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Organic products - Requirements for production, processing, labeling and management system

有机产品 生产、加工、标识与管理体系要求

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Organic products - Requirements for production, processing, labeling and management system

1 Scope

This Standard specifies the requirements for the production, processing, labelling and management system of organic products.

This Standard applies to the production of organic plant, animal and microbial products; processing of organic food, feed and textiles; packaging, storage, transportation, labelling and sale of organic products.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB 2721, National Food Safety Standard - Edible Salt

GB 2760, National Food Safety Standard - Food Additive Usage Standard

GB 3095, Ambient air quality standards

GB 4287, Discharge standards of water pollutants for dyeing and finishing of textile industry

GB 5084, Standard for irrigation water quality

GB 5749, Standards for drinking water quality

GB 11607, Water quality standard for fisheries

GB 14881, General hygienic regulation for food enterprises

GB 15618, Soil environmental quality - Risk control standard for soil contamination of agricultural land

GB 18596, Discharge standard of pollutants for livestock and poultry breeding

GB/T 18885, Technical specifications of ecological textiles

GB 20814, Limit and determination of the quantity of heavy-metal elements in dye

products

GB 23350, Requirements of restricting excessive package - Foods and cosmetics

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in 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 and GB 23350 as well as the followings apply.

3.1 organic production

A form of agricultural production that, according to the specific production principles, it does not use genetically engineered organisms and their products in production, not use chemically synthesized pesticides, fertilizers, growth regulators, feed additives and other substances, follows natural laws and ecological principles, coordinates the balance between planting and aquaculture, maintains the continuous and stable production system.

3.2 organic processing

A processing method that mainly uses organic ingredients, not use genetically engineered organisms and their products in the processing process, minimizes the use of chemically synthesized additives, processing aids, dyes and other inputs, and maximizes the preservation of product nutrients and/or original attributes.

3.3 organic product

The product that is organically produced, organically processed for human consumption and animal consumption.

NOTE: In this Standard, "organic" may be marked before the name of specific organic products or product categories, such as organic seeds, organic sprouts, organic ingredients.

3.4 conversion period

The period from the start of organic production until the production unit and the product are certified organic.

3.5 parallel production

Concurrent production of the same or indistinguishable organic, transitional or conventional products in the same production unit.

3.6 buffer zone

A purposefully defined, clearly defined transition zone between organic and conventional plots to limit or block the drift of prohibited substances from adjacent

- **4.1.5.1** Organic producer shall select and implement cultivation and/or aquaculture management practices, so as to maintain or improve soil physicochemical and biological properties, reduce soil erosion, and protect the health of plants and farmed animals.
- **4.1.5.2** When cultivation and/or aquaculture management practices are insufficient to maintain soil fertility and ensure plant and farmed animal health, and the use of inputs outside the production unit is required, the inputs listed in Annex A and Annex B shall be used and used in accordance with the specified conditions.

In the case that the substances used for soil fertilization and improvement, plant protection, and animal breeding in organic production are not met in Annex A and Annex B, the use of inputs other than Annex A and Annex B in organic agriculture can be assessed with reference to the assessment guidelines described in Annex C.

- **4.1.5.3** The active ingredients of the compound preparation as a plant protection product shall be the substances listed in Table A.2. Carcinogenic, teratogenic, mutagenic and neurotoxic substances shall not be used as adjuvants.
- **4.1.5.4** Chemically synthesized plant protection products shall not be used.
- **4.1.5.5** Chemically synthesized fertilizers and municipal sewage sludge shall not be used.
- **4.1.5.6** Prohibited substances in organic production shall not be detected in organic products.

4.2 Plant production

4.2.1 Conversion period

- **4.2.1.1** The conversion period for annuals is at least 24 months before sowing. The conversion period for pasture and perennial forage crops is at least 24 months prior to harvest of organic forage. The conversion period for perennials other than forage crops is at least 36 months before harvest.
- **4.2.1.2** Newly cultivated land that has been abandoned for more than 36 months or has sufficient evidence to prove that the prohibited substances in this Standard have not been used for more than 36 months, shall also be subjected to a conversion period of at least 12 months.
- **4.2.1.3** The conversion period of plots contaminated by substances prohibited in this Standard can be extended.
- **4.2.1.4** For parcels that have been converted or are in the process of conversion, if prohibited substances are used, the conversion shall be restarted. When the prohibited substances used in the plot are compulsorily used by local government agencies to deal

with certain diseases or insect pests, the conversion period specified in 4.2.1.1 can be shortened. However, attention shall be paid to the degradation of prohibited substances in the applied products. Ensure that residues in soil or in perennial crops reach non-significant levels before the end of the conversion period. The harvested product shall not be marketed as organic.

4.2.1.5 Sprout production is exempt from the conversion period.

4.2.2 Parallel production

- **4.2.2.1** Simultaneous production of easily distinguishable organic and conventional crops in the same production unit. However, the organic and conventional production parts of the unit (including plots, production facilities and tools) shall be able to be completely separated. Take appropriate measures to avoid mixing with conventional products and contamination with prohibited substances.
- **4.2.2.2** Within the same production unit, there shall be no parallel production of annual plants.
- **4.2.2.3** Within the same production unit, there shall be no parallel production of perennials unless the following conditions are also met:
 - a) Producers shall develop organic conversion plans. The plan shall commit to start the conversion of the relevant conventional production areas in the same unit in the shortest possible time. This period cannot exceed a maximum of 5 years;
 - b) Take appropriate measures to ensure strict separation of products harvested from organic and conventional production areas.

4.2.3 Origin environment requirements

Organic product production needs to be carried out under suitable environmental conditions. The production base shall be far away from urban areas, industrial and mining areas, main transportation lines, industrial pollution sources, and domestic garbage dumps. The production environment shall be continuously improved.

The environmental quality of the origin shall meet the following requirements:

- a) On the basis of risk assessment, select suitable soil and meet 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

An analysis of the risk of contamination of organic production areas by adjacent

organic fertilizers can be applied to maintain and improve soil fertility, nutrient balance and soil biological activity. At the same time, excessive application of organic fertilizers shall be avoided, causing environmental pollution. Organic fertilizers from this unit or other organic production units shall be used preferentially. If the commercial organic fertilizer is purchased from outside, it shall be used after the approval of the certification body.

- **4.2.7.3** Human waste shall not be applied to leafy vegetables, tubers and roots. When it needs to be used on other plants, it shall be fully decomposed and harmless. It shall not come into contact with edible parts of plants.
- **4.2.7.4** Natural mineral fertilizers with low solubility can be used. However, such fertilizers shall not be used as a substitute for nutrient cycling in the system. Mineral fertilizers can only be used as long-lasting fertilizers and retain their natural components. Chemical treatment shall not be used to increase its solubility. Mineral nitrogen fertilizers shall not be used.
- **4.2.7.5** Bio-fertilizers can be used. To fully decompose the compost, microorganisms from nature can be added during the composting process. But GMOs and their products shall not be used.
- **4.2.7.6** The use of soil fertilization and improvement substances in plant production shall meet the requirements of Table A.1.

4.2.8 Pest and weed control

- **4.2.8.1** The basic principles of pest and weed control shall start from the agricultural ecosystem. Comprehensively use various control measures. Create environmental conditions that are not conducive to the breeding of diseases, insects and weeds and are conducive to the reproduction of various natural enemies. Maintain agro-ecosystem balance and biodiversity. Reduce the losses caused by various pests and weeds. Agricultural measures shall be prioritized. Through a series of measures such as selection of disease-resistant and insect-resistant varieties, non-chemical seed treatment, cultivating strong seedlings, strengthening cultivation management, cultivating and weeding, ploughing and drying, cleaning gardens, crop rotation and stubble, intercropping and intercropping, it plays a role in preventing and controlling diseases, pests and weeds. Try to use light and color to lure and kill pests, mechanically capture pests, mechanical or manual weeding and other measures to control pests and weeds.
- **4.2.8.2** When the methods mentioned in 4.2.8.1 cannot effectively control diseases, insects and weeds, and plant protection products are required; the requirements in Table A.2 shall be met.

4.2.9 Facility cultivation

4.2.9.1 Soil or substrate shall be used for plant production. It shall not be produced by hydroponics. Building materials and growing containers for facility agriculture shall

not be handled with prohibited substances. The conversion period shall meet the requirements of 4.2.1.

- **4.2.9.2** When using soil fertilization and improvement substances, it shall meet the requirements of Table A.1. It 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 can be used:
 - a) Use flames, fermentation, compost and compressed gas to increase carbon dioxide concentration;
 - b) Use heating gas or water to obtain auxiliary heat source;
 - c) Use auxiliary light sources;
 - d) Regulate growth and development by controlling temperature and light or using natural plant growth regulators.
- **4.2.9.4** Soil regeneration and recycling measures shall be adopted. In the production process, the following methods can be used to replace crop rotation:
 - a) Graft cultivation with disease-resistant plants;
 - b) Ploughing and drying in summer and winter;
 - c) Regenerate soil by applying biodegradable plant mulch such as crop straw and hay;
 - d) Part or all of the greenhouse soil is replaced, but the replaced soil shall be reused for other plant production activities.
- **4.2.9.5** Recoverable or recyclable growing containers shall be used. When cleaning and disinfecting cultivation containers, steam or the cleaning agents and disinfectants listed in Table A.3 shall be used.

4.2.10 Sprout production

- **4.2.10.1** Sprouts shall be produced from organic seeds.
- **4.2.10.2** The quality of production water shall comply with GB 5749.
- **4.2.10.3** Precautions shall be taken to prevent pests. Steam is available. When necessary, use the cleaners and disinfectants listed in Table A.3 to clean and disinfect culture vessels and production sites.
- 4.2.11 Sorting, washing and other post-harvest treatments
- **4.2.11.1** Physical and biological methods shall be used for simple processing processes

state of production.

- **4.3.2** Wild collection areas shall be far away from pollution sources such as sewage factories, mining areas, garbage disposal sites, conventional farmland, and highway trunk lines. Wild collection areas shall be areas that have not been contaminated by substances and heavy metals other than the use of inputs permitted by this Standard within 36 months prior to collection.
- **4.3.3** Wild collection areas shall maintain an effective buffer zone.
- **4.3.4** Collection activities shall not adversely affect the environment or pose a threat to biological species. The amount collected shall not exceed the yield that the ecosystem can sustainably produce.
- **4.3.5** Management plans for sustainable production in wild collection areas shall be developed and submitted.
- **4.3.6** The treatment after wild collection shall meet the requirements of 4.2.11.
- **4.3.7** Wild collection is exempt from the conversion period.

4.4 Edible mushroom cultivation

- **4.4.1** Within the same production unit, there shall be no parallel production.
- **4.4.2** A buffer zone or physical barrier shall be set up in the edible mushroom cultivation area adjacent to conventional farmland, so as to avoid the influence of prohibited substances. The water quality of the water source shall meet the requirements of GB 5749.
- **4.4.3** Organic strains shall be used. If organic strains cannot be obtained, 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. The following excipients may be added:
 - a) Farm manure and livestock manure from organic production units. When farm manure and animal manure from organic production units cannot be obtained, soil fertilization and improvement substances shall be used in accordance with the requirements of Table A.1. However, it shall not exceed 25% of the total dry weight of the substrate. It shall not contain human excrement and livestock manure from intensive farms;
 - b) Products of agricultural origin shall be organically produced products other than those covered by 4.4.4a);
 - c) Un-chemically-treated peat;

- d) Wood that has not been treated with chemical products after felling;
- e) Substances of mineral origin listed in Table A.1.
- **4.4.5** Edible mushroom cultivation (except soil cultivation and soil covering cultivation) can be exempted from the conversion period. The conversion period of soil-cultivated or soil-covered edible fungi is the same as the conversion period of annual plants, which shall meet the requirements of 4.2.1.
- **4.4.6** Coatings used for wood and inoculation sites shall be food grade products. Paints, latex paints and paints derived from petroleum shall not be used.
- **4.4.7** Preventive management measures shall be used. Keep clean and hygienic. Perform proper air exchange. Remove infected clusters.
- **4.4.8** During the non-cultivation period, the cultivation site can be cleaned and disinfected with steam. Cleaners and disinfectants shall be used in accordance with 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 farming

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. The conversion period can be shortened to 12 months if pastures and meadows are used only by non-herbivore animals. If there is sufficient evidence to prove that the banned 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) 12 months for beef cattle, equines, camels;
 - b) 6 months for sheep and pigs for meat;
 - c) 6 months for dairy animals;
 - d) 10 weeks for meat poultry;
 - e) 6 weeks for poultry for eggs;
 - f) The conversion period of other species is longer than 3/4 of the breeding period.

4.5.2 Parallel production

If a farm raises the same breed or indistinguishable livestock and poultry breeds both

- **4.5.4.1** Livestock and poultry shall be raised on organic feed. At least 50% of the feed shall come from the feed planting base of the farm or the organic production unit that has a cooperative relationship in the region. Feed production, harvesting and post-harvest handling, packaging, storage and transportation shall comply with the requirements of 4.2 and 4.8.
- **4.5.4.2** Within the first 12 months of the farm being organically managed, 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 to feed the livestock and poultry of this farm. But it shall not be sold as organic feed.

Feed production bases, pastures and pastures and surrounding conventional production areas shall be equipped with effective buffer zones or physical barriers, so as to avoid contamination.

- **4.5.4.3** When organic feed is in short supply, conventional feed can be fed. However, the consumption of conventional feed for each animal shall not exceed the following percentages of annual consumption:
 - a) 10% for herbivore (on dry matter basis);
 - b) 15% for non-herbivore (on dry matter).

The proportion of conventional feed in livestock and poultry rations shall not exceed 25% of the total (calculated on dry matter).

In the event of unforeseen serious natural disasters or man-made accidents, conventional feeds exceeding the above proportions can be fed within a certain period of time.

Feeding of conventional feeds requires prior approval from the certification body.

- **4.5.4.4** It shall be ensured that herbivores receive daily roughage that meets their basic nutritional needs. In its diet, the proportion of roughage, fresh grass, green hay, or silage shall not be less than 60% (calculated on dry matter). For dairy animals in the first 3 months of lactation, this ratio can be reduced to 50% (on dry matter basis). Forages, fresh grass or green hay, or silage shall be included in the diets of omnivores and poultry.
- **4.5.4.5** Young animals in the colostrum stage shall be raised by their mothers. They can eat a sufficient amount of colostrum. Lactating young animals can be fed with the same type of organic milk. In cases where organic milk is not available, the same type of conventional milk can be used.

Young animals shall not be weaned early or fed with milk replacers. Supplementary feeding with milk replacer can be used in emergency situations. However, it shall not contain antibiotics, chemically synthesized additives (except those permitted in Table B.1) or animal slaughter products. Breastfeeding requires at least:

- a) 3 months for cattle, equine, camel;
- b) 45 days for goats and sheep;
- c) 40 days for pigs.
- **4.5.4.6** Genetically engineered organisms/GMOs or their products shall not be used in the production of feed, feed ingredients and feed additives.
- **4.5.4.7** The following methods and substances shall not be used:
 - a) Feeding ruminants with animals and their products, or feeding animals of the same species and their products to livestock and poultry;
 - b) Animal waste;
 - c) Feeds extracted with chemical solvents or supplemented with chemical synthetic substances, except those extracted with water, ethanol, animal and vegetable oils, vinegar, carbon dioxide, nitrogen or carboxylic acids.
- **4.5.4.8** The feed additives used shall be listed in the catalogue of feed additives published by the competent agricultural department. At the same time, the relevant requirements of this Standard shall be met.
- **4.5.4.9** When the feed cannot meet the nutritional needs of livestock and poultry, use the minerals and trace elements listed in Table B.1.
- **4.5.4.10** Added vitamins shall come from sprouted grains, cod liver oil, brewer's yeast or other natural substances. When the nutritional needs of livestock and poultry cannot be met, use the synthetic vitamins listed in Table B.1.
- **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, antiparasitics and hormones for growth promotion);
 - b) Chemically synthesized flavors and fragrances;
 - c) Preservatives (except as processing aids);
 - d) Chemically synthesized or extracted colorants;
 - e) Non-protein nitrogen (such as urea);
 - f) Chemically purified amino acids;
 - g) Antioxidants;

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Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: https://www.linkedin.com/in/waynezhengwenrui/

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