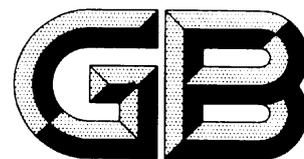


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**National Standard of the People's Republic of China**

**GB/T 19630—2019**

**Replace GB/T 19630.1~19630.4-2011**

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**Organic products—Requirements for production, processing,  
labeling and management system**

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## Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1 -2009.

This standard replaces GB/T 19630.1-2011 "Organic Products Part 1: Production", GB/T 19630.2-2011 "Organic Products Part 2: Processing", GB/T 19630.3-2011 "Organic Products Part 3: Labeling and Marketing", GB/T 19630.4-2011 "Organic Products Part 4: Management System". Compared with GB/T 19630.1~GB/T 19630.4-2011, the main technical changes are as follows:

-This standard combines the contents of the corresponding provisions of GB/T 19630.1~GB/T 19630.4 - 2011 into scope, normative references, terms and definitions, production, processing, labeling and marketing, and management system; respectively, the serial numbers of the corresponding sub-articles are adjusted in turn according to the existing framework;

- The scope is revised and the scopes of GB/T 19630.1~GB/T 19630.4-2011 are consolidated, the content remains unchanged (see 1);

- GB 9137 is deleted from the normative references, GB 20814 is added, and GB 2760 is changed without reference to the year;

- all the original terms and definitions in GB/T 19630.1~GB/T 19630.4-2011 are consolidated, the definitions of organic agriculture and biodiversity are deleted, the description of processing aids is modified according to GB 2760, and the descriptions of organic products, organic producers, organic processors, and organic handlers are revised; the definitions of organic production and organic processing are added (see 3);

- The requirements for continuous improvement of the production environment are added, the soil quality requirements are revised, and "GB 9137 maximum allowed concentration of air pollutants for crop protection" is deleted (see 4.2.3);

-The detergents and disinfectants allowed for plant production are added (see 4.2.11.4);

- "Wild plant collection" is changed into "wild collection" (see 4.3);

- The requirements of 5.1.5 for the conversion period of wild collection and edible fungi cultivation in GB/T 19630.1-2011 are deleted, and the relevant contents are added in this standard (see 4.3.4.4);

- The requirements of the environmental conditions for the wild collection area are modified (see 4.3.2);

- The protected targets of wild collection activities are changed from "animal and plant species" to "biological species" (see 4.3.4);

- The requirements for feed harvesting and post-harvest handling, packaging, storage and transportation are added (see 4.5.4.1);

- The requirements for outdoor exercise of livestock and poultry are revised (see 4.5.5.3);

- The requirement of coloring agents is modified (see 4.5.4.11d);

- Microbial preparations are added for the prevention and control of livestock and

poultry diseases (see 4.5.6.3);

- "Prohibited substances" is amended to "antibiotics or chemically synthesized veterinary drugs (except for antiparasitics)" (see 4.5.8.5);

- "The use of state-approved rodenticide in a way that is safe for livestock and poultry" is deleted;

- "Aquaculture and fishing areas" and "organic aquaculture farms and open water harvesting areas" are modified to "organic aquaculture area" (see 4.6.2.2, 4.6.3);

- The provision of "or permitted by certification body" in aquatic feed is removed;

- The frequency of drug use for the prevention and treatment of aquatic diseases are added and the requirement for isolation is removed (see 4.6.6.5);

- The in-conversion components are removed from the ingredient;

- The "corresponding national standards" is changed into GB 5749 and GB 2721 (see 5.2.1.4);

- The provision of "The following substances can be used as disinfectants for the processing process: ethanol, calcium hypochlorite, sodium hypochlorite, chlorine dioxide and hydrogen peroxide. Disinfectants shall be approved by the state competent authority. The use of disinfectants with residues of toxic and harmful substances is not allowed" is modified into "the use of steam and, if necessary, the detergents and disinfectants listed in table E.3 are allowed", the detergents and disinfectants allowed for use in processing sites and equipment and facilities are clarified (see 5.2.3.3);

- In the packaging section, the requirements for raw materials and product packaging materials are added (see 5.2.4.2);

- The range of packaging fillers is added, not limited to carbon dioxide and nitrogen (see 5.2.4.4);

- In the storage section, "dry" is deleted; the storage requirements for packaging materials and ingredients of organic products are added (see 5.2.5.4);

- "Remark" is changed into "labeling" (see 5.2.6.3);

- "100%" is deleted; It is further clarified that the slurry is "sizing slurry" (see 5.3.2.9);

- The provision of "'in-conversion product' shall only be used on products which have been certified as in conversion to organic" is deleted. The provision of "Labeling of products shall not mislead consumers to consider conventional products as in-conversion products, or consider in-conversion products as organic products" is revised to "Labeling of products shall not mislead consumers, to consider products of conventional and in-conversion as organic" (see 6.1.3);

- The requirements for the labeling of organic products are consolidated (see 6.1);

- The provision of "The sellers shall request suppliers to provide organic products transaction certificate when they stock organic products" is revised, and the provisions of "less than 95% of the certified organic ingredients may be labeled as Produced with Organic Ingredients" and "the source of organic products shall be proved" are deleted, (see 6.4.2);

- The labeling requirement for the product with ingredients no less than 95% of

in-conversion products is deleted;

- The requirements for product labeling including text and patterns with organic ingredients content of less than 95% or organic ingredients content of no less than 95% but without organic product certification are deleted;

- The requirements for labeling of in-conversion products with ingredient content less than 95%, but no less than 70% are deleted;

- The requirements for labeling of processed products with organic ingredients content less than 70% are deleted;

- The requirements for labeling of products with in-conversion ingredients less than 70% are deleted;

- The requirements for graphics and color of in-conversion product certification mark are deleted;

- The requirements for marking in-conversion products are deleted;

- The provision of "For the products in bulk, products without packaging, and live animal products, the Organic Product Certification Mark of China and copy of the certificate shall be shown in appropriate position at organic sales location." is revised to "For the products in bulk, products without packaging, and live animal products, organic dedicated sales or display counter shall be set up in marketing areas and be separated from counter or area for non-organic products. The copy of the certificate shall be shown in prominent position" (see 6.4.4);

- The requirement for printing the in-conversion product certification mark has been deleted;

- The frequency of internal inspections is added (see 7.4.2);

- Some fertilizers and soil conditioners are adjusted or classified, and the "natural microbial extracts" is changed to "microorganisms and microbial preparations" (see Table A.1);

- Plant protection products such as tea saponins (extracts of tea seeds, etc.), saponins (extracts of saponins, etc.), physical measures (such as color / odor traps, mechanical traps, etc.), mulch (straw, weed, mulch, insect net, etc.) are amended (see Table A.2);

- The condition of copper salts application is modified and the quantitative limit of use is added (see Table A.2);

- Iron sulfate (trivalent iron) is changed to iron phosphate (trivalent iron) (see Table A.2);

- According to the latest "Catalogue of Feed Additives", potassium is added, the varieties of additives such as iron, iodine, cobalt, copper and calcium are adjusted, and some products are combined or classified (see Table B.1);

- "Peracetic acid" is changed to "Peroxyacetic acid" (see Table B.2);

- Iodine varieties and conditions of use are modified (see Table B.2);

- Compared with the latest GB 2760, the substances and use conditions in the list of "Food additives, processing aids and other substances allowed in organic food processing" are sorted out; Sulfur, phospholipids, gellan gum, mogrosides, hydrogen carbonate sodium

are added as food additives, solidified tannin is deleted, and gelatin, citric acid, L-malic acid, sodium bicarbonate and phospholipids are added as processing aids (see Appendix E);

- Detergents and disinfectants allowed in organic food processing are added in Table E.3 (see Appendix E);

- Enzyme preparation is added in Appendix E 5: genetically modified organisms and their products are excluded (see Appendix E);

- The requirements for minerals (including trace elements), vitamins and amino acids used in product processing are integrated into other ingredients in Appendix E (see E.6);

- The list of feed additives is revised, substances are added such as ferric trioxide, potassium (potassium chloride, potassium carbonate, potassium bicarbonate), methionine, etc., deleted calcium iodate hexahydrate, *Bacillus licheniformis*, *Bacillus subtilis* and *Bacillus bifidus*, *Enterococcus faecalis*, *Enterococcus faecium*, *Enterococcus lactis*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus lactis*, *Lactobacillus plantarum*, *Pediococcus lactis*, *Pediococcus pentosaceus*, *Candida saccharomyces*, *Saccharomyces cerevisiae*, *Marsh Pseudomonas rubrum*, *Lactobacillus bulgaricus* (for pigs, chickens and silage only) (see Appendix F);

- Table 1 in textile processing is deleted and the content is listed as Appendix H.

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

This standard is proposed by Certification and Accreditation Administration of China.

This standard is drafted by: Certification Department of State Administration For Market Regulation, Certification and Technology Research Center of State Administration For Market Regulation, Organic Food Development and Certification Center of China (OFDC), Hangzhou WIT Assessment Co., Ltd. (WIT), China Agricultural University, China Organic Food Certification Center (COFCC), Beijing Continental Hengtong Certification Co., Ltd. (CHTC), China National Accreditation Center for Conformity Assessment, Tea Research Institute of Chinese Academy of Agricultural Sciences, Nanjing Agricultural University, Shandong Environmental Monitoring Center, China National Institute of Standardization, Beijing Customs, General Administration of Customs.

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The previous versions of the standards replaced by this standard are as follows:

- GB/T19630.1~GB/T19630.4-2005, GB/T 19630.1~GB/T 19630.4-2011



# Organic product—Requirements for production, processing, labeling and management system

## 1 Scope

This standard specifies the requirements for the production, processing, labeling and management systems of organic products.

This standard applies to the production of organic plants, animals, and microbial products, the processing of organic food, feed, textiles, etc., and the packaging, storage, transportation, labeling, and marketing of organic products.

## 2 Normative References

The following normative documents are indispensable for the application of this document. For dated references, only the dated edition of the publications referred to applies; for undated references, the latest edition of the publications referred to applies.

GB 2721 National Food Safety Standard Edible Salt

GB 2760 National Food Safety Standard Food Additive Use Standard

GB 3095 Ambient Air Quality Standard

GB 4287 Water Pollutant Discharge Standard for Textile Dyeing and Finishing Industry

GB 5084 Farmland Irrigation Water Quality Standards

GB 5749 Sanitary Standard for Drinking Water

GB 11607 Fishery Water Quality Standard

GB 14881 National Food Safety Standard General Hygiene Rules for Food Production

GB 15618 Soil Environmental Quality Agricultural Land Soil Pollution Risk Control Standards

GB 18596 Pollutant Emission Standards for Livestock and Poultry Breeding

GB/T 18885 Technical Requirements for Ecological Textiles

GB 20814 Limits and Determination of Heavy Metal Elements in Dye Products

GB 23350 Limitation of Excessive Packaging Requirements Food and Cosmetics

## 3 Terms and Definitions

Terms and definitions defined by GB 2721, GB 2760, GB 3095, GB 4287, GB 5084, GB 5749, GB 11607, GB 14881, GB 15618, GB 18596, GB/T 18885, GB 20814, GB 23350, and the following apply to this file.

### 3.1 Organic Production

Organic production is a way of agricultural production that respects natural rules and ecological theories and coordinates the balance between plant and animal production to achieve a sustainable and stable agricultural production system in accordance with certain principles of agricultural production. Genetically modified organisms (GMOs) and their products, chemically synthesized substances including fertilizers, pesticides, growth regulators and feedstuff additives etc. are prohibited for use in the organic agricultural

production system.

### **3.2 Organic Processing**

Organic processing is a way of processing that mainly uses organic ingredients, prohibits genetically modified organisms (GMOs) and their products, minimizes the use of chemically synthesized inputs including additives, processing aids, dyes, etc., and keeps the nutritional and / or original attributes of the product to its maximum extent.

### **3.3 Organic Product**

Organic products are organically produced/processed for human consumption/animal consumption.

Note: In this standard, "organic" can be marked before the name of a specific organic product or product category, such as organic seeds, organic sprouts and organic ingredients.

### **3.4 Conversion Period**

The period between the beginning of compliance management using this Standard and the point of time when the production units and corresponding products have been certified as organic.

### **3.5 Parallel Production**

In the same production unit, the same products or products that are hard to distinguish from each other, are produced in organic, organic in conversion or conventional status at the same time.

### **3.6 Buffer Zone**

A clearly defined and identifiable boundary area bordering an organic production unit that is established to limit or prevent drift of prohibited substances from an adjacent area.

### **3.7 Input**

All substances or materials used in the process of organic production.

### **3.8 Animal Life Cycle**

The period between the date of animal birth and its marketing as organic product.

### **3.9 Homeopathic Treatment**

A disease treatment system.

Note: Treatment of disease based on administration of remedies prepared through successive dilutions of a substance that in larger amounts produces symptoms in healthy subjects similar to those of the disease itself.

### **3.10 Propagating Material**

Plants or plant tissues other than seedlings of annual plants used in plant production or reproduction.

Note: Including but not limited to roots and stems, buds, leaves, cuttings, roots and tubers.

### **3.11 Genetic Engineered organism /Genetically Modified organism**

A plant, animal or microbe that is transformed by technology (genetic engineering / genetic modification) that alters genetic material by means other than naturally occurring

mating and/or natural recombination.

Note: organisms obtained by techniques such as conjugation, transduction and hybridization are not included.

### **3.12 Irradiation/Ionizing Radiation**

High-energy emissions from radio-nucleotides.

Note: It can change the molecular structure of food, control microorganisms, pathogens, parasites and pests in food, and is used to preserve food or inhibit physiological processes such as germination or maturation.

### **3.13 Ingredients**

Any substance used in the manufacture or processing of a product and present (including in a modified form) in the product.

### **3.14 Food Additives**

An artificially synthetic or natural substance to be added to foods in order to improve food quality, color, fragrance and taste, and for the purpose of preservation and processing technology.

[GB 2760-2014, definition 2.1]

### **3.15 Processing Aids**

The various kinds of substances to enable food processing to go smoothly, unrelated to food itself.

Note: Such as filtration aids, clarifiers, absorbents, mold release agents, decoloring agents, peeling agents, extraction solvents, and nutritional substances for fermentation, etc.

[GB 2760-2014, definition 2.4]

### **3.16 Labeling**

The marking of products in the form of written or printed words or graphics on the products sold and the packaging, labels or explanatory materials provided with the products.

### **3.17 Certification Mark**

A proprietary symbol, pattern or combination of symbols, patterns and text that identifies the production or processing of a product, which complies with this Standard and is certified.

### **3.18 Marketing**

Includes wholesale, direct sales, sales promotion, consignment, distribution, retail, or any other way to put products on the market.

### **3.19 Organic Producer**

Units or individuals engaged in the production of plant, animal, and microbial products whose products have obtained organic product certification and are allowed to use the organic product certification mark.

### **3.20 Organic Processor**

Units or individuals engaged in the processing of food, feed and textiles whose products

have been certified for organic products and are allowed to use the organic product certification mark.

### **3.21 Organic Handler**

Units and individuals engaged in the transportation, storage, packaging, and trading of organic products that have obtained organic product certification and are allowed to use the organic product certification mark.

### **3.22 Internal Inspector**

The internal management personnel of an organic production, processing, or handling organization that is responsible for internal audit of organic management system, and coordination with inspections and certifications by a certification body (CB).

### **3.23 Production Unit**

The production area managed by an organic producer.

## **4 Production**

### **4.1 Basic requirements**

#### **4.1.1 Production unit**

The boundaries, ownership and management rights of an organic production unit shall be clear, and an organic production management system has been established and implemented in accordance with the requirements of this Standard.

#### **4.1.2 Conversion Period**

The time needed to develop an organic production system from a conventional production system, and only after the conversion period can the products be sold as organic products.

During the conversion period, management shall be performed in accordance with the requirements of this Standard.

#### **4.1.3 Genetically modified organisms**

4.1.3.1 Genetically engineered organisms / GMOs and their derivatives shall not be introduced or used in organic production, including plants, animals, microorganisms, seeds, pollen, sperm, eggs, other propagation materials, and fertilizers, soil conditioners, plant protection products, plant growth regulators, feeds, animal growth regulators, veterinary medicine, fishery medicine and other agricultural inputs.

4.1.3.2 Production units with both organic and conventional production, shall not adopt genetically engineered organisms in the conventional production.

#### **4.1.4 Irradiation, Ionizing Radiation**

Irradiation techniques shall not be applied in organic production.

#### **4.1.5 Input**

4.1.5.1 Producers shall select and implement cultivation and/or husbandry management measures to maintain or improve the physical, chemical and biological properties of the soil, reduce soil erosion, and protect the health of plants and breeding animals.

4.1.5.2 Where cultivation and/or husbandry management measures cannot maintain soil fertility and guarantee the health of plants and breeding animals, external inputs listed in Appendix A and Appendix B may be used according to the given conditions.

When the inputs listed in the Appendix A and Appendix B cannot meet the needs, other materials not listed in Appendix A and Appendix B may be evaluated for application in organic agriculture in accordance with the evaluation guidelines in Appendix C.

4.1.5.3 Only the substances listed in Table A.2 shall be used as active ingredients for compound preparation for plant protection. Substances that are carcinogenic, teratogenic, mutagenic, and neurotoxic shall not be used.

4.1.5.4 Synthetic chemical plant protection products shall not be used.

4.1.5.5 Synthetic chemical fertilizers and municipal sewage sludge shall not be used.

4.1.5.6 Prohibited substances in organic production shall not be detected in certified products.

## **4.2 Plant Production**

### **4.2.1 Conversion Period**

4.2.1.1 A conversion period of a minimum of 24 months is required before sowing for annual plants. The conversion period shall be a minimum of 24 months before harvest for grassland or perennial forage, and a minimum of 36 months before harvest for perennial plants other than forage.

4.2.1.2 The conversion period shall be a minimum of 12 months for newly reclaimed fields, fallow fields and/or fields with adequate evidence that no prohibited substances have been applied for more than 36 months.

4.2.1.3 The conversion period for fields contaminated with prohibited substances can be extended.

4.2.1.4 For fields that have been converted or are in the conversion period, if prohibited substances are used, the conversion period shall be restarted. Where the treatment is as part of a compulsory disease or pest control measure imposed by the competent authority of the local government, the conversion period specified in 4.2.1.1 may be shortened, but consideration shall be given to the degradation of prohibited substances in the applied products and to ensure that residues in the soil or perennial crops reach insignificant levels, and the harvested products shall not be sold as organic products before the end of conversion.

4.2.1.5 Sprout production can be exempted from the conversion period.

### **4.2.2 Parallel Production**

4.2.2.1 In the same production unit, organic and non-organic plants that are easily distinguished can be produced at the same time, but organic and non-organic components (including land, production facilities and tools) shall be completely separated, and appropriate measures shall be taken to prevent the contamination of organic products with non-organic products and prohibited

substances.

4.2.2.2 No parallel production for annual plants shall occur in the same production unit.

4.2.2.3 In the same production unit, no parallel production of perennial plants shall occur unless the following conditions are met:

a) Producers shall set up an organic conversion plan and promise to convert non-organic fields into organic in the same unit within the shortest period, no more than 5 years;

b) Appropriate measures need to be taken to ensure that products harvested from organic and non-organic production areas can be strictly separated.

#### **4.2.3 Environmental Requirements for the Production Area**

The production of organic products shall be carried out under appropriate environmental conditions. The production unit shall be far away from urban areas, industrial and mining areas, transportation trunk lines, industrial pollution sources, domestic garbage dumps, etc., and the environment of the production area shall be continuously improved.

The environmental quality of the production area shall meet the following requirements:

a) Select appropriate soil based on risk assessment, which shall comply with the requirements of GB 15618;

b) The water quality of farmland irrigation water meets the requirements of GB 5084;

c) The ambient air quality meets the requirements of GB 3095.

#### **4.2.4 Buffer Zone**

The risk of contamination of organic production areas from neighboring production areas shall be analyzed. Where there is a risk, an effective buffer zone or physical barrier shall be set up between the organic production areas and conventional production areas to prevent organic production fields from being contaminated.

Note: Plants grown in the buffer zone cannot be certified as organic products.

#### **4.2.5 Seed and Propagating Material**

4.2.5.1 Plant species and varieties adapted to local soil and climate conditions, and with resistance to pests and diseases, shall be selected. When plant varieties are selected, full consideration shall be given to protect the plant's genetic diversity.

4.2.5.2 Organic seeds or propagating materials shall be used. If organic seeds or propagating materials are not commercially available, conventional seeds or propagating materials which have not been treated with prohibited materials shall be selected, but a plan for obtaining organic seeds and propagating materials shall be developed and implemented.

4.2.5.3 Organic production methods shall be used to cultivate the annual seedlings.

4.2.5.4 Seeds and propagating materials treated with prohibited materials or methods shall not be used.

#### **4.2.6 Cultivation**

4.2.6.1 At least three-crop rotations shall be carried out for annual plants; two-crop rotation

can be carried out in areas with multi-growth seasons of rice in a year; no crop rotation can be carried out in areas that are fallow in winter. The plants used for rotation shall include but not be limited to legumes, green manure and cover plants.

4.2.6.2 Plant intercropping and other cultivation ways shall be adopted to increase biodiversity and improve soil fertility and plant disease resistance.

4.2.6.3 Appropriate irrigation methods (such as drip irrigation, sprinkler irrigation, subsurface irrigation, etc.) shall be developed in accordance with local conditions.

#### **4.2.7 Soil Fertility Management**

4.2.7.1 Appropriate farming and cultivation measures shall be applied to maintain and improve soil fertility, including:

a) Practices of recycling, regeneration and replenishing of soil organic matter and nutrients shall be used to compensate for the organic matter and nutrients that are removed by harvesting;

b) Legume cultivation, no tillage, leaving land fallow etc. shall be adopted to restore soil fertility.

4.2.7.2 When the measures described in 4.2.7.1 cannot meet the demand for plant growth, organic manure may be used in order to maintain and improve soil fertility, nutrient balance and activities of soil organisms. Excessive application of organic manure shall be avoided due to potential environmental pollution. Organic fertilizer from the unit or other organic units shall be used in priority. If the fertilizer is bought from an external unit, it shall be evaluated and approved by CBs before usage.

4.2.7.3 Application of human excrement on leafy vegetables, tuber crops and root crops is prohibited. If absolutely necessary for other plants, human excrement shall be fully composted and harmlessly treated, and shall not be in contact with the edible portions of plants.

4.2.7.4 Natural mineral fertilizers with low solubility may be used, but shall not be used as substitutes for nutrients cycling in organic production system. Mineral fertilizers shall only be used as long-term fertilizers with their natural components unchanged. Increase of the solubility of mineral fertilizers by chemical treatment is prohibited. Mineral nitrogen fertilizer is not allowed.

4.2.7.5 Bio-fertilizer may be used; microorganisms from nature may be added during composting. Genetically modified organisms and their products shall not be used.

4.2.7.6 Fertilizers and soil conditioners allowed for organic plant production are listed in Table A.1.

#### **4.2.8 Disease, Pest and Weed Control**

4.2.8.1 Disease, pest and weed control shall be based on the basic principles of holistic approaches to the agro-ecosystem, where control measures are integrated and taken to create environmental conditions that prevent the propagation of diseases, pests and weeds,

but are favorable to the multiplication of natural enemies, with the aim of maintaining the balance and biodiversity of the agro-ecosystem, and mitigating the losses from various disease, pests and weeds. Farming measures shall be applied in priority to prevent and control diseases, pests and weeds, including selection of appropriate species and varieties, non-chemical seed treatment, cultivation of strong seedlings, strengthening cultivation management, weeding, deep plowing and sunning, fields cleaning, crop rotation, and intercropping. In addition, measures such as using lights, color traps, mechanical traps and mechanical or artificial weeding shall be adopted to control diseases, pests and weeds.

4.2.8.2 If the methods mentioned under 4.2.8.1 are ineffective, products listed in Table A.2 may be used.

#### **4.2.9 Facility Cultivation**

4.2.9.1 Soil or substrate shall be used for plant production and shall not be produced by nutrient solution cultivation. Construction materials and cultivation containers treated with prohibited substances shall not be used in facility agriculture. The conversion period shall meet the requirements of 4.2.1.

4.2.9.2 When the soil fertility and improvement materials are applied, they shall meet the requirements of Table A.1 and shall not contain prohibited substances. Animal manure shall be composted when used as a source of nutrients.

4.2.9.3 The following measures and methods may be adopted:

- a) Use of flame, fermentation, composting and compressed gas to increase carbon dioxide concentration;
- b) Use of auxiliary gas or water to fuel auxiliary heat sources;
- c) Use of auxiliary light sources;
- d) Regulation of the growth and development by controlling temperature and light or using natural plant growth regulators.

4.2.9.4 Measures for soil regeneration and recycling shall be adopted. In the production process, the following methods can be used instead of crop rotation:

- a) Graft cultivation with disease-resistant plants;
- b) Summer and winter ploughing and sunbathing;
- c) Regenerating soil by applying biodegradable plant cover (such as crop straw and hay);
- d) Replacing some or all of the greenhouse soil, but the replaced soil shall be reused for other plant production activities.

4.2.9.5 Recyclable or recycled cultivation containers shall be used. When cleaning and disinfecting cultivation containers, steam or the detergents and disinfectants listed in Table A.3 of Appendix A shall be used.

#### **4.2.10 Sprout Production**

4.2.10.1 Organic seeds shall be used to produce sprouts.

4.2.10.2 The water quality of production water shall comply with GB 5749.

4.2.10.3 Preventive measures shall be taken to prevent pests and diseases. Steam may be used. If necessary, the detergents and disinfectants listed in Table A.3 shall be used to clean and disinfect the cultivation containers and production sites.

#### **4.2.11 Sorting, Cleaning, and Other Post-harvest Handling**

4.2.11.1 The simple processing processes such as cleaning, sorting, threshing, husking, cutting, fresh-keeping, and drying of plants present after harvesting shall adopt physical and biological methods. If necessary, the substances listed in Appendix E for processing shall be applied.

4.2.11.2 Equipment used to process conventional products shall be cleaned before handling organic products. For the treatment equipment that is not easy to clean, measures can be taken to purge.

4.2.11.3 Equipment and appliances shall be kept clean to avoid contamination of the product.

4.2.11.4 When cleaning and disinfecting equipment and facilities, the detergents and disinfectants listed in Table A.3 shall be used in accordance with the requirements and the contamination of the product shall be avoided.

4.2.11.5 The pest control during post-harvest handling shall comply with the provisions of 5.2.3.

#### **4.2.12 Contamination Control**

4.2.12.1 Measures shall be taken to prevent the water from conventional farmland from penetrating or flooding into organic fields.

4.2.12.2 The contamination of organic products by prohibited substances caused by the application of fertilizers from external sources shall be avoided.

4.2.12.3 Cleaning measures shall be taken to clean the equipment, which has been used in the conventional agricultural system before it is used in organic production, in order to avoid the contamination from conventional products and/or prohibited substances.

4.2.12.4 Polyethylene, polypropylene or polycarbonate products shall be selected when protective building coverings, plastic films, insect nets are used, and shall be removed from the soil after use and shall not be incinerated. Polychlorinated products shall not be used.

#### **4.2.13 Soil and Water Erosion Control and Biodiversity Protection**

4.2.13.1 Measures shall be taken to prevent soil erosion, soil desertification and salinization. Full consideration shall be given to the sustainable use of soil and water resources.

4.2.13.2 Measures shall be taken to protect natural enemies and their habitats.

4.2.13.3 Crop stalks shall be fully utilized and shall not be incinerated unless required for pest control.

#### **4.3 Wild Collection**

4.3.1 Wild collection areas shall have clear boundaries and be in a stable and sustainable production status.

4.3.2 Wild collection areas shall be far away from pollution sources such as polluters, mining

areas, wastes disposal sites, conventional farmland, and highway trunk lines. The wild collection area shall not have been contaminated with substances and heavy metals other than the inputs allowed in this Standard within 36 months prior to collection.

4.3.3 An effective buffer zone shall be maintained in the wild collection area.

4.3.4 Collection activities shall not adversely affect the environment or threaten biological species, and the collection volume shall not exceed the sustainable production of the ecosystem.

4.3.5 Management plans for sustainable production in wild collection areas shall be formulated and submitted.

4.3.6 The handling of product following wild collection shall meet the requirements of 4.2.11.

4.3.7 Wild collection is exempt from the conversion period.

#### **4.4 Edible Fungi Cultivation**

4.4.1 There shall be no parallel production within the same production unit.

4.4.2 Edible fungus cultivation area adjacent to conventional farmland shall be provided with a buffer zone or physical barrier to avoid the effects of prohibited substances. The quality of the water source shall meet the requirements of GB 5749.

4.4.3 Organic strains shall be used. If strains of organic origin are not available, conventional strains that have not been treated with prohibited substances can be used.

4.4.4 Natural materials or organically produced substrates shall be used, and the following auxiliary materials may be added:

a) Farm manure and animal manure from organic production units; when farm manure and animal manure from organic production units are not available, soil fertilization and improvement materials shall be used according to the requirements of Table A.1, but shall not exceed the 25% of the total dry weight of the substrate, and shall not contain human feces or livestock and poultry manure from intensive farms;

b) Products of agricultural origin shall be organically produced products other than those referred to in 4.4.4 a);

c) Peat without chemical treatment;

d) Wood that has not been treated with chemical products after felling;

e) Mineral-derived substances listed in Table A.1.

4.4.5 Edible fungus cultivation (except soil cultivation and soil cover cultivation) can be exempted from the conversion period. The conversion period of edible fungi grown in soil culture or soil cover shall be in accordance with the requirements of 4.2.1 during the conversion period of the same annual plant.

4.4.6 The coatings used for wood and inoculation sites shall be food-grade products, and petroleum-refined coatings, emulsion paint latex and paints shall not be used.

4.4.7 Preventive management measures shall be adopted to maintain cleanliness and sanitation; appropriate air exchange shall be carried out, and infected bacteria shall be

removed.

4.4.8 During the non-cultivation period, steam can be used to clean and disinfect the cultivation site. Cleaners and disinfectants shall be used in accordance with the requirements of Table A.3.

4.4.9 The post-harvest treatment of edible fungi shall meet the requirements of 4.2.11.

## **4.5 Livestock and Poultry Production**

### **4.5.1 Conversion Period**

4.5.1.1 The conversion period of the feed production base shall meet the requirements of 4.2.1; if the pasture and grassland are for non-herbivore use only, the conversion period may be shortened to 12 months. If there is sufficient evidence to prove that prohibited substances have not been used for more than 12 months, the conversion period can be shortened to 6 months.

4.5.1.2 Livestock and poultry shall go through the following conversion periods:

- a) Beef cattle, equine and camel, 12 months;
- b) Sheep and pigs for meat, 6 months;
- c) Dairy animals, 6 months;
- d) Poultry for meat, 10 weeks;
- e) Poultry for eggs, 6 weeks;
- f) The conversion period of other species is longer than 3/4 of its breeding period.

### **4.5.2 Parallel Production**

If a breeding farm raises the same species or indistinguishable livestock and poultry species organically and conventionally, the following conditions must be met before the organic livestock and poultry or their products can be sold as organic products:

- a) Organic stalls, playground and pastures are completely separated from organic livestock and conventional livestock, or organic livestock and conventional livestock are easily distinguished breeds;
- b) The warehouse or area where feed is stored shall be separated and clearly marked;
- c) Organic livestock and poultry shall not be exposed to conventional feed.

### **4.5.3 Origin of Livestock and Poultry**

4.5.3.1 Organic livestock and poultry shall be introduced. When organic livestock and poultry are not available, conventional livestock and poultry can be introduced, but the following conditions shall be met:

- a) Beef cattle, equines, camels, not more than 6 months old and weaned;
- b) Pigs and sheep, not more than 6 weeks old and weaned;
- c) Dairy cows, not exceeding 4 weeks of age, calves that have been colostrum-fed and are fed mainly with whole milk;
- d) Broiler chickens, no more than 2 days old (other birds can be relaxed to 2 weeks of age);

e) Chickens for eggs, not exceeding 18 weeks of age.

4.5.3.2 Conventional breeding females can be introduced. The number of cattle, horses, and camels introduced to the production program each year shall not exceed 10% of the total number of adult organic females of the same type. Pigs and sheep being brought in shall not be more than 20% of the total number of adult organic females of the same type. In the following cases, the ratio can be relaxed to 40% with the approval of CBs:

- a) Unforeseen serious natural disasters or man-made accidents;
- b) The scale of the farm has been greatly expanded;
- c) Farms develop new breeds of livestock and poultry.

All introduced conventional livestock and poultry shall go through the corresponding conversion period.

4.5.3.3 Conventional breeding males can be introduced, however they shall be reared according to organic production methods immediately after introduction.

#### **4.5.4 Feed**

4.5.4.1 Livestock and poultry shall be raised with organic feed. At least 50% of the feed shall come from the feed cultivation base of the farm or an organic production unit with cooperative relationship in the region. Feed production, harvest and post-harvest handling, packaging, storage and transportation shall meet the requirements of 4.2 and 4.8.

4.5.4.2 During the first 12 months of the organic management of the farm, the feed produced by the feed planting base of this farm, in accordance with the requirements of this Standard, can be used as organic feed for the livestock and poultry of this farm, but shall not be sold as organic feed. Effective buffer zones or physical barriers shall be set up between feed production bases, pastures, meadow and surrounding conventional production areas to avoid contamination.

4.5.4.3 When organic feed is in short supply, conventional feed can be used. However, the proportion of conventional feed consumption of each animal's overall annual consumption shall not exceed the following percentages:

- a) Herbivores (as dry matter), 10%;
- b) Non-herbivores (as dry matter), 15%.

The proportion of conventional feed in livestock and poultry diets must not exceed 25% of the total (based on dry matter).

In the event of unforeseen serious natural disasters or man-made accidents, more than the above proportion of conventional feed can be fed within a certain timeframe.

Conventional feed shall be approved by CBs in advance.

4.5.4.4 It shall be ensured that herbivores can obtain roughage daily to meet their basic nutritional needs. In their diet, the proportion of roughage, fresh grass, green hay or silage must not be less than 60% (on a dry matter basis). For dairy animals, during the first 3 months of the lactation period, this ratio can be reduced to 50% (on a dry matter basis).

Diets for omnivores and poultry shall be supplemented with roughage, fresh grass or green hay, or silage.

4.5.4.5 Young animals in the colostrum period shall be raised by females and shall have sufficient colostrum. The same kind of organic milk can be used to feed lactating young animals. Where organic milk is not available, regular milk of the same kind can be used.

Young animals shall not be weaned early, or shall not be fed with milk substitutes. Milk substitutes can be used for supplementary feeding in emergency situations, but they shall not contain antibiotics, chemically synthesized additives (other than those allowed in Table B.1 of Appendix B) or animal slaughter products. Lactation period needs at least:

- a) 3 months for cattle, equine and camel;
- b) 45 days for goats and sheep,;
- c) 40 days for pig.

4.5.4.6 In the production of feed, feed ingredients and feed additives, genetically engineered organisms / GMOs or their products shall not be used.

4.5.4.7 The following methods and substances shall not be used:

- a) Feeding ruminants with animals and their by-products, or feeding the same animals and their by-products to livestock and poultry;
- b) Animal feces;
- c) Feeds extracted with chemical solvents or chemically synthesized substances, but feeds extracted with water, ethanol, animal and vegetable oils, vinegar, carbon dioxide, nitrogen or carboxylic acid are allowed.

4.5.4.8 The feed additives shall be listed in the feed additive variety catalog issued by the competent agriculture department, and shall also comply with the relevant requirements of this Standard.

4.5.4.9 When the feed cannot meet the nutritional requirements of livestock and poultry, the minerals and trace elements listed in Table B.1 shall be used.

4.5.4.10 The added vitamins shall be from germinated grain, cod liver oil, brewing yeast or other natural substances; when the nutritional requirements of livestock and poultry cannot be met, the artificially synthesized vitamins listed in Table B.1 shall be used.

4.5.4.11 The following substances shall not be used (except those permitted in Table B.1):

- a) Chemically synthesized growth promoters (including antibiotics, antiparasitic drugs and hormones used to promote growth);
- b) Chemically synthesized flavoring agents and spices;
- c) Preservatives (except when used as a processing aid);
- d) Chemically synthesized or extracted coloring agents;
- e) Non-protein nitrogen (such as urea);
- f) Chemical purified amino acids;
- g) Antioxidants;

h) Adhesives.

#### **4.5.5 Husbandry Conditions**

4.5.5.1 The breeding environment (pens, fences, etc.) of livestock and poultry shall meet the following conditions to satisfy the physiological and behavioral needs of livestock and poultry:

a) Livestock houses and activity spaces shall meet the requirements of Table D.1, and poultry houses and activity spaces shall meet the requirements of Table D.2;

b) Livestock and poultry playgrounds can be partially sheltered, with air circulation and sufficient natural light, but excessive sun exposure shall be avoided;

c) Waterfowl shall be able to move in water bodies such as streams, ponds, lakes or ponds;

d) Adequate drinking water and feed, and the quality of drinking water for livestock and poultry shall meet the requirements of GB 5749;

e) Proper temperature and humidity shall be maintained to avoid being hit by wind, rain, snow, etc.;

f) If the litter is likely to be eaten by farmed animals, the litter shall meet the requirements of 4.5.4 for feed;

g) Ensure adequate sleep time;

h) Do not use construction materials and equipment that are obviously harmful to human or livestock health;

i) Protect livestock and poultry from beasts.

4.5.5.2 Artificial lighting can be used to extend the lighting time to raise poultry for eggs, but the total lighting time per day shall not exceed 16 h. Producers can appropriately increase the light time according to the health status of the poultry for eggs or the growing season (such as the heating of newborn birds).

4.5.5.3 All livestock and poultry shall be allowed to exercise outdoors in the appropriate seasons.

If the special structure of livestock and poultry houses leads to livestock and poultry temporarily unable to exercise outdoors, it shall be improved within a certain period.

4.5.5.4 House feeding can be adopted for the last fattening period of beef cattle, but shall not exceed 1/5 of its life cycle, with a maximum of 3 months.

4.5.5.5 Cultivation methods limiting the natural behavior of livestock and poultry, such as cage and complete captivity, house feeding, and tethering, which prevent the livestock and poultry from contacting the land, shall not be adopted.

4.5.5.6 Group livestock and poultry shall not be raised in separate pens, with the exception of diseased livestock and poultry, adult male livestock and livestock during the second trimester.

4.5.5.7 No feeding shall be forced.

#### **4.5.6 Disease Prevention and Veterinary Treatment**

4.5.6.1 Disease prevention shall be carried out according to the following principles:

- a) Select adaptable and resistant varieties according to regional characteristics;
- b) Provide high-quality feed, proper nutrition, and appropriate sports management methods to enhance non-specific immunity of livestock and poultry;
- c) Strengthen facilities and environmental sanitation management, and maintain appropriate livestock and poultry feeding density.

4.5.6.2 The disinfectant used shall meet the requirements of Table B.2. During disinfection, livestock and poultry shall be removed from the treatment area. Livestock and poultry manure shall be cleaned regularly.

4.5.6.3 Plant-derived preparations, trace elements, microbial preparations, and traditional Chinese veterinary, acupuncture, and homeopathy treatments can be used to prevent/cure diseases of livestock/poultry.

4.5.6.4 Vaccinations can be used. The genetically engineered vaccines shall not be used (except for national compulsory immunization vaccines). Emergency vaccination (including vaccination to promote the production of maternal body antibody substances) can be used when the farm is at risk of developing a disease that cannot be controlled by other methods.

4.5.6.5 Antibiotics or chemically synthesized veterinary drugs shall not be used for preventive treatment of livestock and poultry.

4.5.6.6 When multiple preventive measures are still not available to control the disease or pain of livestock and poultry, conventional veterinary drugs can be used for diseased livestock and poultry under the guidance of a veterinarian, but the drug's withdrawal period shall be doubled (however if 2x the withdrawal period is less than 48 hours, it shall be increased to 48 hours) before these animals and their products can be sold as organic products.

4.5.6.7 Antibiotics, chemically synthesized antiparasitic drugs or other growth promoters shall not be used to stimulate the growth of livestock and poultry. Hormones shall not be used to control the reproductive behavior of livestock and poultry (such as inducing estrus, simultaneous estrus, superovulation, etc.), but hormones can be used to treat individual animals under veterinary supervision.

4.5.6.8 In addition to legal vaccination and parasite elimination, livestock and poultry with a breeding period of less than 12 months can only be treated with one course of antibiotics or chemically synthesized veterinary drugs; if the breeding period exceeds 12 months, the maximum is that every 12 months the animal can receive three courses of antibiotics or chemically synthesized veterinary drugs. If it exceeds the acceptable course of treatment, it shall be converted again.

4.5.6.9 For livestock and poultry treated with antibiotics or chemically synthesized veterinary drugs, large animals shall be marked one by one, while poultry and small animals can be marked in groups.

#### **4.5.7 Non-Therapeutic Operations**

4.5.7.1 Organic farming emphasizes respect for the individual characteristics of animals. Try to breed species that do not require non-therapeutic surgery. On the premise of minimizing the suffering of livestock and poultry, the following non-therapeutic operations can be performed on livestock and poultry, and anesthetics can be used if necessary:

- a) Physical castration;
- b) Dehorning;
- c) Canine teeth passivation of piglets within 24 hours after birth;
- d) Tail docking of lambs;
- e) Feathers, cutting;
- f) Ringing.

4.5.7.2 The following non-therapeutic operations shall not be performed:

- a) Broken tail (except lamb);
- b) Broken beak and broken toe;
- c) Burning wings;
- d) Broken teeth of piglets;
- e) Other non-therapeutic operations that are not explicitly permitted.

#### **4.5.8 Reproduction**

4.5.8.1 Natural breeding methods shall be adopted.

4.5.8.2 Various breeding methods that do not have a serious impact on the genetic diversity of livestock and poultry, such as artificial insemination, can be used.

4.5.8.3 Artificial or assisted reproduction techniques that have a serious impact on the genetic diversity of livestock and poultry, such as embryo transfer and cloning, shall not be used.

4.5.8.4 Reproductive hormones shall not be used to promote ovulation and childbirth of livestock and poultry, except for therapeutic purposes.

4.5.8.5 If the female animal is treated with antibiotics or chemically synthesized veterinary drugs (except for antiparasitics) within the last third of the gestation period, the offspring shall undergo the corresponding conversion period.

#### **4.5.9 Transportation and slaughter**

4.5.9.1 Livestock and poultry shall be clearly marked during loading, unloading, transportation, waiting to be slaughtered, and slaughter; other livestock and poultry products shall also be clearly marked during loading, unloading, transporting, and entering or leaving the warehouse.

4.5.9.2 During the period of loading, unloading, transportation and slaughtering of livestock and poultry, a special person shall be responsible for management.

4.5.9.3 Appropriate transportation conditions shall be provided, such as:

- a) Avoid contact of livestock and poultry with animals that are being slaughtered or are

already dead through sight, hearing and smell;

b) Avoid mixing livestock and poultry from different groups. Organic livestock and poultry products shall avoid mixing with conventional products and be clearly marked;

c) Provide rest periods to relieve stress;

d) To ensure the quality and suitability of transportation methods and operating equipment, the transportation means shall be clean and suitable for the livestock and poultry being transported, and there shall be no sharp parts to avoid harming the livestock and poultry;

e) Avoid hunger and thirst for livestock and poultry during transportation. If necessary, feed and water for livestock and poultry shall be provided;

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

g) Provide appropriate temperature and relative humidity;

h) Keep minimal stress on livestock and poultry during loading and unloading.

4.5.9.4 The operation of transporting and slaughtering animals shall be peaceful and consistent with animal welfare principles. Animals shall not be driven by electric baton and similar equipment. Chemically synthesized sedatives shall not be used on animals before and during transport.

4.5.9.5 Slaughter shall be carried out in a qualified slaughterhouse, and good hygienic conditions shall be ensured.

4.5.9.6 Livestock and poultry shall be slaughtered nearby. Unless the distance from the farm to the slaughterhouse is too long, generally the time for transporting livestock and poultry shall not exceed 8 hours.

4.5.9.7 Bundling, hanging and slaughtering of livestock and poultry shall not be carried out before they become unconscious, except for small birds and other small animals. Tools used to desensitize livestock and poultry before slaughter shall be in good working order at all times. If, for religious or cultural reasons, livestock and poultry are not allowed to be unconscious before slaughter, direct slaughter shall be carried out in a peaceful environment and in the shortest possible time.

4.5.9.8 Organic livestock and poultry and conventional livestock and poultry shall be slaughtered separately, and the products after slaughter shall be stored separately and clearly marked. Pigments used for carcass marking shall comply with national food hygiene regulations.

#### **4.5.10 Pest Management in Animal Production Facilities**

The following methods shall be adopted for pest control in order of priority:

a) Preventive measures;

b) Mechanical, physical and biological control methods;

c) The substances in Table A.2. can be used on livestock and poultry farms.

#### **4.5.11 Environmental Impacts**

4.5.11.1 Full consideration shall be given to feed production capacity, livestock and poultry health and environmental impact, and to ensure that the number of livestock and poultry raised does not exceed the maximum carrying capacity of its breeding range. Measures shall be taken to avoid excessive grazing which adversely affects the environment.

4.5.11.2 It shall be ensured that the storage facilities for livestock and poultry manure have sufficient capacity, and that the manure has timely treatment and reasonable utilization. All manure storage and treatment facilities shall be designed to avoid contamination of underground and surface water during the design, construction and operation. The discharge of pollutants from the farm shall meet the requirements of GB 18596.

## **4.6 Aquaculture**

### **4.6.1 Conversion Period**

4.6.1.1 The conversion period from non-open water aquaculture farms to conventional production shall be at least 12 months.

4.6.1.2 Parts of the production unit located in the same non-open water area shall not be certified separately. Only when the entire water body fully complies with this Standard can it be certified.

4.6.1.3 If a production unit cannot perform simultaneous conversion of aquaculture water bodies under its jurisdiction, a strict parallel production management system shall be established. The management system shall meet the following requirements:

- a) Physical isolation measures shall be taken between organic and conventional breeding units; for fixed aquatic organisms growing in open waters, the organic production area shall be kept at a certain distance from conventional production areas, conventional agricultural or industrial pollution sources;
- b) The elements of the organic production system shall be able to be checked, including but not limited to inputs such as water quality, feed, medicines, and other standards-related elements;
- c) Documents and records of conventional production systems and organic production systems shall be established separately;
- d) Organic conversion farms shall be continuously managed organically and shall not change between organic and conventional management.

4.6.1.4 Wild fixed organisms in open water capture areas can be directly certified as organic aquatic products in the following cases:

- a) The water body is not affected by the prohibited substances in this Standard;
- b) The aquatic ecosystem is in a stable and sustainable state.

4.6.1.5 Conventional cultured aquatic organisms may be introduced, but the corresponding conversion period must be passed. The introduction of non-native biological species shall avoid permanent damage to local ecosystems by alien species. GMOs shall not be introduced.

4.6.1.6 All introduced aquatic organisms shall be cultured by organic production methods at

least in the last 2/3 of their life cycle.

#### **4.6.2 Selection of Aquaculture Sites**

4.6.2.1 When selecting the site of a breeding farm, consideration shall be given to maintaining the ecological environment of the breeding waters and the surrounding aquatic and terrestrial ecosystems, and helping to maintain the biological diversity of the waters in which they are located. Organic production farms shall not be adversely affected by pollution sources and conventional aquaculture farms.

4.6.2.2 The boundary of the organic aquaculture area shall be clear so as to check the water quality, feed, medicine and other factors.

#### **4.6.3 Water Quality**

The water quality of organic aquaculture areas shall meet the requirements of GB 11607.

#### **4.6.4 Basic Requirements for Aquaculture**

4.6.4.1 Breeding methods suitable for the physiological habits and local conditions of the breeding objects shall be adopted to ensure the health of the breeding objects and to meet their basic living needs. Permanent aeration shall not be used.

4.6.4.2 Effective measures shall be taken to prevent organisms from other breeding systems from entering the organic production system and acting as predators on the organic organisms.

4.6.4.3 No artificial injury measures shall be taken against the breeding objects.

4.6.4.4 The lighting time can be prolonged artificially, but the daily lighting time shall not exceed 16 hours.

4.6.4.5 In building materials and production equipment for aquaculture, coatings and synthetic chemicals shall not be used so as to avoid harmful effects on the environment or organisms.

#### **4.6.5 Feeding materials**

4.6.5.1 The feed shall be organic or wild. When the quantity or quality of organic or wild feed cannot meet the demand, conventional feed can be fed up to 5% (based on dry matter) of the total feed. In the case of unforeseen circumstances, after obtaining the evaluation and approval of CBs, it is possible to feed up to 20% (dry matter) of conventional feed in the year.

4.6.5.2 At least 50% of the animal protein in the feed shall be derived from by-products of food processing or other products not suitable for human consumption. In the event of unforeseen circumstances, the percentage can be reduced to 30% during the year.

4.6.5.3 Natural mineral additives, vitamins and trace elements may be used; when aquatic animals have inadequate nutrition and synthetic minerals, trace elements and vitamins are needed, they shall be used in accordance with the requirements of Table B.1.

4.6.5.4 Human feces shall not be used. Animal manure shall not be used without treatment.

4.6.5.5 The following substances shall not be added to the feed or fed in any way to aquatic organisms:

- a) Synthetic growth promoters;
- b) Synthetic attractants;
- c) Synthetic antioxidants and preservatives;
- d) Synthetic pigments;
- e) Non-protein nitrogen (urea, etc.);
- f) Organisms and their products in the same family as the breeding target;
- g) Feed extracted by chemical solvents;
- h) Chemical purified amino acids;
- i) GMOs or their products.

Under special weather conditions, synthetic feed preservatives can be used, but the approval of CBs shall be obtained in advance, and CBs shall specify the use period and amount according to the specific circumstances.

#### **4.6.6 Disease prevention and veterinary treatment**

4.6.6.1 Preventive measures (such as optimized management, raising, and feeding) shall be adopted to ensure the health of the breeding objects. All management measures shall be aimed at improving the disease resistance of the organism.

4.6.6.2 The culture density shall not affect the health of aquatic organisms and shall not cause abnormal behavior. The density of organisms shall be monitored regularly and adjusted as needed.

4.6.6.3 Quicklime, bleaching powder, chlorine dioxide, tea seed cake, potassium permanganate and microbial preparations can be used to disinfect aquaculture water and pond sediments to prevent the occurrence of aquatic diseases.

4.6.6.4 Natural medicines can be used to prevent and treat aquatic animal diseases.

4.6.6.5 Where preventive measures and natural medicine treatments are ineffective, conventional fishery medicines may be used for aquatic organisms. Aquatic organisms can only receive one course of conventional fishery medicine treatment within 12 months. If the allowable course of treatment is exceeded, the aquatic organisms shall undergo the prescribed conversion period.

Aquatic organisms treated with conventional drugs can only be sold as organic aquatic organisms after twice the withdrawal period of the drugs.

4.6.6.6 Antibiotics, chemically synthesized drugs and hormones shall not be used for daily disease prevention and treatment of aquatic organisms.

4.6.6.7 When there is a danger of a certain disease that cannot be controlled by other management techniques, or required by national laws, aquatic organisms can be vaccinated, but genetically modified vaccines shall not be used.

#### **4.6.7 Breeding**

4.6.7.1 The physiological and behavioral characteristics of aquatic organisms shall be respected, and interference with them shall be reduced. Natural reproduction methods shall

be adopted, and unnatural reproduction methods such as artificial insemination and artificial hatching shall not be adopted. Techniques such as parthenogenesis, genetic engineering and artificially induced polyploids shall not be used to propagate aquatic organisms.

4.6.7.2 Producers shall try to choose varieties suitable for local conditions and with strong resistance. If aquatic organisms need to be introduced, organic conditions shall be given priority when conditions permit.

#### **4.6.8 Fishery**

4.6.8.1 The catch of organic production in open waters shall not exceed the reproduction capacity of the ecosystem, and continuous production in natural waters and the survival of other species shall be maintained.

4.6.8.2 Gentle fishing measures where possible shall be taken to minimize stress and adverse effects on aquatic organisms.

4.6.8.3 The specifications of fishing tools shall comply with relevant national regulations.

#### **4.6.9 Transportation of Living Aquatic Animals**

4.6.9.1 During the transportation process, there shall be a special person responsible for managing the transportation object to keep it healthy.

4.6.9.2 The water quality, water temperature, oxygen content, pH value of the water for transportation, and the loading density of aquatic animals shall be adapted to the needs of the species being transported.

4.6.9.3 The frequency of transportation shall be minimized.

4.6.9.4 Transportation equipment and materials shall not have potentially toxic effects on aquatic animals.

4.6.9.5 No chemically synthesized sedatives or stimulants shall be used in aquatic animals before or during transportation.

4.6.9.6 The transportation time shall be shortened as much as possible. During transportation, the transportation object shall not sustain avoidable impact or physical injury.

#### **4.6.10 Slaughter of Aquatic Animals**

4.6.10.1 The management and technology of slaughter shall fully consider the physiology and behavior of aquatic animals, and shall comply with the principle of animal welfare.

4.6.10.2 After aquatic animals reaches their destination, a certain period of recovery shall be given before slaughter.

4.6.10.3 During the slaughter process, the stress and suffering of aquatic animals shall be minimized. It shall be unconscious before slaughter. The equipment shall be checked for proper functioning regularly to ensure that the aquatic animals quickly lose consciousness or die during slaughter.

4.6.10.4 Live or aquatic animals shall not have direct or indirect contact with dead or aquatic

animals that are being slaughtered.

#### **4.6.11 Environmental Impacts**

4.6.11.1 The drainage of non-open waters shall be approved by the local environmental protection administrative department.

4.6.11.2 Agricultural comprehensive utilization of sediment in non-open waters is encouraged.

4.6.11.3 The cultivation of organic aquatic organisms in open waters shall avoid or reduce pollution to water bodies.

### **4.7 Apiculture**

#### **4.7.1 Conversion Period**

4.7.1.1 At least 12 months of conversion is required for bee farming.

4.7.1.2 For bee farms in the conversion period, if it is not possible to obtain organic beeswax-based nest foundations from the market or other channels, conventional beeswax-based nest foundations can be used after the approval of CBs, but all nest foundations shall be replaced within 12 months. If it cannot be replaced, CBs may decide to extend the conversion period.

#### **4.7.2 Siting of the Apiaries**

4.7.2.1 The apiary shall be located in an organic production area or an area where prohibited substances have not been used for at least 36 months.

4.7.2.2 In the production season, there shall be sufficient nectar-generating plants within a range of 3 km from the apiary radius (nectar collecting radius), including organically produced crops and vegetation that has not been treated with prohibited substances for at least 36 months, and clean water sources.

4.7.2.3 Within 3 km of the beehive radius, there shall be no pollution sources that may affect the health of the bee colony, including flowering crops that have used prohibited substances, genetically modified crops during flowering, golf courses, garbage dumps, large residential areas, busy roads, etc.

4.7.2.4 When bees are stocked in natural (wild) areas, the impact on local insect populations shall be considered.

4.7.2.5 The area for beehive placement and the range of honey collection shall be clearly defined.

#### **4.7.3 Beeswax and Beehive**

4.7.3.1 Beeswax shall come from the production unit of organic bee products.

4.7.3.2 The processed beeswax shall be able to ensure the supply of nest foundations for organic bee farms.

4.7.3.3 Organic beeswax is preferentially used in newly formed bee colonies or bee colonies during the conversion period. If conventional beeswax must be used, the following conditions shall be met:

- a) Organic beeswax is not available from the market;
- b) There is evidence that the conventional beeswax has not been contaminated with prohibited substances in organic production; and is derived from beeswax.

4.7.3.4 Beeswax of unknown origin shall not be used.

4.7.3.5 The beehive shall be made of natural materials (such as wood without chemical treatment) or plastic coated with organic beeswax. Beehives shall not be made or maintained with wood treated with wood preservatives and other prohibited substances.

4.7.3.6 Lead paint shall not be used on the surface of beehives.

#### **4.7.4 Introduction of Bees**

4.7.4.1 For the renewal of bee colonies, the organic production unit can introduce 10% of the regular queen bee and colony each year, but the nest spleen or nest foundation in the beehive where the queen and bee colony is placed shall come from the organic production unit. In this case, the conversion period may be exempted.

4.7.4.2 When a large number of bees die due to health problems or catastrophic events, and no organic colony can be obtained, bees can be supplemented with bees from conventional sources, and the requirements of 4.7.1 shall be met.

#### **4.7.5 Bee feeding**

4.7.5.1 At the end of the honey harvesting period, sufficient honey and pollen shall be kept in the hive to prepare the bees for winter.

4.7.5.2 In non-honey-harvesting seasons, bees shall be provided with sufficient organic honey and pollen.

4.7.5.3 When the bee colony faces hunger due to lack of honey because of climatic conditions or other special circumstances, artificial feeding of bees may be carried out only during the last nectaring period and 15 days before the start of the next nectaring period. If organic honey or organic syrup is available, the bees shall be fed organically produced honey or syrup. If organic honey and organic syrup are not available, conventional honey or syrup can be fed within a specified time with the approval of CBs.

#### **4.7.6 Feeding of queen bee and colony**

4.7.6.1 Cross breeding of different bee colonies is encouraged.

4.7.6.2 Breeding is possible, but artificial insemination of the queen bee shall not be performed.

4.7.6.3 The old queen bee can be killed in order to replace the queen bee, but the wings shall not be cut.

4.7.6.4 Bee swarms shall not be hunted in the fall.

#### **4.7.7 Disease and pest control**

4.7.7.1 The health and living conditions of the colony shall be ensured mainly through the hygiene and management of the beehive, in order to prevent the occurrence of parasitic mites and other harmful organisms. Specific measures include:

- a) Select robust bee colonies suitable for local conditions and eliminate vulnerable bee colonies;
- b) Take appropriate measures to breed and screen for disease- and parasite-resistant queen bees;
- c) Facilities are regularly cleaned and disinfected;
- d) Replace the nest and spleen regularly;
- e) Keep enough pollen and honey in the beehive;
- f) The beehives shall be numbered individually for easy identification, and the bee colony shall be checked regularly.

4.7.7.2 In the case of disease, plants or plant-derived preparations shall be preferentially used for treatment or homeopathic treatment; plants or plant-derived preparations shall not be used for treatment within 30 days before the honeycomb period, and shall not be located in beehives in subsequent boxes.

4.7.7.3 In the case that plant or plant-derived preparation treatments and homeopathy cannot control the disease, the disease may be controlled according to the requirements of Table B.3, and the beehive or bee-keeping tool shall be disinfected according to the requirements of Table B.2.

4.7.7.4 Beehives with diseased bees shall be placed in a treatment or isolation area away from healthy beehives.

4.7.7.5 The beehives and materials used by bees severely infected by disease shall be destroyed;

4.7.7.6 Antibiotics and other substances not listed in Table B.3 shall not be used, except when the health of the entire colony is threatened. The treated beehives shall be immediately withdrawn from organic production and be marked, and at the same time, the conversion period of 12 months shall be passed again. The bee products of that year cannot be certified as organic products.

4.7.7.7 Drone swarms can only be killed when infected by bee mites.

#### **4.7.8 Bee Harvesting and Processing**

4.7.8.1 The colony management and honey harvesting methods shall aim at protecting the colony and maintaining the colony; the colony shall not be killed or the pupae shall not be destroyed in order to increase the bee production.

4.7.8.2 No chemical repellent shall be used in honey extraction operations.

4.7.8.3 Immature honey shall not be harvested.

4.7.8.4 When removing impurities in honey, the heating temperature shall not exceed 47 ° C, and the heating process shall be shortened as much as possible.

4.7.8.5 No honey shall be taken from the nest spleen being hatched (except for bees).

4.7.8.6 The mechanical hive shall be used as much as possible to avoid the use of heating hive.

4.7.8.7 The impurities in honey shall be precipitated by the action of gravity. If a fine mesh filter is used, its pore diameter shall be 0.2 mm or more.

4.7.8.8 The surface of all materials contacting the honey extraction facility shall be stainless steel or coated with organic beeswax.

4.7.8.9 The surface of the honey container shall be painted with coatings approved in food and beverage packaging and covered with organic beeswax. Honey shall not be brought into contact with plated metal containers or metal containers with oxidized surfaces.

4.7.8.10 Bees shall be prevented from entering honey extraction facilities.

4.7.8.11 Extraction facilities shall be cleaned daily with hot water to keep them clean.

4.7.8.12 Chemically synthesized substances such as cyanide shall not be used as fumigants.

#### **4.7.9 Bee Product Storage**

4.7.9.1 The finished honey shall be sealed and stored at stable temperature to avoid deterioration of the honey.

4.7.9.2 The places where honey is extracted and stored shall be protected from pests and rodents.

4.7.9.3 Storage of honey and bee products shall not use chemical synthetic substances such as naphthalene to control wax insects and other pests.

### **4.8 Packaging, storage and transportation**

#### **4.8.1 Packaging**

4.8.1.1 Reusable, recyclable and biodegradable packaging materials shall be used.

4.8.1.2 Packaging shall be simple and practical.

4.8.1.3 Packaging or containers that have come into contact with prohibited substances shall not be used.

#### **4.8.2 Storage**

4.8.2.1 The warehouse shall be cleaned and pest control measures shall be taken.

4.8.2.2 Storage methods such as normal temperature storage, air conditioning, temperature control, drying and humidity adjustment can be used.

4.8.2.3 Organic products shall be stored separately as much as possible. If stored together with conventional products, a specific area shall be designated in the warehouse, and necessary packaging, labeling and other measures shall be taken to ensure that organic products and conventional products can be clearly identified.

#### **4.8.3 Transport**

4.8.3.1 Special transportation means shall be used. If non-exclusive transportation tools are used, they shall be cleaned before loading organic products to avoid mixing with conventional products or contamination with prohibited substances during transportation.

4.8.3.2 On the container and / or packaging, there shall be clear organic identification and relevant instructions.

## **5 Processing**

### **5.1. Basic Requirements**

5.1.1 All the organic processing and following processes referred to in this part shall be effectively controlled, including:

- a) Mainly use organic ingredients and minimize the use of conventional ingredients, except where required by relevant laws and regulations;
- b) The processing procedures shall maintain as much nutrition and original nature of the products as possible and,
- c) Organic processing and its following procedures shall be separated from the processing of conventional products either by time or spatially.

5.1.2 All organic food processing factories shall comply with the requirements prescribed in GB14881, other processing factories shall comply with related national and sectional laws and regulations.

5.1.3 Organic processing shall not cause negative environmental impact or minimize that impact as much as possible.

### **5.2 Food and feed**

#### **5.2.1 Ingredients, food additives and processing aids**

5.2.1.1 Weight or volume of organic ingredients shall account for no less than 95% of the total ingredients.

5.2.1.2 When organic ingredients are not available, conventional ingredients may be allowed, but they shall not exceed 5% of the total ingredients. Priority shall be given to the use of agricultural sources.

5.2.1.3 For the same ingredient, it is not allowed to use organic and conventional or conversion ingredients at the same time.

5.2.1.4 Water and salt used as ingredients shall comply with GB 5749 and GB 2721 respectively, and shall not be included in the calculation of the percentage of organic ingredients stipulated in 5.2.1.1.

5.2.1.5 For food processing, food additives and processing aids listed in Tables E.1 and E.2 may be allowed and usage conditions shall comply with GB2760. Food additives and processing aids other than those in Table E.1 and Table E.2 shall be evaluated according to Appendix G.

5.2.1.6 Condiments, microbiological products, enzymes and other ingredients used in food processing shall meet the requirements of E.4, E.5 and E.6 respectively (where applicable).

5.2.1.7 The feed additives used in feed processing shall meet the requirements of Table F.1.

5.2.1.8 Ingredients, additives and processing aids from GMOs are prohibited.

#### **5.2.2 Processing**

5.2.2.1 Techniques such as mechanical, refrigerating, heating, microwaving and smoking may be used, as well as microorganism fermentation. Extraction, concentration, sedimentation

and filtration may also be used, but the extraction solvents shall be limited to water, ethanol, animal and plant oil, vinegar, carbon dioxide, nitrogen or carboxylic acid; and other chemical reagents shall not be added in the process of extraction and concentration.

5.2.2.2 Measures shall be taken to prevent the commingling of organic products with conventional products, or prohibited materials.

5.2.2.3 Water used during the processing shall conform to GB 5749.

5.2.2.4 Ionizing radiation is prohibited in the process of food processing and storage.

5.2.2.5 Asbestos filtrating materials or filtrating materials which could be penetrated by hazardous materials shall be prohibited in food processing.

### **5.2.3 Pest control**

5.2.3.1 The following operations shall be adopted as priority measures to prevent and control pests:

a) To eliminate pest propagation conditions;

b) To prevent the contact of pests with processing and handling equipment; and,

c) To prevent pest propagation through control of environmental factors such as temperature, humidity, light, air, etc.

5.2.3.2 Pest catching facilities, including mechanical, hormonal, odorous and sticky physical barriers, diatomite, sound, light and electric equipment may be used to prevent and control pests.

5.2.3.3 Steam may be used and, if necessary, detergents and disinfectants listed in table E.3 can be used.

5.2.3.4 Methods of spraying and fumigating with Chinese herbs are recommended when an emergency of severe pest strikes has occurred in the processing and storage areas. Sulfur treatment is not allowed.

### **5.2.4 Packaging**

5.2.4.1 Packaging materials made of wood, bamboo, plant stems, plant leaves and paper should be used.

5.2.4.2 The packaging materials for raw food materials and products shall be food-grade.

5.2.4.3 The packaging of raw materials and products shall meet the requirements of GB 23350, and the biodegradability and recycling of packaging materials shall be considered.

5.2.4.4 Carbon dioxide, nitrogen gas etc. are preferred as packing filling agents if needed.

5.2.4.5 Packaging materials containing synthetic fungicide, preservative and fumigant are prohibited.

5.2.4.6 Organic products shall not be packed in bags or containers that have been in contact with any prohibited substances.

### **5.2.5 Storage**

5.2.5.1 Warehouses shall be clean, without pests and hazardous residues.

5.2.5.2 Certified products shall not be contaminated by other substances in the storage

process.

5.2.5.3 Besides storage in ambient temperature, the following storage measures may be allowed:

- a) Warehouse air conditioning;
- b) Temperature control;
- c) Humidity adjustment.

5.2.5.4 Organic products, packaging materials and ingredients shall be stored separately. If they have to be stored together with conventional ones, specific area(s) shall be assigned, and effective measures shall be adopted to prevent commingling with conventional materials.

## **5.2.6 Transportation**

5.2.6.1 Vehicles shall be cleaned before loading organic products.

5.2.6.2 In the process of transportation, commingling or contamination with conventional products shall be avoided.

5.2.6.3 During the processes of transportation, loading and unloading, organic labeling and related descriptions shall not be spoiled or destroyed on the package.

## **5.3 Textiles**

### **5.3.1 Raw materials**

5.3.1.1 Raw fiber materials of textiles shall be organic.

5.3.1.2 Environmental impact shall be minimized when raw materials are processed into fibers.

5.3.1.3 Non-textile raw materials in a textile product shall be harmless to the environment and humans in the processes of production, utilization and wastes disposal.

### **5.3.2 Processing**

5.3.2.1 Good manufacturing practice shall be adopted in textile processing so that environmental impact can be reduced to a minimal level.

5.3.2.2 Materials that are detrimental to humans and the environment shall be prohibited; processing aids shall not contain carcinogenic, mutagenic, teratogenic and sensitizing elements. LD<sub>50</sub> of mammals shall be higher than 2000 mg/kg.

5.3.2.3 Materials that are bio-accumulative and not biodegradable are prohibited.

5.3.2.4 Energy consumption in textile processing shall be minimized and renewable energy shall be used whenever possible.

5.3.2.5 Organic and conventional processing may be allowed to remain together if separation of the two in term of process or equipment may lead to substantial environmental disadvantages, on the premise of taking effective measures to ensure that organic textiles are not contaminated by prohibited substances.

Note: take measures to prevent circulating fluids used in conventional textile processing (such as alkali washing, sizing, rinsing, etc.) from contaminating organic textiles (such as

recovering fluids at risk of contamination and thoroughly cleaning the relevant fluid tanks before organic processing).

5.3.2.6 Processing organizations shall adopt effective sewage treatment technology to assure that the discharge of contaminants does not exceed the standard of GB4287.

5.3.2.7 An environmental management improvement plan shall be established and implemented.

5.3.2.8 Surfactants used to boil cocoons and scour wool shall be readily biodegradable.

5.3.2.9 Sizing slurry shall be easy to degrade or at least 80% recycled.

5.3.2.10 Sodium hydroxide or other alkaline materials may be allowed for mercerizing, but shall be recycled to the highest possible level.

5.3.2.11 Textile process oil and weaving and knitting oil ("needle" oil) shall come from readily biodegradable oil agents or be extracted from plants.

### **5.3.3 Dyestuff and dyeing**

5.3.3.1 Dyestuff that is derived from plant origin or mineral origin shall be used.

5.3.3.2 Hazardous dyestuff and materials that are prohibited by GB/T 18885 shall not be permitted.

5.3.3.3 Natural thickening agents of printing and dyeing are permitted.

5.3.3.4 Biological degradable softening agents are permitted.

5.3.3.5 Materials that can produce organic halogen in wastewater shall be prohibited in cleaning printing and dyeing equipment.

5.3.3.6 Heavy metal concentrations in dyestuff shall not exceed the levels listed in Table H.1.

### **5.3.4 Final products**

5.3.4.1 Auxiliaries (such as lining, ornament, button, zipper, and suture) shall be materials that are harmless to the environment; and natural materials, wherever possible, should be used.

5.3.4.2 Processing aids that are detrimental to humans and the environment shall not be used in processing final products (e.g. sand washing and water washing).

5.3.4.3 Concentration of hazardous materials in final products shall not exceed the standard of GB/T18885.

## **6 Labeling and marketing**

### **6.1 Labeling**

6.1.1 Labeling of organic products shall comply with requirements laid down in relevant governmental laws, regulations and standards.

6.1.2 The Organic Product Certification Mark of China is only applied to the labeling of organic products that are produced or processed and certified in accordance with the requirements of this Standard.

6.1.3 Processed products containing no less than 95% certified organic ingredients and having been certified as organic may be labeled as "organic" before the name of the product,

and the Chinese Organic Product Certification Mark of China shall be affixed on the products or packages. Labeling of products shall not mislead consumers to consider the conventional products and products of conversion to organic as organic.

6.1.4 Characters, graphics or symbols on the label of the products shall be clear and prominent. Graphics and symbols shall be visual and normative. The color of the character, graph and symbol shall be in contrast with the background color or bottom color.

6.1.5 Labeling of imported organic products shall also meet the requirements established in this part.

## **6.2 Calculation of the percentage of organic ingredients**

6.2.1 When calculating the percentage of organic ingredients, water and salt added in the processing shall not be included.

6.2.2 For organic products in solid form, the percentage of organic ingredients shall be calculated using the formula (1):

$$Q = \frac{m1}{m} * 100\% \quad (1)$$

where in the formula:

Q= Percentage of the organic ingredients, %;

m1=Total weight of the organic ingredients, kg;

m= Total weight of the products, kg.

All results of the calculation shall be rounded down to the nearest whole number.

6.2.3 For organic products in liquid form, the percentage of organic ingredients shall be calculated using formula (2) (for the liquid products made of concentrated ingredients, percentage of organic ingredients shall be calculated on the basis of concentrates of ingredients and finished products):

$$Q = \frac{V1}{V} * 100\% \quad (2)$$

where in the formula:

Q=Percentage of the organic ingredients, %;

V1=Total volume of the organic ingredients, L;

V=Total volume of the products, L.

All results of the calculation shall be rounded down to the nearest whole number.

6.2.4 For organic products having both solid and liquid forms, the percentage of organic ingredients shall be calculated using the following formula:

$$Q = \frac{m1 + m2}{m} * 100\%$$

where in the formula,

Q= Percentage of the organic ingredients, %;

m1=Total weight of the organic ingredients in solid form, kg;

m<sub>2</sub>= Total weight of the organic ingredients in liquid form, kg;

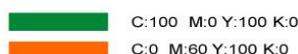
m= Total volume of the products, kg.

All results of the calculation shall be rounded down to the nearest whole number.

### 6.3 Organic Product Certification Mark of China

6.3.1 Graphics and colors of the Organic Product Certification Mark of China shall be in Graphic 1.

6.3.2 All products presented "organic "shall be affixed with the Organic Product Certification Mark of China, its sole identification code, the name of the CB or its logo to the label for the certified products or the smallest selling package of the products.



Graphic 1: Organic Product Certification Mark of China

6.3.3 According to the product character, the Organic Product Certification Mark of China shall be either affixed to packages as a sticker, or printed directly on, and will be affixed to the product or the smallest selling package. Raw materials for processing do not have to be affixed with the Mark if they are not used for retail.

6.3.4 A printed Organic Product Certification Mark of China shall be clear and prominent.

6.3.5 Any Organic Product Certification Mark of China printed on labels, instructions and marketing materials of products shall be enlarged or reduced in size without any change to the shape and color.

### 6.4 Requirements for marketing

6.4.1 Sellers shall adopt but not be limited to the following measures to keep integrity and traceability of organic products during organic marketing:

- To prevent commingling of organic products with conventional products;
- To prevent contact of organic products with prohibited materials of this Standard; and,
- To keep records of purchasing, transportation, storage, incoming and outgoing and sales for organic products.

6.4.2 The purchaser shall request organic certificate, transaction certificate, etc.

Note: products with organic codes can be exempted from needing a transaction certificate.

6.4.3 When purchasing organic products, organic processors and handlers shall verify the authenticity of the organic certificate and keep the copy of the organic certificate.

6.4.4 For products sold in bulk, products without packaging and live animals, organic dedicated sales or display counters shall be set up in marketing areas and be separated from counters or areas for non-organic products. A copy of the organic certificate shall be displayed prominently in the sales or display counters for organic products.

## **7 Management system**

### **7.1 Basic requirements**

**7.1.1** Organic products producers, processors and handlers (Organic producer, processor and handler for short) shall gain legal land use rights and legal business qualification documents.

**7.1.2** Organic producers, processors and handlers shall establish and maintain management systems for organic production, processing and handling activities according to the requirements of this Standard. Management systems shall develop the documents required in part 7.2, which shall be implemented and maintained.

### **7.2 Document Requirements**

#### **7.2.1 Document content**

The documents of the management system shall include:

- a) A map showing the location of production units, or processing/handling facilities;
- b) A management manual;
- c) Operation specifications;
- d) System records.

#### **7.2.2 Document control**

Documents required by the management system shall be updated in a timely manner. A valid, current version of the documents shall be available when requested.

#### **7.2.3 Map showing the location of production units, or processing/handling facilities**

A map showing the location for the sites of production units, processing and handling facilities shall be drawn to scale. The map shall indicate the following information:

- a) Location of farming fields, wild collection, aquaculture areas, beekeeping areas and beehives distribution, livestock farms and pasture, free-range exercise areas or grazing areas, excreta disposal sites, processing and handling areas;
- b) Rivers, wells and other sources of water;
- c) Usage of adjacent land and boundary land;
- d) Segregation areas for livestock quarantine;
- e) Location of processing, packaging workshop, warehouses and other relevant equipment;
- f) Main markers to indicate the characteristics of production unit.

#### **7.2.4 Management manual**

A quality management manual shall be developed and maintained. It shall include:

- a) A brief description of the organic producer, processor and handler;
- b) Quality policies and quality objectives for organic production, processing and handling;
- c) Organizational structure, and associated responsibilities and authority for relevant positions;
- d) Organic label management;
- e) Traceability system and product recall;
- f) Internal inspection;
- g) Document and record control;
- h) Complaints and appeal handling;
- i) Continuous improvement.

#### **7.2.5 Operating rules**

Operating procedures shall be developed and implemented, which shall at least include:

- a) Specifications for organic crop production, edible fungi cultivation, wild collection, livestock and poultry breeding, aquaculture/fishing, bee breeding, processing etc.;
- b) Preventive control measures for preventing contamination by prohibited substances during organic production, processing and handling operations;
- c) Control measures for preventing commingling of organic and non-organic products (if necessary);
- d) Specifications for crop and edible fungi harvesting or collection, and for post-harvest activities including transportation, storage, etc.;
- e) Specifications for animal slaughtering, fishing, processing, transportation, storage, etc.;
- f) Operation procedures for each process such as transportation and storage of processed products;
- g) Specifications for maintenance and cleaning of transport vehicles, machinery, equipment, and storage facilities;
- h) Specifications for processing plant sanitation management and pest control;
- i) Specifications for label and lot number control;
- j) Specifications for workers welfare and labor protection.

#### **7.2.6 Records**

Organic producers, processors and handlers shall establish and keep records. The records shall be unambiguous and genuine; they shall provide valid proof of organic production, processing and handling operations. The records shall be maintained at least 5 years, and should include but not be limited to:

- a) History record of production unit and records of prohibited materials with the date and quantity;
- b) Records of the seeds, seedlings, young livestock and poultry as well as other propagating

- materials (varieties, origin, time, quantity, etc.);
- c) Self-made composting record (if necessary);
  - d) Fertilization record (type, time of application, quantity, etc.);
  - e) Records of the materials for plant disease, insect and weed control (names, ingredients, time of application, quantity, etc.);
  - f) Detailed information of entry and exit of animal breeding unit (variety, time, quantity, etc.)
  - g) Records of veterinary medicine application for animal breeding units (name, composition, time, quantity, etc.);
  - h) Detailed information about feed and feed additives in animal breeding units (varieties, ingredients, time of application, quantity, etc.);
  - i) The accounting records (source, quantity, destination, inventory, etc.) and purchase receipts of all production inputs;
  - j) Plant products harvesting records (variety, time, quantity, etc.);
  - k) Animal (including Bees) slaughtering, fishing and extraction records;
  - l) Processing records including raw material purchasing and inbound, processing, packaging, labeling, storage and outbound, transportation, etc.;
  - m) Pest control records for processing facilities and cleaning records for processing, storage and transportation facilities;
  - n) Sale records and organic label control records;
  - o) Training records;
  - p) Internal inspection records.

### **7.3 Resource Management**

**7.3.1** Organic producers, processors and handlers shall have resources, which are suitable for the production scale and technology of the organization.

**7.3.2** Management staff for organic production, processing and handling operations shall be designated and meet the following requirements:

- a) To be one of the main responsible persons in the organization;
- b) To know relevant laws, regulations and other requirements of the governmental authorities;
- c) To understand the requirements of this Standard;
- d) To have relevant technology or experiences in agriculture production, processing and handling;
- e) To be familiar with management system and production, processing and handling operations of the organizations.

**7.3.3** Internal inspectors shall be assigned and meet the following requirements:

- a) To know relevant laws, regulations and other requirements of the governmental authorities;
- b) To be independent from the inspected party;

- c) To be familiar with the requirements of this Standard;
- d) To have relevant technology or experiences in agriculture production, processing and handling;
- e) To be familiar with management system and production and/or processing, handling operations of the organizations.

#### **7.4 Internal Inspection**

**7.4.1** An internal inspection system shall be set up to ensure that the management system and organic production, processing and handling operations comply with the requirements established by this Standard.

**7.4.2** Internal inspections shall be undertaken by internal inspectors at least once a year.

**7.4.3** Responsibilities of the internal inspectors are:

- a) To undertake internal inspections of the management system according to the requirements of this part, and put forward corrective actions for non-compliances;
- b) To undertake internal inspections for production, processing and handling of the organization in accordance with the requirements of this Standard;
- c) To cooperate with the inspection and certification of the CBs.

#### **7.5 Traceability System and Product Recall**

Organic producers, processors and handlers shall establish a comprehensive system of traceability, and keep detailed records of the entire process of production (such as: field maps, records of farming activities, processing and storage, records of inbound and outbound, sales records, etc.), as well as traceable production batch systems.

Organic producers, processors and handlers shall establish product recall system and maintain effectively, including: conditions of recall, handling of recalled products, corrective measures, mock recall, etc.. The products recall records shall be kept, including: recall notifications, remedies, causes, treatment, etc..

#### **7.6 Complaints**

Organic producers, processors and handlers shall develop and maintain the procedures for handling customer complaints, and shall keep records of the entire process of handling complaints, including: acceptance, registration, confirmation, investigation, tracking, and feedback.

#### **7.7 Continuous Improvement**

Organic producers, processors and handlers shall continuously improve the effectiveness of the management system to promote the sound development of organic production, processing and handling, and to eliminate non-conformities and potential non-conformities activities. Organic producers, processors and handlers shall:

- a) Identify the causes of non-conformities;
- b) Evaluate the requirements for measures to avoid that any non-conformities occur again;
- c) Confirm and implement necessary measures;

- d) Keep records for the result of corrective actions taken;
- e) Review the adopted corrective actions or preventive measures.

**Appendix A**  
**(Normative Appendix)**  
**Input Materials Permitted in Organic Plant Production**

The permitted soil fertility and improvement substances in the production of organic plants are shown in table A.1.

The allowed plant protection products in organic plant production are shown in table A.2.

The permitted detergents and disinfectants used in the production of organic plants are shown in table A.3.

**Table A.1 Fertilizers and soil conditioners permitted in the production of organic plants**

Category	Name and Composition	Conditions for Use
I. Plant and animal origin	Plant materials (straws, green manure, etc.)	
	Livestock and poultry excrements and composts derived there from (including composted farmyard manure)	Completely composted and fully fermented.
	Anaerobic fermentation product of livestock and poultry excrements and plant materials (bio-gas waste fertilizer)	
	Seaweeds or seaweed products	Only directly obtained in the following ways: Physical processes, including dehydration, refrigeration, and grinding; Extraction through water or acid and/or alkali; Fermentation.
	Wood, bark, sawdust, wood chips, wood ash, charcoal	Originated from the wood having not been chemically treated after felling; used as soil mulching materials or composted.
	Humic acids (natural humic acids such as lignite, weathered lignite, etc.)	Natural source, without chemical treatment, without adding chemical synthetic substances.
	By-products from animals (blood meal, powdered meat, bone meal, hoof meal, horn meal, etc.)	No prohibited materials added; composted or fermented.

	Fishmeal, shrimp and crab shell powder coat, feather, hair meal and their extracts	Only directly obtained in the following ways: Physical processes, Extraction through water or acid and/or alkali; Fermentation.
	Milk and dairy products	
	Edible fungi culture wastes and earthworm culture substrates	The raw materials of substrates must be included in this table and the substrates shall be composted before use.
	By-products of food industry	After compost or fermentation.
	Straw ash	From firewood burning.
	Peat	No synthetic additive contained; prohibited for using as soil amendment; only as substrates for potted plants.
	Seed cake	Not chemically processed.
II. Mineral origin	Phosphate rock	Natural materials. Cadmium content of not more than 90 mg/kg of P <sub>2</sub> O <sub>5</sub> .
	Potassium rock powder	Natural materials without chemical concentration. Chloride content of less than 60%.
	Borax	Natural materials, not chemically treated, and no chemically synthesized materials added.
	Trace elements	Natural materials, not chemically treated, and no chemically synthesized materials added.
	Magnesium rock powder	Natural materials, not chemically treated, and no chemically synthesized materials added.
	Sulfur	Natural materials, not chemically treated, and no chemically synthesized materials added.
	Limestone, gypsum and chalk	Natural materials, not chemically treated, and no chemically synthesized materials added.
	Clays (e.g. perlite, vermiculite, etc)	Natural materials, not chemically treated, and no chemically synthesized materials added.

	Sodium chloride	Natural materials, not chemically treated, and no chemically synthesized materials added.
	Lime	Only allowed for using in tea gardens to adjust soil pH.
	Basic slag	Not chemically treated, and no chemically synthesized materials added.
	Calcium and magnesium carbonate	Natural materials, not chemically treated, and no chemically synthesized materials added.
	Epsom salt	Not chemically treated, and no chemically synthesized materials added.
III. Microbial origin	Biodegradable processing by-products of microbial origin, e.g. by-products of brewery or distillery processing	No synthesized chemicals added.
	Microorganisms and Microbial Preparations	No synthesized chemicals added.

**Table A.2 The allowed plant protection products in organic plant production**

Origin	Name and Composition	Conditions for Use
I. Plant and animal origin	Azedarach preparation (extracts of <i>Melia azedarach</i> , <i>Azadirachta indica</i> , etc.)	Insecticide
	Natural pyrethrin (preparation extracted from <i>Chrysanthemum cinerariaefolium</i> )	Insecticide
	Matrine and Matrine oxide (extracts of <i>Quassia amara</i> , etc.)	Insecticide
	Preparations of Rotenone (e.g. <i>Derris elliptica</i> )	Insecticide
	Tea saponins (extracts of <i>Camellia Sinensis(L.)O</i> , <i>Kuntze</i> , etc.),	Insecticide
	Saponins (extracts of <i>Gleditsia sinensis</i> )	Insecticide and fungicide
	Osthole (extracts of <i>Frutus cnidii</i> )	Insecticide and fungicide
	Jamaicin (extracts of <i>coptis</i> , <i>phellodendron</i> , etc.)	Fungicide
	Rheochrysidin (extracts of <i>rhubarb</i> , <i>giant knotweed</i> , etc.)	Fungicide
	Plant oils (e.g. <i>pennyroyal</i> , <i>pine oil</i> , and <i>parsley oil</i> )	Insecticide, acaricide, fungicide, and sprout inhibitor
Oligosaccharide (chitin)	Fungicide and plant growth regulator	

	Natural trapping and nematicide material (e.g. marigold, maidenhair and mustard oil)	Nematicide
	Natural acid (e.g. table vinegar, wood vinegar, and bamboo vinegar)	Fungicide
	Edible fungi proteoglycan	Fungicide
	Protein hydrolysate	Attractant, can only be used together with proper products in this table under permitted condition
	Milk	Fungicide
	Beeswax	Used for graft and pruning
	Propolis	Fungicide
	Gelatine	Insecticide
	Lecithin	Fungicide
	Plant extracts with repelling effect (extracts of garlic, mint, pepper, Chinese pepper, lavender, <i>Bupleurum</i> , wormwood)	Repellent
	Natural enemy of pest (e.g. <i>Trichogramma spp.</i> , ladybug, aphid lion, etc.)	Pest control
II. Mineral origin	Copper salt (copper sulphate, copper hydroxide, copper oxychloride, copper caprylic acid, etc.)	Fungicide; the maximum amount of copper per hectare shall not exceed 6kg every 12 months.
	Lime sulfur	Fungicide, insecticide, and acaricide
	Bordeaux mix	Fungicide; the maximum amount of copper per hectare shall not exceed 6kg every 12 months.
	Calcium oxide (limewater)	Fungicide and insecticide
	Sulfur	Fungicide, acaricide, repellent
	Potassium permanganate	Fungicide and bactericide; only in fruit trees and grape
	Potassium bicarbonate	Fungicide
	Wax oil	Insecticide and acaricide
	Light mineral oil	Insecticide, fungicide; only in fruit trees, grape, and tropic crops (e.g. banana)

	Calcium chloride	Can only be used to cure calcifames
	Diatomaceous earth	Insecticide
	Clay (e.g. bentonite, pearlite, vermiculite, zeolite, etc.)	Insecticide
	Silicates (sodium silicates, quartz)	Repellent
	Quartz sand	Fungicide, acaricide, repellent
	Ferric phosphate (iron (III) orthophosphate)	Molluscicide
III. Microbial origin	Fungi and fungal preparations (e.g. <i>Beauveria bassiana</i> , <i>Verticillium</i> , <i>Trichoderma</i> , etc.)	Pesticide, fungicide, and herbicide
	Bacteria and bacterial preparations (e.g. <i>Bacillus thuringiensis</i> , <i>Bacillus subtilis</i> , <i>Bacillus cereus</i> , <i>Bacillus licheniformis</i> , <i>Fluorescent Pseudomonas</i> , etc.)	Pesticide, fungicide, and herbicide
	Virus and viral preparations (e.g. nuclear polyhedrosis virus, granulosis virus, etc.)	Insecticide
IV. Others	Carbon dioxide	Insecticide; used for storage facility
	Ethyl alcohol	Fungicide
	Sea salt and brine	Fungicide; only in seed treatment, especially rice seed
	Alum	Fungicide
	Soft soap (potassium salt of fatty acid)	Pesticide
	Ethylene	
	Pheromones	Only in traps and dispensers
	Diammonium phosphate	Attractant; only in traps
V. Traps and barriers	Physical measures (e.g. color/odor traps, mechanical traps, etc.)	
	Covers (Straw, weeds, mulch, fly net, etc.)	

**Table A.3 The permitted detergents and disinfectants used in the production of organic plants**

Name	Conditions for Use
Acetic acid (non-synthetic)	Equipment cleaning
Vinegar	Equipment cleaning
Ethanol	Disinfection
Isopropanol	Disinfection
Hydrogen peroxide	Only food grade hydrogen peroxide; equipment cleaning
Sodium carbonate and	Equipment disinfection

sodium bicarbonate	
Potassium carbonate and potassium bicarbonate	Equipment disinfection
Bleach	Including calcium hypochlorite, chlorine dioxide and sodium hypochlorite; may be used for disinfecting and cleaning the food contact surface. Residual chlorine content in rinse water that has direct contact with plant products shall comply with the requirements of GB5749.
Peracetic Acid	Equipment disinfection
Ozone	Equipment disinfection
Potassium hydroxide	Equipment disinfection
Sodium hydroxide	Equipment disinfection
Citric acid	Equipment cleaning
Soap	Biodegradable soap only; equipment cleaning
Soap-based algaecide/demosser	Algaecide, disinfectant and fungicide; for irrigation system cleaning; no prohibited materials contained
Potassium permanganate	Equipment disinfection

**Appendix B**  
**(Normative Appendix)**  
**Substances Allowed for Use in Organic Animal Production**

The permitted additives and substances for animal nutrition are shown in table B.1.  
The permitted detergents and disinfectants for animal breeding sites are shown in table B.2.  
The permitted substances for disease and pest control in apiculture are shown in table B.3.

**Table B.1 The permitted additives and substances for animal nutrition**

No.	Name	Note	INS
1.	Iron	Ferrous (II) sulphate Ferrous (II) carbonate Ferric oxide	
2.	Iodine	Calcium iodate Sodium iodide Potassium iodide	
3.	Cobalt	Cobaltous (II) sulphate Cobaltous (II) chloride Cobalt carbonate	
4.	Copper	Copper (II) sulphate, Copper oxide for ruminants	
5.	Manganese	Manganous (II) carbonate Manganous oxide and manganic oxide Manganous (II) sulfate Manganous chloride	
6.	Zinc	Zinc oxide Zinc carbonate Zinc sulphate	
7.	Molybdenum	Sodium molybdate	
8.	Selenium	Sodium selenite	
9.	Sodium	Sodium chloride Sodium sulfate Sodium carbonate Sodium bicarbonate	
10.	Potassium	Potassium carbonate Potassium bicarbonate Potassium chloride	
11.	Calcium	Calcium carbonate (stone powder, shell powder) Calcium lactate Calcium sulfate, calcium chloride	
12.	Phosphorus	Dicalcium phosphate Monocalcium phosphate Tricalcium phosphate	
13.	Magnesium	Magnesium oxide	

No.	Name	Note	INS
		Magnesium chloride Magnesium sulfate	
14.	Sulfur	Sodium sulfate	
15.	Vitamins	Vitamins derived from raw materials occurring naturally in feedstuffs. Synthetic vitamins identical to natural vitamins are allowed for monogastric animals. Synthetic vitamins A, D, and E identical to natural vitamins are allowed for ruminants provided that natural vitamins are not available.	
16.	Micro-organisms	Zoo-technical additives, not GMOs.	
17.	Enzymes	Silage and technological additives, not derived from or by GMOs.	
18.	Preservatives and Silage Additives	Sorbic acid, formic acid, acetic acid, lactic acid and citric acid, which can only be used when the weather conditions cannot meet the requirements of full fermentation.	-
19	Binder and anti-caking agent	Calcium stearate, silica	-
20	By-products of food and food industry	Such as whey, cereal flour, molasses, beet pulp, etc.	-

**Table B.2 The permitted detergents and disinfectants for animal breeding sites**

Name	Conditions for use
Potassium and sodium soap	
Water and steam	
Milk of lime (water solution of Calcium hydroxide)	
Lime (Calcium oxide)	
Hydrated lime (calcium hydroxide)	
Sodium hypochlorite	For facility and equipment disinfection
Calcium hypochlorite	For facility and equipment disinfection
Chlorine dioxide	For facility and equipment disinfection
Potassium permanganate	0.1% potassium permanganate solution may be used, to avoid corrosion.
Sodium hydroxide	
Potassium hydroxide	
Hydrogen peroxide	Food grade, as external parasiticide. May also be used

	as disinfectant in drinking water for livestock.
Natural essences of plants	
Citric acid	
Peroxyacetic acid	
Formic acid	
Lactic acid	
Oxalic acid	
Isopropyl alcohol	
Acetic acid	
Alcohol	For disinfection and sterilization
Iodine (such as tincture of iodine, iodophor, povidone-iodine, etc. )	As detergent, shall be rinsed with hot water.
Nitric acid	For dairy equipment, no contact with soil, livestock or poultry allowed.
Phosphoric acid	For dairy equipment, no contact with soil, livestock or poultry allowed.
Formaldehyde	For disinfection of facility and equipment
Cleaning and disinfection products for teats	In compliance with relevant national standards
Sodium carbonate	

**Table B.3 The permitted substances for disease and pest control in apiculture**

<b>Name</b>	<b>Conditions for Use</b>
Methanolic acid (formic acid)	For parasitic mite control, may be used between the last honey harvest and 30 days before adding honey supers.
Lactic acid, acetate acid, oxalic acid	Pest and disease control
Menthol	For respiratory parasitic mite control
Plant essential oil (thymol, eucalyptol or camphor)	Repellent
Caustic soda	Disease control
Caustic potash	Disease control
Sodium chloride	Disease control
Plant ash	Disease control
Hydrated lime	Disease control
Sulfur	Only for hive and comb disinfection
Bacillus thuringiensis	Not GMOs
Bleach (Sodium hypochlorite, calcium hypochlorite, or chlorine dioxide)	For apiculture equipment sterilization

Steam and flame	For hive sterilization
Agar	Water extracts only
Rodenticide (vitamin D)	Rodent control, in a manner which is safe for bee and bee products.

## **Appendix C**

### **(Informative Appendix)**

#### **Evaluation Guideline for Other Inputs Used in Organic Production**

##### **C.1 Scope**

Where the products in Appendix A and Appendix B involving the production and cultivation of organic animals and plants fail to meet the requirements, other substances other than Appendix A and Appendix B can be evaluated according to the evaluation criteria described in this appendix.

##### **C.2 Principles**

###### **C.2.1 Substances to be used for fertilization and soil conditioning purpose**

C.2.1.1 The substance is essential for achieving or maintaining soil fertility, to fulfill specific nutrient requirements, or for specific soil-conditioning and rotation purposes, which cannot be satisfied or replaced by the practices and substances outlined in this Standard and in Appendix A.

C.2.1.2 The substance is of plant, animal, microbial or mineral origin, which may be prepared by the following means:

- a) Physical treatment (mechanical or thermal);
- b) Enzymatic treatment; or
- c) Microbial treatment (composting or digestion).

C.2.1.3 Reliable experimental data proves that use of the substance does not lead to unacceptable influences on or pollution of environment including soil organisms.

C.2.1.4 The use of the substance shall not have unacceptable influences on the quality and safety of final products.

###### **C.2.2 Plant protection products**

C.2.2.1 The substance is necessary for controlling pests or specific diseases, which cannot be controlled by other biological, physical methods, plant breeding and/or effective management techniques.

C.2.2.2 The substance is from plant, animal, microbial or mineral origins, which may be prepared by the following means:

- a) Physical treatment;
- b) Enzymatic treatment; or
- c) Microbial treatment.

C.2.2.3 Reliable experimental data proves that the use of the substance shall not lead to or cause unacceptable influences or environmental pollution.

C.2.2.4 When a substance is not available in quantities in its natural form, the use of chemically synthesized identical substances may be considered, for example chemically synthesized pheromones (sexual lure). These substances shall not directly or indirectly contaminate the environment or products.

###### **C.2.3 Inputs permitted for animal nutrition or for feed processing purposes**

C.2.3.1 The substance is essential for fulfilling animal-specific nutrient requirements or for feed processing purposes, which cannot be met by the practices and substances outlined in this Standard and in Table B.1.

C.2.3.2 The substance (active ingredient) is of plant, animal, microbial or mineral origins, which may be prepared by the following means:

- a) Physical treatment;
- b) Enzymatic treatment; and
- c) Microbial treatment.

C.2.3.3 Reliable experimental data proves that the use of the substance does not lead to or cause unacceptable influences on or pollution of environment.

### **C.2.4 Inputs permitted for cleaning or disinfection purpose in livestock and poultry farms, or for pest and disease control in bee keeping**

C.2.4.1 The substance is essential for cleaning, disinfection in livestock and poultry farms, or for pest and disease control purposes in bee keeping, which cannot be met or replaced by the practices and substances outlined in this Standard and in Table B.2 or B.3.

C.2.4.2 The substance (active ingredient) is of plant, animal, microbial or mineral origins, which may be prepared by the following means:

- a) Physical treatment;
- b) Enzymatic treatment; and
- c) Microbial treatment.

C.2.4.3 Reliable experimental data proves that the use of the substance does not lead to or cause unacceptable influences on or pollution of the environment.

C.2.4.4 When a substance is not available in quantities in its natural form, the use of chemically synthesized identical substances may be considered. These substances shall not directly or indirectly contaminate the environment or products.

## **C.3 Evaluation Procedure**

### **C.3.1 Necessity**

The input shall be used where necessary. Arguments to prove the necessity of an input shall be drawn from criteria such as yield, product quality, environmental safety, ecological protection, landscape, and human and animal welfare.

The use of an input may be restricted to:

- a) Specific crops (especially perennial crops);
- b) Specific regions;
- c) Specific conditions under which the input may be used.

### **C.3.2 Nature and way of production**

#### **C.3.2.1 Nature**

The origin of the input shall usually be (in order of preference):

- a) Organic substance (vegetative, animal, microbial);

- b) Mineral;
- c) Non-natural products, which are chemically synthesized and identical to natural products, may be used.

When there is any choice, renewable inputs are preferred. The next best choice is inputs of mineral origin and the third choice is inputs, which are chemically identical to natural products. Ecological, technical or economic arguments have to be taken into consideration in the allowance of chemically identical inputs.

#### **C.3.2.2 Way of production**

The ingredients of an input may be processed by the following means:

- a) Mechanical;
- b) Physical;
- c) Enzymatic;
- d) Microbial;
- e) Chemical (as an exception and restricted).

#### **C.3.2.3 Collection**

The collection of raw materials comprising the input shall neither affect the stability of the natural habitat nor affect the maintenance of any species within the collection area.

### **C.3.3 Environmental safety**

#### **C 3.3.1 Basic requirements**

Input shall not be harmful or have a lasting negative impact on the environment. Nor shall the input give rise to unacceptable pollution of surface or ground water, air or soil. All stages during processing, use and breakdown of the substance shall be evaluated.

The following characteristics of the input substance shall be considered:

#### **C 3.3.2 Degradability**

All inputs shall be degradable to CO<sub>2</sub>, H<sub>2</sub>O, and/or to their mineral form.

Inputs with a high acute toxicity to non-target organisms shall have a maximum half-life of 5 days.

Natural substances used as inputs which are not considered toxic do not have to be degradable within a limited time.

#### **C 3.3.3 Acute toxicity to non-target organisms**

When an input has relatively high acute toxicity to non-target organisms, its use shall be restricted. Measures must be taken to guarantee the survival of these non-target organisms. Maximum amounts allowed for application may be set up. When it is not possible to take adequate measures to ensure the maintenance of non-target organisms, the use of the input is not permitted.

#### **C 3.3.4 Long-term chronic toxicity**

Inputs which can accumulate in organisms or ecosystems, and inputs which have, or are suspected of having, mutagenic or carcinogenic properties, shall not be used. If there are any

risks, sufficient measures shall be taken to reduce the risks to an acceptable level and to prevent long lasting negative environmental effects.

#### **C 3.3.5 Chemically synthesized products and heavy metals**

Inputs shall not contain harmful amounts of manufactured chemicals (xenobiotic products). Chemically synthesized products can be accepted only if its nature is identical to natural substance.

Mineral inputs shall contain as few heavy metals as possible. Due to the lack of any alternative, and longstanding, traditional use in organic agriculture, copper and copper salts are permitted to be used for the time being. The use of copper in any form in organic agriculture must be treated, however, as temporary permission, and the use shall be restricted with regard to the environmental impacts.

#### **C.3.4 Effects on human health and product quality**

##### **C.3.4.1 Human health**

Inputs shall not be harmful to human health. All stages during processing, using and degradation shall be taken into account. Measures shall be taken to reduce any risks and application standards shall be set for inputs used in organic production.

##### **C.3.4.2 Product quality**

The input substances shall not have adverse influences on product quality (for example taste, shelf life and appearance).

#### **C.3.5 Ethical aspects - animal living conditions**

Inputs shall not have negative effects on the natural behavior or physical functioning of animals kept on the farm.

#### **C.3.6 Socio-economic aspects**

Consumers' perception: inputs shall not lead to resistance or opposition from consumers against organic products. An input might be considered by consumers to be unsafe to the environment or human health, although this has not been scientifically proven. Inputs shall not interfere with the general feeling or opinion about what is natural or organic (e.g. genetic engineering).

**Appendix D**  
**( Normative Appendix )**

**Minimum Areas Indoors and Outdoors for Different Types of Animals**

Table D.1 shows the requirement of Minimum Areas Indoors and Outdoors of Livestock.

Table D.2 shows the requirement of Minimum Areas Indoors and Outdoors for Poultry.

**Table D.1 The Requirement of Minimum Areas Indoors and Outdoors of Livestock**

Types	Minimum live weight	Indoor area	Outdoor area
		m <sup>2</sup> /Head	m <sup>2</sup> /Head
Breeding and fattening bovine and equidae	≤100kg	1.5	1.1
	≤200kg	2.5	1.9
	≤350kg	4.0	3
	≥350kg	5	3.7
Dairy cows		6	4.5
Bulls for breeding		10	30
Sheep and goats		1.5 (Adult sheep)	2.5
		0.35 (Lamb)	0.5
Farrowing sows with piglets		7.5 (Adult sows)	2.5
Fattening pigs	≤50kg	0.8	0.6
	≤85kg	1.1	0.8
	≤110kg	1.3	1
Weaned piglets	≥40 d or ≤30kg	0.6	0.4
Sows for breeding		2.5	1.9
Boars for breeding		6	8.0

**Table D.2 The Requirement of Minimum Areas Indoors and Outdoors for Poultry**

Types	Indoor area (Net area that animal can be used)		Outdoor area (Activity area m <sup>2</sup> /Head)
	Quantity head/m <sup>2</sup>	Nest	
Laying hens	6	7 heads /Nest or 120cm <sup>2</sup> /head	4, provided that the amount of manure by nitrogen≤170kg /ha/year
Fattening poultry (in fixed housing)	10 (Live weight ≤21kg/m <sup>2</sup> )		Broilers and guinea fowl, 4 Ducks, 4.5 Turkey, 10 Geese, 15 Provided that the amount of manure by nitrogen≤170kg /ha/year for all the species mentioned above

Fattening poultry (in mobile housing)	16 (Live weight≤30kg/m <sup>2</sup> )		2.5, provided that the amount of manure by nitrogen≤170kg/ha/year
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**Appendix E**  
**(Normative Appendix)**

**List of Approved Additives, Processing Aids and other substances Used in Food Processing**

E.1 food additives

Table E.1 shows the food additives allowed for organic food processing.

**Table E.1 List of Food Additives Allowed for Organic Food Processing**

Serial number	Substance	Conditions for use	Int'l Numbering System
1	Arabic gum	Thickening agent, referring to GB 2760 for the limit.	414
2	Karaya gum	Stabilizing agent, referring to GB 2760 for the limit.	416
3	Silicon dioxide	Anti-coagulator, referring to GB 2760 for the limit.	551
4	Sulfur dioxide	Bleaching agents, preservative, antioxidant, for unsweetened fruit wine, the maximum limit is 50 mg/L; for sweetened fruit wine, the maximum limit is 100 mg/L; for red wine, the maximum limit is 100 mg/L, for white wine and rose wine, the maximum limit is 150 mg/L. The maximum limits are calculated in sulfur dioxide residues.	220
5	Glycerin	Water retention agent, emulsifier, referring to GB 2760 for the limit.	422
6	Guar gum	Thickening agent, referring to GB 2760 for the limit	412
7	Pectin	Emulsifier, stabilizer, referring to GB 2760 for the limit	440
8	Potassium alginate	Thickening agent, referring to GB 2760 for the limit	402
9	Sodium alginate	Thickening agent, referring to GB 2760 for the limit	401
10	Carob bean gum	Thickening agent, referring to GB 2760 for the limit	410
11	Xanthan gum	Thickening agent, referring to GB 2760 for the limit	415
12	Potassium metabisulfite	Bleaching agent, preservative, antioxidant, for unsweetened fruit wine, the maximum limit is 50 mg/L; for sweetened fruit wine, the maximum limit is 100 mg/L; for red wine, the maximum limit is 100 mg/L, for white wine and rose wine, the maximum limit is 150 mg/L. The maximum limits are calculated in sulfur dioxide residues.	224
13	(L(+)-tartaric acid , tartaric acid	Acidity regulator, referring to GB 2760 for the limit	334
14	Potassium bitartrate	Leavening agent for wheat flour and its products, bakery products, referring to GB 2760 for the limit. Crystallizing agent for wine	336

Serial number	Substance	Conditions for use	Int'l Numbering System
15	Carrageenan	Thickening agent, referring to GB 2760 for the limit Emulsifier and stabilizer, referring to GB 2760 for the limit	407
16	Ascorbic acid	Antioxidant, referring to GB 2760 for the limit Flour treatment agent, referring to GB 2760 for the limit	300
17	Calcium hydrogen phosphate	Leavening agent, referring to GB 2760 for the limit	341ii
18	Calcium sulfate	Stabilizer, coagulant, thickener and acidity regulator, referring to GB 2760 for the limit	516
19	Calcium chloride	Coagulant, stabilizer and thickener, referring to GB 2760 for the limits	509
20	Potassium chloride	Referring to GB 2760-2011 for the limit	508
21	Magnesium chloride	Stabilizer and coagulant, referring to GB 2760 for the limit	511
22	Gelatin	Thickening agent, referring to GB 2760 for the limit	
23	Citric acid	Acidity regulator, referring to GB 2760 for the limit	330
24	Tripotassium citrate	Acidity regulator, referring to GB 2760 for the limit	332ii
25	Trisodium citrate	Acidity regulator, referring to GB 2760 for the limit	331iii
26	DL- Malic Acid	Acidity regulator, referring to GB 2760 for the limit	
27	L-malic acid	Acidity regulator, referring to GB 2760 for the limit	
28	Calcium hydroxide	Acidity regulator, referring to GB 2760 for the limit	526
29	Agar	Thickening agent, referring to GB 2760 for the limit	406
30	Lactic acid	Acidity regulator, referring to GB 2760 for the limit	270
31	Sodium lactate	Water retention agent, acidity regulator, antioxidant, leavening agent, thickener and stabilizer, referring to GB 2760 for the limit	325
32	Calcium carbonate	Leavening agent, flour treatment agent, referring to GB 2760 for the limit	170i
33	Potassium carbonate	Acidity regulator, referring to GB 2760 for the limit	501i
34	Sodium carbonate	Acidity regulator, referring to GB 2760 for the limit	550i
35	Ammonium hydrogen carbonate	Leavening agent, referring to GB 2760 for the limit	503ii

Serial number	Substance	Conditions for use	Int'l Numbering System
36	Potassium nitrate	Color fixative and preservative for meat products, the maximum usage is 80mg/kg and the maximum residue is 30mg/kg (count in the residues of sodium nitrite)	252
37	Sodium nitrite	Color fixative and preservative for meat products, the maximum usage is 80mg/kg and the maximum residue is 30mg/kg (count in the residues of sodium nitrite)	250
38	Carmine (annatto extract)	Colorant, referring to GB 2760 for the limit	160b
39	Sulphur	Only used for the fumigation of konjac powder, the maximum dosage is 900mg/kg (based on sulfur dioxide residue).	-
40	Phospholipid	Antioxidant, emulsifier, referring to GB 2760 for the limit	322
41	Gellan gum	Thickener, referring to GB 2760 for the limit	418
42	Momordica grosvenori glycosides (lo-han-kuo extract)	Sweetener, referring to GB 2760 for the limit	-
43	Sodium bicarbonate	Leavening agent, acidity regulator and stabilizer, referring to GB 2760 for the limit	500ii

## E.2 Processing aids

Table E.2 shows the processing aids allowed for organic food processing.

**Table E.2 List of processing aids allowed for organic food processing**

No.	Name	Conditions	INS
1	Nitrogen	Used in food preservation, non-petroleum sources only, referring to GB 2760 for the limit	941
2	Carbon dioxide	Preservatives, processing aids, non-petroleum products, referring to GB 2760 for the limit	290
3	Kaolin	Clarifying agent and filter aid, referring to GB 2760 for the limit	559
4	L-malic acid	For fermentation process, referring to GB 2760 for the limit	
5	Silica gel	Clarifying agent, referring to GB 2760 for the limit	
6	Diatomaceous earth	Referring to GB 2760 for the limit	

7	Activated carbon	Referring to GB 2760 for the limit	
8	Sulfuric acid	Flocculant, referring to GB 2760 for the limit	
9	Calcium chloride	Processing aids, referring to GB 2760 for the limit	509
10	Bentonite	Adsorbent, filter aid and clarifying agent, referring to GB 2760 for the limit	
11	Calcium hydroxide	Referring to GB 2760 for the limit	526
12	Sodium hydroxide	Acidity regulator and processing aid, referring to GB 2760 for the limit	524
13	Edible tannin	Filter aid, clarifying agent and bleaching agent, referring to GB 2760 for the limit	181
14	Calcium carbonate	Referring to GB 2760 for the limit	170i
15	Potassium carbonate	Referring to GB 2760 for the limit	501i
16	Magnesium carbonate	Referring to GB 2760 for the limit	504i
17	Sodium carbonate	Referring to GB 2760 for the limit	500i
18	Cellulose	Referring to GB 2760 for the limit	
19	Hydrochloric acid	Referring to GB 2760 for the limit	507
20	Ethanol	Referring to GB 2760 for the limit	
21	Pearl rock	Filter aid, referring to GB 2760 for the limit	
22	Talc	Mold release agent, ant- sticking agent, referring to GB 2760 for the limit	553iii
23	Gelatin	Clarifying agent, referring to GB 2760 for the limit	-
24	Citric acid	Referring to GB 2760 for the limit	330
25	Phospholipid	Referring to GB 2760 for the limit	322
26	Sodium bicarbonate	Referring to GB 2760 for the limit	500ii
27	Carrageenan	Clarifying agent, referring to GB 2760 for the limit	407

### E.3 detergents and disinfectants

Table E.3 shows the detergents and disinfectants allowed for organic food processing.

**Table E.3 The detergents and disinfectants Allowed for Organic Food Processing**

Name	Conditions of use
Acetic acid (non-synthetic)	Equipment cleaning
Vinegar	Equipment cleaning

Hydrochloric acid	Equipment cleaning
Nitric acid	Equipment cleaning
Phosphoric acid	Equipment cleaning
Ethanol	Disinfection
Isopropyl alcohol	Disinfection
Hydrogen peroxide	Food grade hydrogen peroxide only, equipment cleaner
Sodium carbonate, sodium bicarbonate	Equipment disinfection
Potassium carbonate, potassium bicarbonate	Equipment disinfection
Bleach	Including calcium hypochlorite, chlorine dioxide or sodium hypochlorite, and can be used for disinfecting and cleaning food contact surfaces.
Peroxyacetic acid	Equipment disinfection
Ozone	Equipment disinfection
Potassium hydroxide	Equipment disinfection
Sodium hydroxide	Equipment disinfection
Citric acid	Equipment cleaning
Soap	Only biodegradable. Allowed for cleaning of equipment.
Potassium permanganate	Equipment disinfection

#### **E.4 Condiments**

Condiments allowed in organic food processing include:

- a) Essential oil: natural perfume extracted by mechanical and physical methods with oil, water, ethanol and carbon dioxide as solvents;
- b) Natural condiments: refer to Appendix G Guidelines for Evaluation of Organic Additives and Processing Aids for evaluation.

#### **E.5 Microbial products and enzyme preparations**

Microbial products and enzyme preparations allowed to be used in organic food processing include:

- a) Natural microorganisms and their products: except genetically engineered organisms and their products;
- b) Starter: bleaching agent and organic solvent are not used in the production process;
- c) Enzyme preparation: except genetically engineered organisms and their products.

#### **E.6 Other ingredients**

Other ingredients allowed in organic food processing include:

- a) Drinking water;
- b) Edible salt;
- c) Minerals (including trace elements), vitamins and amino acids. The conditions for use shall meet at least one of the following:
  - 1) Shall be used as stipulated by law;
  - 2) Use only when there is conclusive evidence to prove a serious shortage in food;
  - 3) No substitute meeting this Standard can be obtained, and if these ingredients are not used, the product will not be guaranteed normally to be produced or preserved, or its quality cannot reach a certain standard.

## Appendix F

(Normative appendix)

### Additives Allowed for Organic Feed Processing

Table F.1 shows the allowable feed additives in organic feed processing.

**Table F.1 list of the allowable feed additives in organic feed processing**

No.	Name	Note	INS
1	Iron	Ferrous sulfate, ferrous carbonate, trioxide	
2	Iodine	Calcium iodate, potassium iodide, sodium iodide	
3	Cobalt	Sulfate, cobalt chloride, cobalt	
4	Copper	Copper sulfate pent hydrate, copper oxide (for ruminants)	
5	Manganese	Manganese carbonate, manganese oxide, manganese sulphate, 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 (rock powder, shell), calcium lactate, calcium sulfate, calcium Chloride	
11	Phosphorous	Dicalcium phosphate, calcium dihydrogen phosphate, tricalcium phosphate	
12	Magnesium	Magnesium oxide, magnesium chloride, magnesium sulfate	
13	Sulfur	Sodium sulfate	
14	Potassium	Potassium chloride, potassium carbonate, potassium bicarbonate	
15	Vitamins	Vitamins derived from natural feed ingredients. When feeding monogastric animals, natural identical synthetic vitamins are allowed to use. If natural source of vitamins can't be obtained for ruminants, natural identical synthetic vitamins A,D,E are allowed to use	
16	Microorganism	Livestock technology use, not GMO	
17	Enzyme	Feed additives for silage or livestock technology use,not GMO	
18	Sorbic acid	Preservative	200
19	Formic acid	Preservative for silage, only allowed to use when full fermentation cannot be achieved due to the weather condition	236
20	Acetic acid	Preservative for silage, only allowed to use when full fermentation cannot be achieved due to the weather condition	260
21	Lactic acid	Preservative for silage, only allowed to use when full	270

No.	Name	Note	INS
		fermentation cannot be achieved due to the weather condition	
22	Propionic acid	Preservative for silage, only allowed to use when full fermentation cannot be achieved due to the weather condition	280
23	Citric acid	Preservative	330
24	Calcium stearate	Natural sources, binder agent and anti-caking agent	470
25	Silicon dioxide	Binders and anti-caking agent	551b
26	Methionine	Essential amino acids for poultry	

## **Appendix G**

(Informative Appendix)

### **Guidelines for Evaluating Organic Processing Additives and Processing Aids**

#### **G.1 Scope of Application**

The permitted additives and processing aids listed in Appendix E and Appendix F cannot cover all substances conforming to the principle of organic processing. When a substance is not listed in Appendix E and Appendix F, the substance is evaluated according to the guidelines to determine whether it is suitable for use in organic processing.

#### **G.2 Principles**

Each additive and processing aid can only be used in organic processing when necessary, and the following principles shall be followed:

- a) abide by the organic authenticity of products;
- b) without these additives and processing aids, the product cannot be produced and preserved.

#### **G.3 Conditions for Approval of Additives and Processing Aids**

The approval of additives and processing aids shall meet the following conditions:

- a) there are no other acceptable processes that can be used to process or preserve organic products;
- b) the use of additives or processing aids can minimize physical or mechanical damage to food caused by other processes;
- c) other methods, such as shortening transportation time or improving storage facilities, still cannot effectively ensure food hygiene;
- d) the quality and quantity of the natural source material are not sufficient to replace the additive or processing aid;
- e) additives or processing aids do not endanger the organic integrity of the product;
- f) the use of additives or processing aids will not give consumers an impression that the quality of the final product is better than that of the raw materials, thus confusing consumers. This mainly involves but is not limited to pigments and spices;
- g) The use of additives and processing aids shall not be detrimental to the overall quality of the product.

#### **G.4 Priorities for Using Additives and Processing Aids**

G.4.1 Use the following scheme to replace additives or processing aids:

- a) Crops and their processed products produced according to the requirements of this Standard, and these products do not need to be added with other substances, for example flour used as thickening agent or vegetable oil used as mold release agent;
- b) only mechanical or simple physical methods are used to process food of plant and animal origin or raw materials, such as salt .

G.4.2 Use the following substances instead of additives or processing aids

- a) pure food ingredients produced physically or enzymatically, such as starch, tartrate and pectin;
- b) purified products of non-agricultural raw materials and microorganisms, such as acerola juice, yeast culture and other enzymes and microbial preparations.

G.4.3 The following kinds of additives and processing aids cannot be used in organic products:

- a) substances with "equivalent properties" to natural substances;
- b) synthetic substances, such as acetyl cross-linked starch, which are basically judged to be unnatural or "new structure of product components";
- c) additives or processing aids produced by genetic engineering methods;
- d) synthetic pigments and synthetic preservatives.

Carriers and preservatives used in the preparation of additives and processing aids shall also be considered.

**Appendix H**  
**(Normative appendix)**

Indicators of Heavy Metals and Other Pollutants in Dyes Used in Organic Textiles  
The content indexes of heavy metals and other pollutants in dyes used in organic textiles are shown in table H.1.

**Table H.1 Contents of Heavy Metals and Other Pollutants in Dyes Used in Organic Textiles**

Name	Indicators mg/kg	Name	Indicators mg/kg	Name	Indicators mg/kg
Antimony	50	Arsenic	50	Barium	100
Lead	100	Cadmium	20	Chromium	100
Iron	2500	Copper	250	Manganese	1000
Nickel	200	Mercury	4	Selenium	20
Silver	100	Zinc	1500	Tin	250

## REFERENCES

- [1] CAC/GL 32-1999, Guidelines for the production, processing, labeling and marketing of organically produced foods. Adopted 1999. Revisions 2001, 2003, 2004 and 2007. Amendments 2008 and 2009.
- [2] CAN/CGSB-32.310-2006, Organic Production Systems General Principles and Management Standards
- [3] CAN/CGSB -32.311-2006, Organic Production Systems Permitted Substances
- [4] 7 CFR Part 205, National Organic Program
- [5] Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labeling of organic products and repealing Regulation (EEC) No 2092/91
- [6] 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 labeling of organic products with regard to organic production, labeling and control