meet the requirements as set forth in GB/T 19630.1, GB/T 19630.2, GB/T 19630.3 and this Part.

4.4.2 The internal inspection shall be carried out by an internal inspector.

4.4.3 An internal inspector shall:

a) Perform the inspection of the management system in the entity in accordance with this Part, and make suggestions for improvement of that being inconsistent with this Part 4;

b) Perform the inspection of the production and processing procedures in the entity in accordance with the requirements set forth in GB/T 19630.1, GB/T 19630.2 and GB/T 19630.3, and make records thereof; and

c) Assist the certification agency in the course of examination and certification.

4.5 Retrospective System and Product Recall

An organic producer, processor or handler shall have a complete retrospective system and keep the specific records for all the retrospective production process (e.g. records for land parcel maps, agricultural activities, processing, warehousing, storage and retrieval of goods, and sales of goods), as well as that for all the traceable production lot numbers.

An organic producer, processor or handler shall develop and maintain an effective product recall system to set forth the conditions for production recall, handling of recalled products, corrective measures to be adopted and mock recalls, and keep the records for the whole process of product recall, including but not limited to records for recall, notification, remedies, causes and settlements.

4.6 Complaints

An organic producer, processor or handler shall develop and maintain an effective system to handle customer complaints, and keep the records for the whole process of complaint handling, including but not limited to records for receiving, registering, confirming, investigating and tracing a complaint, and feedbacks about the complaint.

4.7 Continuous Improvement

An organic producer, processor or handler shall keep active and continuous improvement of its management system in the production, processing and/or handling of organic products, and promote the healthy development of it, so that any and all the existing or potential factors inconsistent with the production, processing and/or handling of organic products will be removed. An organic producer, processor or handler shall:

a) Determine the cause of an inconsistence;

b) Assess the necessity for insuring no reoccurrence of the same kind of inconsistence;

c) Determine and put into force necessary measures;

d) Make records of the result of the measures; and

e) Review the corrective or preventive measures that have been taken.

Natural Food

GB 14963-2011 Honey

National Standards of People's Republic of China

GB 14963-2011

National Food Safety Standards

Honey

Issued on: 2010-04-20 Implemented on: 2011-10-20

Issued by Ministry of Health of the People's Republic of China

Foreword

This standard replaces the Hygienic Honey Standard (GB 14963-2003) and National Food Safety Standard-Honey (GB18796-2005).

This standard contains the following major modifications on the basis of the GB 14963-2003:

- Modifying the scope of the standard;
- Adding the definition of honey
- Modifying the requirements on the honey source, and defining main toxic nectar source plant name and variety;
- Modifying the sensory requirements;
- Modifying physical and chemical index;
- Adding limit of contaminants, veterinary drug residues and pesticide residue limits;
- Adding permeability yeast count requirement.

National Food Safety Standards

Honey

1. Scope

This standard applies to honey directly for consumption, but not to the products of honey.

2. Terms and Definitions

2.1 Honey

Honey is a natural sweet substance produced through fully brewing when the nectar, secretion and sweet deposits from plants are gathered, mixed with the secretion of their own, modified and stored in the honeycomb by honey bees.

3. Technical requirements

3.1 Requirements on the nectar sources

The plants, which are the source of nectar gathered by the honey bees, shall be safe and innocuous; they shall not be derived from the plants with noxious honey sources such as Tripterygium wilfordii Hook. F., Macleaya cordata (Willd.) R. Br and Stellera chamaejasme L.

3.2 Sensory Requirements

The sensory requirements shall comply with the Table 1.

Table 1 Sensory Requirements

Item	Requirements	Testing Method
Color	Depending on the nectar sources, honey color can range from nearly colorless to dark amber	Measure the items using the methods provided by the SN/T 0852
Taste and smell	With the special taste and smell; no peculiar smell	
Condition	Viscous fluid, partial or complete granulation at normal temperature	Observe honey under the natural light and inspect whether it contains impurities
Impurities	Should not contain foreign substances, such as bee limbs, bee larve, wax or visible foreign substances	

3.3 Physical and Chemical Indexes

The physical and chemical indexes shall comply with the requirements in the Table 2.

Table 2 Physical and Chemical Indexes

Items		Index	Testing methods
Fructose and glucose / (g/100g)	≥	60	GB/T 18932.22
Sucrose / (g/100g) Eucalyptus honey, citrus honey, clover honey, Lychee honey, wild osmanthus honey	≤	**10**	
Other honey	≤	5	
Zinc (Zn) / (g/100g)	≤	25	GB/T 5009.14

3.4 Limit of Contaminants

The limits of contaminants shall comply with the provisions in GB 2762.

3.5 Residue of Veterinary Drug and Pesticides Limits

3.5.1 Residue of Veterinary Drug Limits

The residue of veterinary drugs shall comply with the provisions in relevant standards.

3.5.2 Residue of Pesticides Limits

The residue of pesticides shall comply with the provisions in GB2763.

3.6 Microbiological Limits

The microbiological limits shall comply with the Table 3.

Table 3 Microbiological Limits

Item	Index	Testing methods*
Aerobic bacterial count/ (CFU/g) ≤	1000	GB4789.2
Coliform count/ (MPN/g) ≤	0.3	GB4789.3
Mould count/ (CFU/g) ≤	200	GB4789.15
Permeability and yeast counts/ (CFU/g) ≤	200	Annex A
Salmonella	0/25g	GB 4789.4
Shigella bacteria	0/25g	GB/T 4789.5
Staphylococcus aureus	0/25g	GB 4789.10
*Analysis and operation of the samples shall follow provisions in the GB4789.1.		

Annex A

Permeability and Yeast Counts

A.1 Devices and Materials

In addition to routine microbiology laboratory sterilization and cultivate equipment

A.1.1 Thermostatic cultivator: 25±1C

A.1.2 Refrigerator: 2C – 5C

A.1.3 Homogenizer and sterile homogenizing bags, homogenized or sterilized mortar

A.1.4 Balance: accuracy of 0.1g.

A.1.5 Sterile tube: 18mm x 18mm

A.1.6 Sterile pipette: 1ml (with a scale of 0.01ml), 10ml (with a scale of 0.1ml) or micropipette and tips.

A.1.7 Sterile conical beaker: 250ml, 500ml.

A.1.8 Sterile culture plate: with a diameter of 90mm.

A.1.9 Sterile L-coated rods: made of glass, plastic or stainless steel; rod diameter should not exceed 2mm

A.1.10 Microscope: 10x ~ 100x ~

A.2 Cultural Media and Reagents

A.2.1 30% glucose solution (pH 6.5± 0.5)

A.2.1.1 Ingredients

Anhydrous glucose	30.0g
Distilled water	100 mL

A.2.1.2 Methods

Weigh the amount of glucose dissolved in distilled water. If necessary, adjust the pH around 6.4 per cent. After packing, it shall be autoclaved at 115C for 20 minutes.

A.2.2 Nitroamine 18% chloride glycerol (DB18) agar

A.2.2.1 Ingredients

Casein peptone	5.0g
Anhydrous glucose	10.0g
Potassium dihydrogen phosphate	1.0g
Magnesium sulfate	0.5g
Nitramine chloride	0.02g
Glycerol anhydrous	200g
Agar	15g
Chloramphenicol	0.1g
Distilled water	1000mL

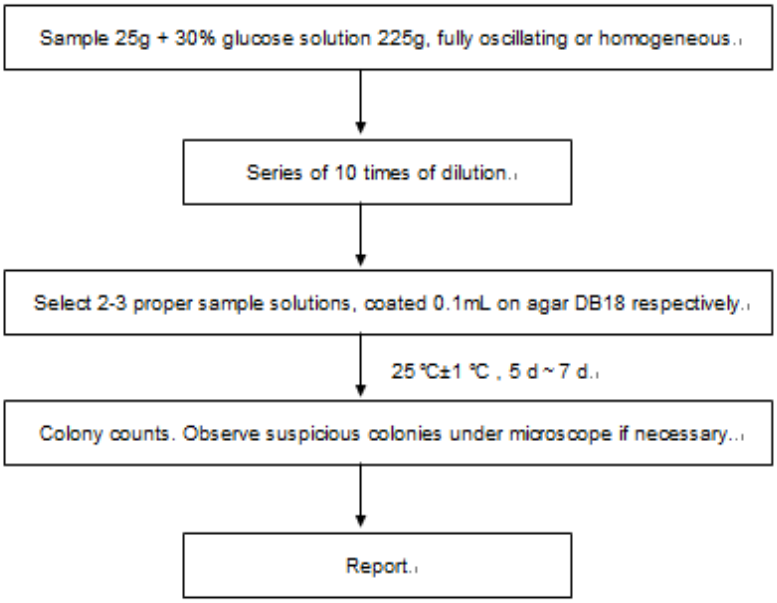
A.2.2.2 Methods

Apart from the CAP, heat all the ingredients to boiling till dissolve completely. If necessary, adjust the pH around 6.4 per cent. Adding antibiotics, autoclaving at 121C for 15 minutes, and get the final pH at 5.6±0.2. After sterilization, cooled the ingredients at 44-47C water till the temperature under 50C. Pour for about 15-20mL medium in each sterilized agar, placed on the horizontal surface to cool down and solidified as backup. If necessary, the ingredients can be put into incubator at 36C overnight to dry the water on the agar surface. Keep in dark place.

A.3 Examination Procedures

For the examination procedures of permeability and yeast count, please refer to figure 1.

Figure 1 Permeability Yeast Examination Procedures



A.4 Operation Procedures

A.4.1 Sampling and dilution

Inspection shall be operated timely after sampling. If not, the normal samples shall be put into 2-5C refrigerator, inspecting within 24 hours. Frozen samples shall be thawed under 45C for less than 15 minutes or under 2-5C less than 19 hours.

A.4.2 Sample dilution

A.4.2.1 Sampling

Weighing solid or liquid samples seized 25g from scale by aseptic operations, adding 30% glucose dilution 225g, homogeneous for 1 minute by rotated blade homogenizer through 8000r/min, or slapping for 2 minutes by slapped-homogenizer, to prepare for a uniform dilution of 1:10. If no homogeneous, putting the samples into a sterile Erlenmeyer flask with a glass bead and oscillation.

A.4.2.2 Gradient dilution

Aspirating 1mL dilution of 1:10 by sterile pipette, pouring into test tube with 9mL of 30% glucose dilution, placed on a spiral suspension device and mixed up, to prepare dilution of 1:100. Taking another 1mL sterile pipette, prepare for 10 times incremented dilution as previous operation. Swap a 1mL sterile pipette for each incremental dilution.

A.4.3 Coating and cultivation

A.4.3.1 Estimating based on sample pollution status and selecting 2-3 appropriate continuous dilution, inoculation 2 DG18 agar plates for each dilution. After fully mixture, inoculating 0.1 mL on each plate surface immediately, then coating on the surface of agar by sterile L-coated bar. Be cautious of avoiding coating bar lower end touching with petri edge side. At the meanwhile of sampling testing, inoculation 0.1 mL dilution on 2 DG18 agar surface as a blank comparison.

A.4.3.2 After inoculation, all the flat-panel shall be put into incubator by 2-5C and kept in dark status. Do not flip the petri when cultivating. To prevent the excessive spread of mold growth masked the target colony, observation of the fungi growth situation on the plate after 48-hour cultivation. The entire cultivation lasts 7 days.

A.4.4 Colony counts

A.4.4.1 Select the plate with 15-150 colonies, and count the total number.

A.4.4.2 Typical permeability and yeast colonies show circle, uplift center, opacity, trim edge on the DG18 agar plates, with 1-2mm diameter. If necessary, low magnification microscope can observe the colonies on the plate to see if they are bacterial colonies. If there was a mold colony, it should not be counted in.

A.4.5 Report

Referring to GB 4789.2 and use CFU/G as the unit for the quantity of permeability and yeast.