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National Standard of the People's Republic of China

GB/T 19630.1—2011

Replace GB/T 19630.1—2005

Organic Products

Part 1：Production

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Standardization Administration of the People's Republic of China

CONTENT

Foreword

GB/T 19630 **O*rganic Products*** consists of four parts:

- Part 1: Production;

- Part 2: Processing;

- Part 3: Labeling and Marketing;

- Part 4: Management System.

This is the first part of GB/T 19630.

This part was drafted according to the rules in GB/T 1.1-2009.

This part replaces GB/T 19630.1-2005 O*rganic Products—Part 1: Production.*

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

- Addition of “Content”;

- Addition of “Introduction”;

- Addition of several terms and definitions including “Animal Life Cycle” (see 3.8), “Propagating Material” (see 3.10), “Genetic Engineering/Genetic Modification” (see 3.12), “Irradiation/Ionizing Radiation” (see 3.14);

- Removal of several terms and definitions including Allowed, Restricted, and Prohibited (see 3.11, 3.12, 3.13 of 2005 version);

- Addition of “General Principles” (see 4);

- Requirements of prohibited substances residue limits in certified products is more strict (see 4.5.6);

- Revision of requirements on annual seedlings (see 5.5.3);

- Addition of requirements on facility cultivation (see 5.9.1) and sprouts (see 5.9.2);

- Addition of allowed inputs in mushroom cultivation (see 7.3);

- Addition of “Sorting, cleaning, and other post-harvest handling” (see 5.10);

- Revision of requirements on age of introduction for slaughter chicken (see 8.3.1);

- Revision of “Requirements on origin of livestock”, maximum of 20% of conventionally reared female sheep, goats and pigs for breeding may be introduced (see 8.3.2);

- Revision of method to calculate percentage of roughage, fresh or dried fodder or silage in daily ration (see 8.4.4);

- Revision of lactation period for pigs, sheep and goats (see 8.4.5);

- Addition of requirements on drinking water of livestock and poultry, they shall meet the requirements of GB 5749 [see 8.5.1e)]

- Addition of requirements on final fattening phase of slaughter bovines (see 8.5.4);

- Removal of 9.1.4 c), relevant contents moved to 9.1.3 b);

- Addition of disinfectants allowed in aquaculture (see 9.4.3.3);

- Addition of requirements on constructing comb foundation with organic beeswax in conversion of apiaries (see 10.1.2);

- Addition of “Origin of bees” (see 10.2);

- Removal of clause stating, “The queen bee of the hive shall be produced in the hive” (see 10.5.3 of 2005 version);

- Addition of requirements stating, “Harvest of immature honey shall be forbidden” (10.8.3);

- Relocation of “General rules of transportation, storage and packaging” (see 11 and the 7 of 2005 version);

- Amendments to plant protection products and additional conditions for use (see Table A.2 of Appendix A and Appendix B of 2005 version);

- Addition of Table “Cleaners and Disinfectants” authorized in organic plant production (see Table A.3 of Appendix A);

- Addition of Table “Feed Additives and Substances for Animal Nutrition” (see Table B.1 of Appendix B);

- Removal of requirements on “Drinking Water Quality for Livestock and Poultry” (see Table C.1 of Appendix C of 2005 version);

- Amendment of cleaners and disinfectants allowed for use in animal breeding places, listed as Table B.2 of Appendix B (see Table C.2 of Appendix C of 2005 version);

- Amendment of authorized materials allowed for use in controlling bee pests and diseases, (see Table B.3 of Appendix B and 10.4.3 of 2005 version);

- Addition of requirement that “Lead-based paints should not be used” (see 10.7.6);

- Addition of appendix on “Minimum Areas Indoors and Outdoors in Different Types of Animals” (see Appendix D);

- Removal of the clauses involving certification management, including verification of conversion period, supervision of parallel production, evaluation and approval of inputs, analysis of products applying for certification.

Please note that some rules in this document may involve patents; the agency issuing this document does not assume the responsibility of identifying these patents.

This part was proposed by Certification and Accreditation Administration of the People’s Republic of China.

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Previous issue replaced by this part is the following：

- GB/T 19630.1-2005.

Introduction

Organic agriculture shall be concerned with interactions between the people and the ecosystem as well as with sustainable management of the environment and natural resources, as part of providing organic products. Organic agriculture is based on principles of health, ecology, fairness and care. Specifically, the basic principles of organic agriculture include:

- In regards to production, processing, circulation and consumption, organic agriculture maintains and promotes the development of ecological systems and the health of organisms, including health of the soil, plants, animals, microbes, human beings and the earth. Organic agriculture is especially dedicated to the production of high quality nutritious food, for preventative healthcare and the protection of welfare. Therefore, organic agriculture shall avoid using synthetic chemical fertilizers, plant protection products, veterinary medicines and food additives.

- Based on living ecological systems and cycles of energy and substances, we shall coexist with nature harmoniously, emulate and preserve nature. Organic agriculture adapts production methods in compliance with the local conditions, ecology, culture and production capacity. Through recycling, efficient resource use and energy management, we can reduce the use of external inputs to maintain and improve environmental quality and protect natural resources.

- Organic agriculture achieves ecological balance through designing of farming systems, establishing biological habitats, and protecting genetic diversity and agricultural biodiversity. In the process of production, processing, circulation and consumption, we can protect and improve our environment, including landscape, climate, habitat, biodiversity, air, soil and water.

- All levels and all groups, including farmers, workers, processors, distributors, traders and consumers, shall deal with mutual relations in a fair way. Organic agriculture is committed to the production and supply of adequate, high quality food and other products to provide a good quality of life for everyone, and to contribute to the protection of food safety and poverty eradication.

- Manage the natural and environmental resources in compliance with social justice, ecological justice and for future generations. Organic agriculture advocates the establishment of open and equal opportunities for production, circulation and trading systems and takes the environmental and social costs into account.

- Provide living conditions for animals in accordance with their physiological needs, natural habits and welfare.

- In addition to improving efficiency and increasing productivity, it also avoids risks to human health and animal welfare. Because of limitations to understanding ecological systems and agriculture, a cautious approach is needed when assessing new technologies and existing

technical methods. For organic agriculture, choosing technology shall emphasize prevention and responsibility to ensure that organic agriculture is healthy, safe and ecologically reasonable. Organic agriculture refuses unpredictable technologies such as genetic engineering and ionizing radiation to avoid introducing risks to the health or to the environment.

Organic Products

Part 1: Production

1 Scope

This part of GB/T 19630 defines general criteria and requirements for organic production of plant, animal, and microbial products.

This part applies to the whole process of organic production, including production, harvest, and post-harvest processing, as well as packaging, storage and transportation of these 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 3095 Ambient Air Quality Standard

GB 5084 Irrigation Water Quality Standard

GB 5749 Drinking Water Sanitary Standard

GB 9137 Maximum Allowable Concentration of Pollutants in Atmosphere for Crop Protection

GB 11607 Fishery Water Quality Standard

GB 15618 Environmental Quality Standards for Soils

GB 18596 Discharge Standard for Pollutants from Livestock and Poultry Breeding

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

GB/T 19630.4 Organic Products - Part 4: Management System

3 Terms and Definitions

The following terms and definitions apply to this part.

3.1 Organic Agriculture

Organic agriculture is a way of agricultural production that adopts a series of sustainable agricultural technologies to achieve a well-sustained and stable agricultural production system, where, in accordance with certain standards of organic agricultural production; prohibits the use of genetically modified organisms (GMOs) and their products, synthetic chemical substances of fertilizers, pesticides, regulators and feedstuff additives in agriculture production; respects to natural rules and ecological theories and coordinates the balance between plant and animal production.

3.2 Organic Product

Plant and animal products intended for human consumption and animal feeding that are produced, processed and handled in accordance with this Standard.

3.3 Conventional

Production systems and products that are not managed according to this Standard.

3.4 Conversion Period

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

3.5 Parallel Production

In the same production unit, the same or indistinguishable products are produced with 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 site that is established to limit application of, or contact with, 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 selling as organic product.

3.9 Homeopathic Treatment

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

The plant or plant tissue, except annual plants, used in plant production or breeding, including but not limited to the rootstock, buds, leaves, cutting seedlings, roots and tubers.

3.11 Biodiversity

The variety of life forms and ecosystem types on earth, including genetic diversity, species

diversity and ecosystem diversity , as well as the dynamic effects they engender.

3.12 Genetic Engineering /Genetic Modification

A set of techniques that can change the genetic materials by means other than natural mating and natural recombination, including but not limited to recombinant DNA, cell fusion, micro and macro injection, encapsulation, gene deletion and gene doubling.

3.13 Genetically Engineered Organism /Genetically Modified Organism

The plant, animal and microbe that their genes are changed through genetic engineering/ genetic modification technology, Genetically engineered organisms do not include organisms resulting from techniques such as conjugation, transduction and natural hybridization..

3.14 Irradiation；Ionizing Radiation

High energy emissions from radio-nucleotides, capable of altering a product's molecular structure for the purpose of controlling microbial contaminants, pathogens, parasites and pests in food, preserving food or inhibiting physiological processes such as sprouting or ripening, or for the purpose of inducing mutations for selection and breeding.

4 General Principles

4.1 Scope of the Production Unit

Boundaries of the production unit shall be clearly defined and so shall ownership and management rights. The production unit can also establish and implement an organic production management system in compliance with the requirements of GB/T 19630.4.

4.2 Conversion Period

The production unit requires conversion from conventional to organic production. Only after the conversion period can plant or animal products be sold as organic products. Operations during the conversion period shall completely comply with the requirements of this Standard.

4.3 Genetically Engineered Organism /Genetically Modified Organism

4.3.1 The organic production system shall not introduce or use genetically engineered organisms / genetically modified organisms and their derivatives in the organic products, including plants, animals, microorganisms, seeds, pollen, sperm, eggs and other reproductive materials as well as fertilizers, soil amendments, plant protection products, plant growth regulators, feed, animal growth regulators, veterinary medicine, fishery drugs and other agricultural inputs.

4.3.2 In case the production unit includes organic and conventional operation at the same time, conventional production shall not introduce or use genetically engineered organisms/ genetically

modified organisms.

4.4 Irradiation, Ionizing Radiation

Irradiation techniques shall not be applied in organic production.

4.5 Input

4.5.1 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.

4.5.2 In case that cultivation and/or husbandry management measures cannot maintain soil fertility and guarantee the health of plants and breeding animals, external inputs of the organic production system listed in Appendix A and Appendix B may be used according to the given conditions. Even when the inputs listed in the Appendix A and Appendix B cannot meet the requirements, 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.

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

4.5.4 Synthetic chemical plant protection products shall not be used.

4.5.5 Synthetic chemical fertilizers and urban sewage sludge shall not be used.

4.5.6 Any level of prohibited substances in organic production shall not be detected in certified products.

5 Plant Production

5.1 Conversion Period

5.1.1 A conversion period of a minimum of 24 months is required before sowing or planting for annual plants. For grassland or perennial forage, the conversion period shall be a minimum of 24 months before harvest, and a minimum of 36 months for perennial plants other than forage before harvest. Operation during the conversion period shall completely comply with the requirements of this Standard.

5.1.2 The conversion period shall be a minimum of 12 months for newly reclaimed fields, fallow fields and/or fields proven no prohibited substances application for more than 36 months.

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

5.1.4 Fields in conversion period treated with prohibited substances in organic production must be converted again. When prohibited substances are used as part of a compulsory disease or pest

control measure imposed by the competent authority of the local government, the conversion period referred to 5.1.1 may be shortened, The degradation process of the prohibited substance needs to guarantee an insignificant level of residues in the soil or perennial crop by the end of conversion period; otherwise the harvested products can not be sold as organic or organic in conversion.

5.1.5 Wild plant collection, mushroom cultivation (except cultivation with and covering soil) and sprout production can be exempt from the conversion period.

5.2 Parallel Production

5.2.1 In the same production unit, organic and non-organic plants that are easy to be 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.

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

5.2.3 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.

5.3 Environmental Requirements for the Production Base

Organic production shall be carried out under appropriate environmental conditions and shall be located far from urban, industrial and mining areas, major and auxiliary transportation lines, industrial pollution sources, living waste sites, etc.

Environmental quality of the organic production base shall meet the following requirements:

a) Soil environment quality shall comply with Grade II standard of GB 15618;

b) Irrigation water quality shall comply with the requirements of GB 5084;

c) Ambient air quality shall comply with Grade II standard of GB 3095 and the requirements of GB 9137.

5.4 Buffer Zone

The potential risk for organic production areas from neighboring conventional production

shall be evaluated. If there is a possibility that an organic production area could be affected by pollution from neighboring conventional production areas, buffer zones or physical barriers shall be established between organic and conventional production to prevent prohibited materials from conventional production areas drifting into organic areas and to ensure organic production areas are free from pollution. The plants planted in buffer zones cannot be certified as organic.

5.5 Seed and Propagating Material

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

5.5.2 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.

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

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

5.6 Cultivation

5.6.1 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 with fallow in winter. The plants used for rotation shall include but not be limited to legumes, green manure and cover plants.

5.6.2 Plant intercropping should be adopted to increase biodiversity and improve soil fertility and plant disease resistance.

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

5.7 Soil Fertility Management

5.7.1 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 matters and nutrients shall be used to compensate for the organic matter and nutrients that are removed by harvesting;

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

5.7.2 When the measures described in 5.7.1 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 the certification body before usage.

5.7.3 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.

5.7.4 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.

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

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

5.8 Disease, Pest and Weed Control

5.8.1 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 are against the propagation of diseases, pests and weeds, but 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.

5.8.2 If the methods mentioned under 5.8.1 are ineffective, products listed in Table A.2 may be used.

5.9 Other Plant Production

5.9.1 Facility Cultivation

5.9.1.1 Soil or substrate shall be used for plant production; hydroponic production shall not be used. Prohibited substances shall not be used to treat building materials of agricultural facilities and cultivation containers. The conversion period shall comply with the requirements of 5.1.

5.9.1.2 Substance used for soil fertility improvement in Table A.1 during organic plant production may be used as a substrate, and shall not contain prohibited substances.
Animal manure shall be composted if used as source of nutrients. Substances listed in Table A.1 may be used as a supplementary source of nutrients. An auxiliary heat source appropriately released by heating gas or water may be used; auxiliary light sources may also be applied.

5.9.1.3 The following measures and methods may be used:

a) Fertilizers and soil conditioners listed in Table A.1 may be used as a supplementary source of nutrients.

b) Fire, fermentation, composting and compressed gas may be used to increase carbon dioxide concentrations;

c) Steam and cleaners and disinfectants listed in Table A.3 may be used to clean and disinfect the cultivation vessels;

d) Plant growth and development may be regulated by controlling the temperature and light or using natural plant growth regulators.

5.9.1.4 Soil regeneration and recycling shall be applied. In the production process, the following methods may be used instead of crop rotation:

a) Grafting cultivation with disease-resistant plants;

b) Plowing and sunning in summer and winter;

c) Mulching with biodegradable plant materials (such as crop straw and hay) to enable soil regeneration;

d) Replacing some or all of the greenhouse soil, but the replaced soil shall be re-used for other plant production.

5.9.1.5 If possible, reused or recycled cultivation containers may be used.

5.9.2 Sprout Production

5.9.2.1 Organic seeds shall be used for sprout production.

5.9.2.2 Water quality for sprout production shall be in accordance with GB 5749.

5.9.2.3 Preventive measures shall be taken to prevent pests and diseases. Steam, cleaners and disinfectants listed in Table A.3 may be used to clean and disinfect the culture vessels and production place.

5.10 Sorting, Cleaning, and Other Post-harvest Handling

5.10.1 Physical and biological methods shall be adopted for cleaning, sorting, threshing, shelling, cutting, preservation, drying and other primary processing after plant harvest. The chemical

substances not listed in Appendix A of GB / T 19630.2-2011 shall not be used.

5.10.2 Equipment used for non-organic products shall be cleaned before handling of organic products. In case equipment is difficult to clean, flushing measures shall be taken.

5.10.3 Products and equipment shall be kept clean to avoid contamination.

5.10.4 Cleaners or disinfectants used to clean equipment and facilities shall avoid contamination of organic products.

5.10.5 Pest control in the process of post-harvest handling shall comply with section 4.2.3 in GB/T 19630.2-2011.

5.11 Contamination Control

5.11.1 Measures shall be taken to prevent water infiltrating or overflowing from conventional fields into organic plots.

5.11.2 Contamination by prohibited substances shall be avoided when applying fertilizer from external sources.

5.11.3 Before being used in organic production, facilities previously used in conventional production systems shall be completely cleaned to remove any contaminating residues.

5.11.4 Poly-chloride products are prohibited for protective construction coverings, plastic films, and insect-resisting nets. Only products derived from polyethylene, polypropylene or polycarbonate may be used and shall be removed from the soil after utilization. They shall not be burned.

5.12 Soil and Water Erosion Control and Biodiversity Protection

5.12.1 Measures shall be taken to prevent water and soil erosion, land desertification, and soil salinization. Adequate attention shall be paid to sustainable utilization of soil and water resources.

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

5.12.3 Crop straws shall be fully utilized, and burning shall be prohibited unless needed for the control of pests and diseases.

6 Wild Plant Collection

6.1 Collection areas shall have a clear boundary, and shall stay in a state of stable and sustainable production.

6.2 Collection areas shall be free from any prohibited materials for at least 36 months before collection.

6.3 Effective buffer zones shall be maintained in collection areas.

6.4 Collection shall not affect the stability of natural habitats or threaten the maintenance of plant species in the collection areas. Collection quantity shall not be in excess of sustainable output of the ecosystem.

6.5 A management plan for sustainable production in organic collection areas shall be developed and submitted.

6.6 The handling after wild plant collection shall meet the requirements of 5.10.

7 Mushroom Cultivation

7.1 In fields of mushroom production that are adjacent to conventional fields, buffer zones or physical barriers shall be set up to prevent contamination from prohibited materials. Water quality shall meet the requirements of GB 5749.

7.2 Organic microbial strains shall be used. If not available, non-organic microbial strains which are not treated with prohibited substances may be used.

7.3 Natural materials or substrate from organic production shall be used, and the following components may be added:

a) Farm manure and animal excrements from organic production; when farm manure and animal excrements from organic production are not available, fertilizers and soil conditioners listed in Table A.1 can be used, but shall not exceed 25% of the total dry weight of substrate, and shall not contain human excrement or animal excrement from intensive husbandry;

b) Products of agricultural origin from organic units, in addition to those referred to under 7.3 a);

c) Peat not chemically treated;

d) Wood not treated with chemical products after felling;

e) Mineral products listed in Table A.1 for fertilizers and soil conditioners.

7.4 The conversion period for mushroom cultivating with soil or mulching with soil shall comply with the requirements of 5.1 as annual plants.

7.5 Food-grade products shall be used for coating of wood and inoculation positions. Petroleum-based paint, latex paint and painting shall not be used.

7.6 Precautionary management measures shall be taken to maintain hygiene，keep proper ventilation and remove infected blocks.

7.7 During the non-cultivation period, steam, cleaners and disinfectants listed in Table A.3 can be used for cleaning and disinfecting of cultivation area.

7.8 The post-harvest handling for mushroom shall be in compliance with the requirements of 5.10.

8 Livestock and Poultry Production

8.1 Conversion Period

8.1.1 The conversion period of the feedstuff production unit should comply with the requirements of 5.1. The conversion period may be reduced to 12 months for pasturages and grasslands used by non-herbivore animals. If the land concerned has not received treatments with prohibited materials for at least 12 months, conversion period may be reduced to 6 months.

8.1.2 Conversion periods for livestock and poultry are as follows:

a) 12 months in the case of equines, bovines and camels for meat production;
b) 6 months in the case of sheep, goats and pigs for meat production;
c) 6 months in the case of livestock for milk production;
d) 10 weeks in the case of poultry for meat production;
e) 6 weeks in the case of poultry for egg production; and,
f) Longer than three quarters of their life cycle in the case of other animals.

8.2 Parallel Production

If the livestock or poultry farm simultaneously raises the same species or species that are hard to distinguish both organically and non-organically, livestock and poultry within the organic operation may be sold as organic product, provided that:

a) Pens, free-range and exercise areas, and pasture for organically reared livestock and poultry are completely separated from those for non-organically reared livestock and poultry, or the organically reared livestock and poultry are easily distinguished from non-organically raised ones;
b) Warehouses or areas for storing feed shall be separated with obvious marks or labels;
c) Organically reared livestock and poultry shall be prevented contact with storage areas of non-organic feed and prohibited materials.

8.3 Origin of Livestock and Poultry

8.3.1 Preference shall be given to organic animals when introducing livestock and poultry. When organically reared livestock and poultry are not available, conventionally reared livestock and poultry may be introduced, provided that:

a) Equines, bovines and camels for meat production have been weaned, and are not more than 6 months old;
b) Piglets and lambs have been weaned, and are not more than 6 weeks old;
c) Dairy cattle are not more than 4 weeks old and are fed mainly on whole milk and have been fed colostrum;
d) Chickens for meat production shall be less than 2 days old (for other poultry, may be up to 2 weeks old);
e) Pullets for egg production shall be less than 18 weeks old.

8.3.2 Conventionally reared breeding stock may be introduced. For equines, bovines and camels,

a maximum of 10% of the adult animals of the same species may be introduced. For sheep, goats and pigs, a maximum of 20% of the adult animals of the same species may be introduced. The percentage may be increased up to 40%, subject to authorization by the certification body, in the following special cases:

a) when serious unforeseen natural disasters or man-made accidents occur;
b) when significant expansion of the livestock farm is made;
c) when new livestock breed is developed.

All introduced conventionally reared livestock and poultry shall go through the conversion period.

8.3.3 Males for breeding may be introduced from non-organic stock farms provided that the animals are subsequently reared and fed organically.

8.4 Feed

8.4.1 Livestock and poultry shall be raised on organic feed. At least 50% of the feed shall come from the feed production unit of the farm itself, or be produced in cooperation with other organic farms in the same region. Production and use of feed shall comply respectively with the requirements set out in Section 5 Plant Production and Table B.1 of this part.

8.4.2 In the first 12 months since the implementation of organic management in the livestock or poultry farm, feed produced on the same farm in accordance with this Standard may be fed to the livestock and poultry on the farm as organic feed, but shall not be sold as organic feed.

Distinct and effective physical barriers or buffer zones shall be established to prevent contamination from adjacent conventional production units to organic feed production units or to pasture.

8.4.3 When organic feedstuff is in short supply, conventional feedstuff is allowed. However, the maximum percentage of conventional feedstuff out of the total consumption per year shall not exceed the following percentages:

a) 10% (by dry matter) for herbivores;
b) 15% (by dry matter) for non-herbivores.

The quantity of conventional feedstuff shall not exceed 25% of the total daily ration (by dry matter).

When unpredictable catastrophes or accidents happen, a higher percentage of conventional feed may be allowed for a limited period of time.

Permission shall be obtained from the certification body before the use of conventional feed.

8.4.4 Herbivores shall be guaranteed roughage to meet their daily nutritional demand. The percentage of roughage, fresh or dried fodder or silage shall not be less than 60% (by dry matter)

in daily rations (which can be reduced to 50% within the first three months, in the case of livestock for milk production). Roughage, fresh or dried fodder, or silage shall be added to the daily ration for omnivorous animals and poultry.

8.4.5 Young mammals shall stay with their mothers and shall be fed on adequate colostrum. In the lactation period, young mammals may be fed on organic milk of the same species. When organic milk is not available, non-organic milk from the same species may be allowed.

Early weaning or feeding young animals with milk substitute is prohibited. Under emergency conditions, milk substitutes may be allowed to supplement feed materials, but the substitutes shall not contain antibiotics, synthetic chemical additives (except listed in Table B.1 of Appendix B), or substances derived from slaughtered animals. The lactation period shall be at least:

a) 3 months for equines and bovines;
b) 45 days for goats and sheep;
c) 40 days for pigs.

8.4.6 Genetically modified organisms (genetically engineered organism) and their products shall not be used in the production of feedstuffs, feed ingredients and feed additives.

8.4.7 The following methods and products are prohibited:

a) Feeding ruminants with animals or animal derived products, or feeding livestock and poultry with animals from the same species or products derived from them;

b) Unprocessed or processed animal excrement, in any form;

c) Feedstuff extracted by chemical solvent or mixed with synthetic chemicals, except those extracted by water, ethanol, animal and plant oil, vinegar, carbon dioxide, nitrogen and carboxylic acid.

8.4.8 Feed additives shall be in the list of feed additives published by the Ministry of Agriculture, and permitted for sale, and are subject to the requirements set out in other relevant articles of this Part.

8.4.9 Natural minerals may be used, such as magnesium oxide, and greensand, among others. If this cannot satisfy the nutritional demand of the animals, minerals and trace elements listed in Table B.1 of Appendix B may be used.

8.4.10 Added vitamins shall be derived from germination of grain, cod liver oil, vintage yeast or other natural materials. If this cannot satisfy the nutrition demand of animals, synthetic vitamins may be used.

8.4.11 The following products are prohibited (except listed in Table B.1):

a) Synthetic chemical growth promoters (including antibiotics, antiparasitics and hormones used for promoting growth);

b) Synthetic chemical seasonings and flavorings;

c) Preservatives (except when used as processing aids);

d) Synthetic coloring agents;

e) Non-protein nitrogen (e.g. urea);

f) Chemically extracted amino acid;

g) Antioxidants;

h) Binders.

8.5 Husbandry Conditions

8.5.1 Conditions for livestock and poultry husbandry (stock, pens etc.) shall meet the livestock's physiological and behavioral needs and satisfy the following conditions:

a) Adequate space for movement in compliance with Appendix D of this part, and adequate sleeping time; Open-air runs for livestock and poultry may be partly covered; Water fowl shall have access to water such as a stream, pond, lake or a pool whenever the weather and hygienic conditions permit;

b) Good ventilation and sufficient sunshine should be provided, while avoiding excessive sun exposure;

c) Appropriate temperature and humidity shall be maintained while avoiding exposure to winds, rain and snow;

d) If bedding materials might be chewed by animals, they shall be in compliance with requirements in 8.4 of this part;

e) Adequate drinking water and feed shall be available, and drinking water quality shall comply with requirements set out in GB 5749;

f) Construction materials and facilities that might significantly harm the health of human or livestock and poultry shall not be used;

g) Necessary measures shall be taken to protect livestock and poultry from attacks by wild predators.

8.5.2 In the case of laying poultry, natural light may be supplemented to provide a maximum of 16 hours of light per day. The operator can appropriately extend the time according to the health condition and growing period (e.g. warming for new born poultry).

8.5.3 Livestock and poultry shall have access to the outdoors during appropriate seasons, with the following exceptions:

a) When special structures of the livestock housing temporarily restrict the livestock and poultry from access to the outdoors, provided that this shall be improved within a limited period of time;

b) Enclosing is more favorable to the sustainable utilization of land resources than grazing.

8.5.4 The final fattening phase of adult bovines for meat production may take place indoors, provided that this indoor period does not exceed one fifth of their life cycle and does not exceed 3 months.

8.5.5 Animal husbandry measures that restrict livestock and poultry access to land are prohibited. Completely enclosing livestock, keeping them inside houses and keeping livestock tethered are also prohibited.

8.5.6 Herd animal shall not be kept individually with the exception of sick livestock and poultry, adult males and livestock during late pregnancy.

8.5.7 Force-feeding is prohibited.

8.6 Disease Prevention and Veterinary Treatment

8.6.1 Disease prevention for organically reared livestock and poultry shall be in compliance with the following principles:

a) Selection of breeds with high adaptability and strong disease resistance considering local conditions;

b) On the basis of the need of the livestock, measures such as use of high quality feed, proper nutrition and appropriate exercise shall be adopted to strengthen the immunological defense of the animal;

c) Improving the sanitary management of facilities and environment, and ensuring an appropriate stocking density.

8.6.2 Disinfectants listed in Table B.2 may be used in animal husbandry. When disinfection is conducted, livestock and poultry shall be moved out of the areas. Livestock and poultry excrement shall be periodically cleaned and disposed of.

8.6.3 Natural therapies may be allowed to treat livestock and poultry sicknesses, such as herbal medicines, trace elements, Chinese veterinary medicine, acupuncture, and homeopathy.

8.6.4 Preventive vaccination may be used. However, vaccines shall not be genetically modified (except for compulsory preventive vaccinations authorized by the government). When a farm is in danger of some diseases, which cannot be controlled by other means, urgent preventive vaccination may be allowed (including vaccinations to stimulate the production of maternal antibodies).

8.6.5 Use of antibiotics and chemically synthesized medicines for preventive treatment is prohibited for livestock and poultry.

8.6.6 When preventive measures taken cannot control the disease and suffering of the animal, allopathic veterinary medicinal products may be allowed for use under the instruction of a veterinarian. These livestock and products derived therefrom may be sold as organic only after the withdrawal period has been doubled (in the case that the doubled withdrawal period is less than 48 hours, the required period shall still be extended to 48 hours).

8.6.7 Use of substances to promote growth or production, including antibiotics, chemical antiparasitics and other artificial aids for growth promotion purposes, and the use of hormones or similar substances to control reproduction (e.g. induction, synchronisation of oestrus, superovulation,etc.) are prohibited. Nevertheless, hormones may be administered to an individual animal, as a form of therapeutic veterinary treatment.

8.6.8 With the exception of vaccinations and parasite control, if animal life cycle is less than 12 months; animals may be allowed to receive only one course of treatment with antibiotics or synthetic allopathic veterinary medicinal products; If animal life cycle is longer than 12 months, a maximum of three courses of treatments is allowed every 12 months with antibiotics or synthetic allopathic veterinary medicinal products; otherwise, the livestock concerned shall undergo the conversion period .

8.6.9 Treated livestock and poultry must be clearly identified, individually in the case of large animals; or by batch, in the case of poultry and small animals.

8.7 Non-Therapeutic Operations

8.7.1 Organic production shall place emphasis on animals' individual characteristics. Breeds which do not need non-therapeutic operations shall be selected if possible. To minimize suffering of livestock and poultry, following non-therapeutic operations may be allowed, with injection of anesthetics if necessary:

a) Physical castration;
b) Dehorning;
c) Passivation of milk teeth of piglets within 24 hours after their birth;
d) Tail-docking of lambs;
e) Clipping wing feather;
f) Ringing.

8.7.2 The following non-therapeutic operations are prohibited:

a) Tail-docking (except for lambs);
b) Trimming of beaks and toes;
c) Ironing wings;
d) Cutting piglets' teeth;
e) Other non-therapeutic operations not clearly listed as allowed.

8.8 Reproduction

8.8.1 Reproduction should be based on natural methods.

8.8.2 Reproduction measures that do not produce serious influences on the genetic diversity of livestock and poultry, such as artificial insemination, may be allowed.

8.8.3 Forms of artificial or assisted reproduction, which may seriously affect the genetic diversity of livestock and poultry, such as embryo transfer and cloning, are prohibited.

8.8.4 Except for the purpose of treatment, hormones are prohibited for use in stimulating

animals to ovulate or give birth.

8.8.5 If the maternal livestock receive treatments with prohibited materials during the final trimester of pregnancy, offspring shall undergo the conversion period,

8.9 Transportation and Slaughtering

8.9.1 Livestock and poultry as well as their derived products shall be clearly marked for identification during loading and unloading, transportation, storage and slaughtering.

8.9.2 Livestock and poultry shall be managed by designated people at all steps of their loading and unloading, transportation and prior to slaughtering.

8.9.3 Livestock and poultry shall be provided with appropriate conditions during transportation or slaughtering, for example:

a) Livestock and poultry shall be prevented from being in contact by sight, sound or smell with animals in slaughter or dead animals;

b) Mixture of livestock and poultry from different groups shall be avoided; organic livestock and poultry shall be separated from conventional ones, and clearly marked;

c) Livestock and poultry shall be provided with resting time to mitigate stress;

d) Ensure the quality and suitability of transportation means and handling facilities. Transportation vehicles shall be appropriate for the transported livestock and poultry, and free of protrusions, which could cause injury;

e) Hunger and thirst during the process of transportation shall be avoided. If needed, water and feed shall be provided to livestock and poultry;

f) Individual demands from livestock and poultry shall be considered and satisfied as far as possible;

g) Appropriate temperature and relative humidity shall be maintained;

h) Stress to livestock and poultry shall be minimized during their loading and unloading.

8.9.4 Practices of transporting and slaughtering shall be peaceful and in line with animal welfare requirements. Electronic prod and similar devices are prohibited to drive animals. Use of synthetic allopathic tranquillizers are prohibited prior to or during transportation.

8.9.5 Slaughtering shall be carried out at government approved or qualified slaughterhouses with good sanitation.

8.9.6 Slaughter shall be carried out at the nearest possible slaughterhouse. Transportation time for livestock and poultry by vehicles shall not exceed 8 hours unless the husbandry farm is far away from the slaughterhouse.

8.9.7 Shackling, hoisting, or slaughtering livestock and poultry before they lose consciousness shall be prohibited, except for small poultry and little animals. Tools for depriving livestock of

consciousness prior to slaughtering shall be kept in good working condition. Nevertheless, in case that causing livestock and poultry to lose consciousness prior to slaughtering is forbidden for religious or cultural reasons, livestock and poultry can be slaughtered directly and the practices of slaughter shall be carried out in a peaceful environment and within the shortest time possible.

8.9.8 Organically reared livestock and poultry shall be separated from conventionally reared ones during slaughter. Derived products shall be separated during storage and be clearly marked. The inks for marks on livestock shall be subject to government regulations on food hygiene.

8.10 Pest Management in Animal Production Facilities

Pest management operations shall be adopted according to the following priorities:

a) Preventive measures;

b) Mechanical, physical and biological measures;

c) Use of rodenticide approved by the government and substances listed in Table A.2 of Appendix A in a safe way.

8.11 Environmental Impacts

8.11.1 Capacity of feed production, health of livestock and poultry as well as the impacts on the environment shall be taken into full consideration. The number of livestock and poultry reared shall not exceed the maximum capacity of animal husbandry in the range. Measures shall be taken to prevent environmental impacts caused by overgrazing.

8.11.2 Animal excrement storage facilities shall have enough capacity, and the excrement shall be disposed of in a timely manner and utilized properly. The design and handling of these facilities shall avoid polluting groundwater and surface water. The discharge of pollutants from animal production units shall satisfy the requirements set out in GB 18596.

9 Aquaculture

9.1 Conversion Period

9.1.1 The conversion period from conventional to organic shall be at least 12 months for non-open aquaculture areas.

9.1.2 Production units in the same non-open aquaculture area shall not be certified separately. The product may be certified as organic only if the aquaculture area completely complies with the standard for organic certification.

9.1.3 If a production unit cannot implement organic conversion in all aquaculture areas at the same time, a strict management system of parallel production shall be developed. The system shall be subject to the following requirements:

a) Physical isolation measures must be taken between organic and conventional production units; for sessile aquatic organisms in open aquaculture area, organic aquaculture areas shall keep certain distance from conventional aquaculture area, conventional agriculture

and industrial pollution sources;

b) The organic aquaculture system including water quality, feed, medicines, input materials and other elements required by the standard, shall be available for inspection by certification bodies;
c) Documents and records of conventional production systems and organic production systems shall be kept separately;
d) The conversion aquaculture area shall be under uninterrupted organic management and shall not shift between organic and conventional management.

9.1.4 Wild sessile aquatic organisms harvested from open-water areas can be directly certified as organic aquatic products in the following cases:

a) The water has not been affected by prohibited materials listed in the Standard;
b) The aquatic ecosystem remains in a stable and sustainable state.

9.1.5 Conventionally aquatic organisms may be introduced; however, their products may be certified as organic only after the corresponding conversion period ends. When non-local organisms are introduced, permanent damage to the local ecosystem caused by the organisms shall be avoided. Introduction of GMOs is prohibited.

9.1.6 All aquatic organisms introduced shall be managed organically at least after 1/3 animal life cycle.

9.2 Selection of Aquaculture Sites

9.2.1 During the selection of aquaculture sites, consideration shall be given to maintaining the health of the aquatic environment and the surrounding aquatic and terrestrial ecosystem and to promoting the conservation of biodiversity in the water. Organic aquaculture sites shall not be negatively affected by contamination sources and conventional aquaculture.

9.2.2 Borders of the production area and harvesting area shall be clearly defined, in order to facilitate the inspection of water quality, feed and medicines etc.

9.3 Water Quality

The water quality of organic aquaculture areas and open-water areas shall meet the requirements of GB11607.

9.4 Aquaculture

9.4.1 Basic requirements for aquaculture

9.4.1.1 Aquaculture practices which are suitable for the physiological needs of the organisms and local geographical conditions shall be adopted. Production measures shall ensure the health of the organisms and meet their basic demands. Permanent aeration is prohibited.

9.4.1.2 Effective measures shall be taken to prevent aquatic organisms from other aquaculture systems entering the organic area and capturing organic aquatic organisms.

9.4.1.3 Any artificial acts that could be harmful to cultivated organisms are prohibited.

9.4.1.4 Lighting time may be artificially prolonged, for a maximum of 16 hours.

9.4.1.5 Use of paints and chemical compounds in construction materials and production facilities for aquaculture is prohibited to avoid harm to the environment and organisms.

9.4.2 Feeding materials

9.4.2.1 Feeding materials used in organic aquaculture shall be organically produced, natural or authorized by the certification body. When the quantities or qualities of organically produced or wild feed is not adequate, conventional feed of no more than 5% of the total feed quantity (by dry weight) may be used. Under some unpredictable circumstances, the maximum percentage of conventional feed may be up to 20% (by dry weight) after authorization by the certification body.

9.4.2.2 At least 50% of the animal protein in a diet shall come from by-products of the food industry, or other wastes and/or other materials that would not be used for human consumption. Under unpredictable circumstances, this percentage may be reduced to 30%.

9.4.2.3 The use of natural mineral additives, vitamins and trace elements is allowed, if these nutrients cannot meet the requirements of the aquatic organism, mineral additives, trace elements and artificial vitamins listed in table B.1 can be used.

9.4.2.4 The use of human excrement, and untreated animal excrement, are prohibited.

9.4.2.5 The following materials shall not be added in feed or be put into aquaculture area in any manner:

a) Synthetic growth promoters and stimulants;
b) Synthetic attractant;
c) Synthetic antioxidants and preservatives;
d) synthetic coloring agents;
e) Non-protein nitrogen (e.g. urea);
f) Materials from the same animal family as the one being fed;
g) Feedstuff subject to solvent extraction;
h) Pure chemically extracted amino acid;
i) GMOs and products derived therefrom.

Under special weather conditions, synthetic feed preservatives can be used after being approved by the certification body. Moreover, the use time and amount shall be set in accordance with the conditions specified by the certification body.

9.4.3 Disease prevention and veterinary treatment

9.4.3.1 Health of the cultivated organisms shall be guaranteed mainly through preventive measures (for example optimizing management, feed and diet). All management measures shall aim to strengthen the resistance of the organisms against disease.

9.4.3.2 Stocking density of organisms should not affect their health or cause abnormal activities, and shall be regularly monitored and adjusted according to requirements.

9.4.3.3 The use of lime, bleaching powder, chlorine dioxide, tea seed cake, potassium permanganate and microbial agents may be allowed to disinfect culture waters and silts in ponds to prevent disease among aquatic organisms.

9.4.3.4 Priority shall be given to natural therapy to treat aquatic animal diseases.

9.4.3.5 Conventional medicinal products shall only be used if preventative measures and natural medicinal therapy are not effective. During treatment with conventional methods, sick aquatic organisms shall be isolated.

Aquatic organisms receiving conventional medicinal treatment may be sold as organic only after two times the withdrawal period of the used medicines has passed.

9.4.3.6 The use of antibiotics, chemically synthesized medicine and hormones is prohibited in daily preventive treatments.

9.4.3.7 Vaccines are permitted if there is a risk of certain diseases that cannot be controlled by management techniques. Vaccines are also permitted if mandatory under applicable legislation. Genetically engineered vaccines are prohibited.

9.4.4 Breeding

9.4.4.1 Aquatic organisms' physiological and behavioral characteristics shall be respected, and any interference shall be reduced to a minimal level. Natural breeding is promoted. Non-natural reproduction practices, such as artificial insemination and artificial incubation, are restricted. Moreover, asexual reproduction, genetic engineering and induction of polyploidy are prohibited.

9.4.4.2 Breeds suitable for local conditions and with strong disease resistance shall be chosen as much as possible. If aquatic organisms need to be introduced, those aquatic organisms shall, where available, be introduced from organic aquaculture areas.

9.5 Fishery

9.5.1 Fisheries shall not exceed the reproduction capacity of the ecosystem and sustain the production of natural waters and the survival of other species.

9.5.2 Mild fishery measures shall be used as much as possible, in order to minimize stress and negative effects on aquatic organisms.

9.5.3 Specification of fishery tools shall be in compliance with relative national regulations.

9.6 Transportation of Living Aquatic Animals

9.6.1 During transportation, specifically designated personnel shall take responsibilities for the transported animals to maintain their well-being.

9.6.2 Water quality, temperature, oxygen content, pH value of the water used for transportation, and loading density of aquatic organisms shall meet the requirements of the animals concerned.

9.6.3 Transportation frequency shall be minimized.

9.6.4 Transportation vehicles and materials shall not have potentially toxic effects on the organisms.

9.6.5 Chemically synthesized tranquillizers or stimulants shall not be used prior to or during transportation or at any time.

9.6.6 Generally, transportation time shall be as short as possible. During transportation, transported organisms shall not suffer from avoidable effects or physical pain.

9.7 Slaughter of Aquatic Animals

9.7.1 The management and techniques of slaughter should respect the physiology and behavior of aquatic animals and comply with principles of animal welfare.

9.7.2 After being transported to the destination, aquatic animals shall have a certain period of rest before being slaughtered.

9.7.3 During the slaughtering process, stress and pain of aquatic animals shall be minimized. The organisms should be in a state of unconsciousness before bleeding out. Equipment shall be regularly inspected and monitored and be in good working condition and properly functioning, to ensure that aquatic animals lose consciousness quickly during slaughter.

9.7.4 Direct or indirect contact of live aquatic animals with dead ones or those in slaughter should be avoided.

9.8 Environmental Impacts

9.8.1 Drainage from non-open water areas shall be authorized by the local environmental protection agency.

9.8.2 Comprehensive utilization of sediments from non-open water areas for agricultural purpose shall be encouraged.

9.8.3 Contamination of the water body shall be avoided or reduced in open waters areas where aquaculture is conducted.

10 Beekeeping and Bee Products

10.1 Conversion Period

10.1.1 For beekeeping the conversion period shall be at least 12 months.

10.1.2 During the conversion period, where foundations made by organic wax are not available from the market or any other way, foundations made by conventional wax may be used after approval, provided that the conventional wax is replaced by organically produced wax within 12 months. In cases where not all the wax can be replaced during the period, the certification body may extend the conversion period.

10.2 Origin of Bees

10.2.1 For replacement of colonies, the organic production unit may introduce up to 10% of queen bees and colonies managed in line with this standard. The foundation or combs for the introduced queen bees and colonies shall come from organic production units. In this case, the introduced bees do not have to go through conversion period.

10.2.2 In case of death of great amounts of bees caused by health problems or disaster, and organic bee colonies are not available, replacement bees may be from non-organic sources provided that the requirements set out in 10.1 of this part are met.

10.3 Siting of the Apiaries

10.3.1 The apiary shall be established in organic production areas or areas where no prohibited materials have been applied within at least the last 36 months.

10.3.2 During the production season, there shall be enough natural nectar, honeydew and pollen plants including organic crops, natural vegetation, or environmental friendly grown plants, and clean water sources within the radius range of 3 kilometers from the apiary.

10.3.3 There shall be no potential contamination sources that may affect the health of the colonies including blooming crops that have used prohibited materials, GMO crops in blossom, golf courses, landfill sites, large residential areas, busy roads, etc. within the radius range of 3 kilometers from the apiary.

10.3.4 When bees are reared in wild areas, the impacts on local insect communities shall be taken into account.

10.3.5 The location for hives and scope of foraging shall be clearly defined.

10.4 Feeding

10.4.1 At the end of the harvest season, adequate honey and pollen shall be kept in hives for bees to survive the winter.

10.4.2 In seasons when no production happens, bees shall be provided with adequate organic honey and pollen.

10.4.3 If bees suffer from hunger because of climate or other special circumstances, artificial feeding may be carried out only between the last honey harvest and 15 days before the start of the next nectar or honeydew flow period. Organic honey or sugar shall be used if commercially available. If organic honey or sugars are unavailable, artificial feeding with conventional honey or syrup may be allowed for a specified time limit, after approval by the certification body.

10.5 Disease and Pest Control

10.5.1 The health and living conditions of bees shall be guaranteed by means of hive sanitation and management, to prevent parasitic mites and other pests. Specific measures include:

a) Selection of appropriate strong breeds suitable to local conditions, and elimination of weak colonies;

b) Efforts to breed and select queen bees for resistance to diseases and parasites, and to take preventive measures for pest and disease control;

c) Disinfection of materials and equipment at regular intervals;

d) Regular renewal of comb;

e) Sufficient reserves of pollen and honey in hives;

f) Marking of each hive for identification, and regular monitoring of the colonies.

10.5.2 Phytotherapeutic or homeopathic products shall be used in preference when pests or diseases strike. Phytotherapeutic products are prohibited from use within 30 days of nectar flow period, or whenever honey supers are on the hive.

10.5.3 When phytotherapeutic and homeopathic products are unlikely to be effective to eradicate a disease or infestation, substances listed in Table B.3 may be used, and substances in Table B.2 may be used for disinfection of the hives or tools.

10.5.4 Hives infected with diseases shall be placed in treatment areas or isolated areas far away from the healthy ones.

10.5.5 Hives and other related materials that have been seriously contaminated by sick bees shall

be destroyed.

10.5.6 Use of antibiotics or other substance not listed in Table B.3 are prohibited, with the exception that the imminent health of the whole colony is threatened. Hives treated with these medicals shall be removed from the organic production immediately and undergo re-conversion of 12 months. The bee products of that year shall not be certified as organic.

10.5.7 The practice of destroying the male brood is permitted only when it is infested with parasitic mites.

10.6 Queen Bees and Colony Management

10.6.1 Diversifying varieties of bees through crossbreeding is encouraged.

10.6.2 Selective breeding is allowed, but the artificial insemination for queen bees is prohibited.

10.6.3 The replacement of the queen bees by killing of the old queen is permitted, but clipping the wings of queen bees is prohibited.

10.6.4 Destroying colonies in autumn is prohibited.

10.7 Beeswax and Beehive

10.7.1 Beeswax used for organic hives shall come from organic apiary units.

10.7.2 Processed beeswax shall meet the demands for beehive base of the organic apiary units.

10.7.3 Newly-formed or in conversion colonies may use non-organic beeswax, provided the followings conditions are met:

a) Organic beeswax is not commercially available;

b) It is proven that the conventional beeswax is not polluted by prohibited materials, and sourced from cap wax.

10.7.4 The use of the beeswax without clear origin is prohibited.

10.7.5 Hives shall be made of natural materials (e.g. woods not treated with chemicals), or plastic foundations dipped in organic beeswax. Lumber treated with wood preservatives and substances not in accordance with this standard shall not be used in hive construction or maintenance.

10.7.6 Exterior surfaces of the hive shall not be painted with lead-based paints.

10.8 Bee Products Harvesting and Handling

10.8.1 Methods of hive management and honey extraction shall aim at the protection and maintenance of colonies. Killing swarms or destroying the pupae for the purpose of increasing yield is prohibited.

10.8.2 The use of chemical synthetic expellant is prohibited in the process of honey extraction.

10.8.3 Immature honey shall not be harvested.

10.8.4 During the process of removing impurities, the heating temperature shall not exceed 47 degrees Celsius, and heating time shall be minimized.

10.8.5 Extraction of honey from a brood comb with a live brood is prohibited, except the *Apis cerana*.

10.8.6 Mechanical uncapping shall be used if possible, and the use of heating measures shall be avoided.

10.8.7 Impurities in honey shall be deposited through gravity. If fine screen filters are used, the aperture thereof shall be equal or more than 0.2 millimeters.

10.8.8 The surfaces of all materials in contact with honey extraction facilities shall be made of stainless steels, or the surfaces shall be covered with beeswax.

10.8.9 The surfaces of all materials in contact with honey shall be painted with coating permitted for food and beverage packaging and then covered with beeswax. The honey shall not come in contact with metal container with an electroplated or oxidized surface.

10.8.10 Bees shall be prevented from entering honey extraction facilities.

10.8.11 For sanitation, extraction facilities shall be washed with hot water every day.

10.8.12 Chemically synthetic materials such as cyanide as fumigation agents are prohibited.

10.9 Storage

10.9.1 Finished honey products shall be sealed and stored at a stable temperature to prevent honey from quality deterioration.

10.9.2 The honey extraction and storage site must be protected from invasion of pests and rodent.

10.9.3 The use of chemically synthetic products (e.g. naphthalene) for the control of pests such as beeswax moths, in the process of storing honeys and other beekeeping products is prohibited.

11 Packaging, Storage and Transportation

11.1 Packaging

11.1.1 Packaging materials shall comply with national hygiene standards and other applicable regulations; reusable, recoverable， and biodegradable packaging materials should be used.

11.1.2 Packaging shall be simple and practical.

11.1.3 Packaging materials or containers which come in contact with prohibited materials are not allowed.

11.2 Storage

11.2.1 Warehouses shall be cleaned and disinfected, and pest control measures shall be adopted.

11.2.2 Allowed storage methods may include ambient temperature, controlled atmosphere, temperature control, drying and humidity regulation.

11.2.3 Organic products shall be stored as far separate as possible from conventional products. If they are stored in the same warehouse with conventional products, special areas shall be designated inside the warehouse for organic products. Additionally, packaging and labels shall be adopted to ensure that organic products are distinguishable from conventional ones.

11.3 Transportation

11.3.1 Organically dedicated conveyance shall be used. If non-dedicated conveyance is used, it shall be cleaned before the loading of organic products, to avoid commingling of organic products with conventional ones and contamination with prohibited substances.

11.3.2 Clearly recognizable organic labels and statements shall be on the containers and/or packages.

Appendix A

（Normative Appendix）

Input Materials Permitted in Organic Plant Production

Table A.1 Fertilizers and Soil Conditioners

Origin	Name and Composition	Conditions for Use
I. Plant and animal origin	Plant materials (straws, green manure, etc.)	
	Livestock and poultry excrements and composts derived therefrom (including composted farmyard manure)	Completely composted and fully fermented.
	Anaerobic fermentation product of livestock and poultry excrements and plant materials (biogas waste fertilizer)	
	Seaweeds or seaweed products	Only allowed using the following measures: Physical processes, including dehydration, refrigeration, and grinding; Extraction through water or acid and/or alkali; Fermentation.
	Wood, bark, sawdust, wood chips, wood ash, charcoal and humus materials	Not to be chemically treated after felling; used as soil mulching materials or composted.
	By-products from animals (blood meal, powdered meat, bone meal, hoof meal, horn meal, coat, feather, hair meal, fishmeal, milk, and dairy products etc.)	No prohibited materials added; composted or fermented.
	Mushroom culture wastes and earthworm culture substrates	The raw materials of substrates must be included in this table and the substrates should 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 plant.
	Seed cake	Not chemically processed.
II. Mineral origin	Phosphate rock	Natural materials. Cadmium content of not more than 90 mg/kg of P_2O_5.
	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.
	Microbiological extractives based on naturally occurring organisms	No synthesized chemicals added.

Table A.2 Plant Protection Products

Origin	Name and Composition	Conditions for Use
I. Plant and animal origin	Azedarach preparation (extracts of *melia azedarach*, *Azadirachta indica*, etc.)	Insecticide
	Natural pyrethrum preparation extracted from *Chrysanthemum cinerariaefolium*	Insecticide
	Matrine and matrine oxide (extracts of *Quassia amara*, etc.)	Insecticide
	Preparations of Rotenone (e.g. *Derris ellipta*)	Insecticide
	Osthole (extracts of *Frutus cnidii*)	Insecticide and fungicide
	Jamaicin (extracts of coptis, phellodendron, etc.)	Fungicide
	Rheochrysidin (extracts of rhubarb, giant knotweed, etc.)	Fungicide
	Plant oils (e.g. pennyroyal, pine oil, and parsley oil)	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
	Mushroom proteoglycan (extracts of mushrooms)	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, *Bupleurum*, wormwood, etc.)	Repellent
	Natural enemy of pest (e.g. *Trichogramma spp.*, ladybug, aphid lion, etc.)	Pest control
II. Mineral origin	Copper salt (copper sulphate, copper hydroxide, copper oxychloride, copper caprilic acid, etc.)	Fungicide; shall prevent copper contamination caused by excessive using
	Lime sulfur	Fungicide, insecticide, and acaricide

	Bordeaux liquid	Fungicide; up to 6 kg copper per ha per year
	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
	Ferric sulfate (ferric ion）	Molluscicide
III. Microbial origin	Fungi and fungal extractives (e.g. *Beauveria bassiana*, *Verticillium*, *Trichoderma*, etc.)	Pesticide, fungicide, and herbicide
	Bacteria and bacterial extractives (e.g. *Bacillus thuringiensis*, *Bacillus subtilis*, *Bacillus cereus*, *Bacillus licheniformis*, *Fluorescent Pseudomonas*, etc.)	Pesticide, fungicide, and herbicide
	Virus and viral extractives (e.g. nuclear polyhedrosis virus, granulosis virus, etc.)	Insecticide
IV. Others	Calcium hydroxide	Fungicide
	Carbon dioxide	Insecticide; used for storage facility
	Ethyl alcohol	Fungicide
	Salt and brine	Fungicide; only in seed treatment, especially rice seed
	Alum	Fungicide
	Soft soap (e.g. potassium salt of fatty acid)	Pesticide
	Ethylene	For ripening of banana, kiwi fruit, and persimmon; adjust flowering of pineapple; inhibit sprouting of potato and onion

	Quartz sand	Fungicide, acaricide, repellent
	Pheromones	Only in traps and dispensers
	Diammonium phosphate	Attractant; only in traps
V. Traps and barriers	Physical measures (e.g. color traps, mechanical traps)	
	Covers (net)	

Table A.3 Cleaners and Disinfectants

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 sodium bicarbonate	Equipment disinfection
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 should 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 and 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

Table B.1 Feed Additives and Substances for Animal Nutrition

No.	Name	Note	INS
1.	Iron	Ferrous (II) sulphate Ferrous (II) carbonate	
2.	Iodine	Calcium iodate Calcium iodate, hexahydrate Sodium iodide Potassium iodide	
3.	Cobalt	Cobaltous (II) sulphate Cobaltous (II) chloride	
4.	Copper	Copper (II) sulphate, pentahydrate 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	
10.	Calcium	Calcium carbonate（stone powder, shell powder） Calcium lactate	
11.	Phosphorus	Dicalcium phosphate Monocalcium phosphate Tricalcium phosphate	
12.	Magnesium	Magnesium oxide Magnesium chloride Magnesium sulfate	
13.	Sulfur	Sodium sulfate	

No.	Name	Note	INS
14.	Vitamins	Vitamins derived from raw materials occurring naturally in feedstuffs. Synthetic vitamins identical to natural vitamins for monogastric animals. Synthetic vitamins A, D, and E identical to natural vitamins for ruminants provided that they are not available in necessary quantities through their feed rations.	
15.	Micro-organisms	Zoo-technical additives，not GMOs.	
16.	Yeast	Silage additives, not GMOs.	
17.	Brewage yeast	For animal nutrition	
18.	Enzymes	Silage and technological additives, not derived from or by GMOs.	
19.	Sorbic acid	Preservatives	200
20.	Formic acid	Preservatives and Silage additives, only when weather conditions do not allow for adequate fermentation.	236
21.	Acetic acid	Preservatives and Silage additives, only when weather conditions do not allow for adequate fermentation.	260
22.	Lactic acid	Preservatives and Silage additives, only when weather conditions do not allow for adequate fermentation.	270
23.	Propionic acid	Preservatives and Silage additives, only when weather conditions do not allow for adequate fermentation.	280
24.	Citric acid	Preservative, only when weather conditions do not allow for adequate fermentation.	330
25.	Calcium stearate	Of nature source, Binders and anti-caking agents	470
26.	Silicon dioxide	Binders and anti-caking agents	551b
27.	Sea salt	Silage additives	
28.	Coarse rock salt	Silage additives	
29.	Whey	Silage additives	
30.	Sugar	Silage additives	
31.	Sugar beet pulp	Silage additives	
32.	Cereal flour	Silage additives	

Table B.2 Cleaners and Disinfectants for Animal Production

Name	Conditions for use
Potassium and sodium soap	
Water and steam	
Milk of lime (water solution of Calcium hydroxide)	
Lime (Calcium hydroxide)	
Quicklime (Calcium oxide)	
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.
Caustic soda	
Caustic potash	
Hydrogen peroxide	Food grade, as external parasiticide. May also be used as disinfectant in drinking water for livestock.
Natural essences of plants	
Citric acid	
Peracetic acid	
Formic acid	
Lactic acid	
Oxalic acid	
Isopropyl alcohol	
Acetic acid	
Alcohol	For disinfection and sterilization
Iodine (such as tincture of iodine)	As cleaning agent, shall be rinsed with hot water. Non-elemental and not to exceed 5% solution by volume.
Nitric acid	For dairy equipment, no contact with soil, livestock or poultry allowed.
Phosporic 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 Pest and Disease Control Substances Allowed in Apiculture

Name	Conditions for Use
Methanoic 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
Cholecalciferol (vitamin D3)	As rodenticide. In a safety manner for bee and bee products.

Appendix C

(Informative Appendix)

Evaluation Guideline for Other Inputs Used in Organic Production

C.1 Principles

C.1.1 Substances to be used for fertilization and soil conditioning purpose

C.1.1.1 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 Appendix A and in this part.

C.1.1.2 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.1.1.3 Reliable experimental data proves that use of the substance does not lead to unacceptable influences on or pollution of environment, including soil organisms.

C.1.1.4 The use of the substance shall not produce unacceptable influences on the quality and safety of final products.

C.1.2 Plant protection products

C.1.2.1 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.1.2.2 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.1.2.3 Reliable experimental data proves that the use of the substance shall not lead to or cause unacceptable influences on or pollution of the environment.

C.1.2.4 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.1.3 Inputs permitted for animal nutrition or for feed processing purposes

C.1.3.1 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 table B.1 and in this part.

C.1.3.2 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.1.3.3 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.1.4 Inputs permitted for cleaning or disinfection purpose in livestock and poultry farms, or for pest and disease control in bee keeping

C.1.4.1 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 by the practices and substances outlined in table B.2 or B.3 of Appendix B and in this part.

C.1.4.2 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.1.4.3 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.1.4.4 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.2 Evaluation Procedure

C.2.1 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) or animals;

b) Specific regions;

c) Specific conditions under which the input may be used.

C.2.2 Nature and way of production

C.2.2.1 Nature

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

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

b) Mineral.

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.2.2.2 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.2.2.3 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.2.3 Environmental safety

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:

a) Degradability

All inputs shall be degradable to CO_2, H_2O, 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.

b) 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) 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.

d) Chemically synthesized products and heavy metals

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

Mineral inputs should 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 seen, however, as temporary permission and the use shall be restricted with regard to the environmental impacts.

C.2.4 Effects on human health and product quality

C.2.4.1 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.2.4.2 Product quality

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

C.2.5 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.2.6 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 in Different Types of Animals

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

Types	Minimum live weight	Indoor area	Outdoor area
		㎡/Head	㎡/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 ㎡/Head）
	Quantity head/㎡	Nest	
Laying hens	6	7 heads /Nest or 120cm²/head	4，provided that the amount of manure by nitrogen≤170 ㎏/ha/year
Fattening poultry （in fixed	10（Live weight ≤21 ㎏/㎡）		Broilers and guinea fowl, 4 Ducks, 4.5

housing）			Turkey, 10 Geese, 15 Provided that the amount of manure by nitrogen≤170㎏/ha/year for all the species mentioned above
Fattening poultry（in mobile housing）	16（Live weight≤30㎏/㎡）		2.5, provided that the amount of manure by nitrogen≤170㎏/ha/year

References

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

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

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

[4] 7 CFR Part 205, National Organic Program

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

[6] CAN/CGSB-32.ms Permitted Substances Lists