Hong Kong Organic Resource Centre Certification Limited

Organic Production, Aquaculture, Processing and Input Manufacturing Standard (IFOAM Accredited Version)

2025

香港有機資源中心認證有限公司
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The terms appeared in Appendix 7.1 Definitions will be marked with asterisk（*）in the text.

Chapter 1

Overview

1.1 About Hong Kong Organic Resource Centre Certification Limited

"Hong Kong Organic Resource Centre Certification Limited" (abbreviated as "HKORC-Cert") is an independent incorporated certification agent managed by "Hong Kong Organic Resource Centre" (abbreviated as "HKORC"). Its duties include the establishment of a local organic production and processing standard and a certification system; the development and management of "Hong Kong Organic Resource Centre Certification Limited - Hong Kong Organic Production, Aquaculture, Processing and Input Manufacturing Standard" (abbreviated as "this standard"); the processing of applications for organic certification; the award of certificates to organic products that are produced and processed in accordance with this standard and the monitoring and management of the use of HKORC-Cert organic certification seals.

1.2 About Hong Kong Organic Resource Centre

To cope with the increasing demand for healthy food and environmental protection, many countries have been actively developing organic farming since the 1990's. Coupled with the shrinking growth of the local farming industry owing to urbanization and economic transition, the HKSAR Government has been assisting the local farming community to develop organic farming since 2000. A direction has been charted to develop a new market with higher returns. In order to allow organic market growing healthily and rapidly, a set of organic standards and a certification system is needed. With funding supports from the Agricultural Development Fund of Vegetable Marketing Organization, HKORC was established in December 2002. It is the first local certification body of organic products set up under the Agricultural Development Fund to facilitate the development of organic farming.

We envision HKORC as an independent organic certification agent that works toward the goals of:

- Increasing the awareness of farmers, fisherman, consumers and the general public about the role of certification in the production and marketing of organic products, and
- Promoting the sustainable development of organic farming in Hong Kong so as to ensure a safe and high-quality food supply and an ecologically balanced living environment for our future generations.

We serve with professionalism, dedication and unselfishness in establishing and operating a set of fair, impartial and transparent organic standards and certification system for the organic farming community. In addition, we provide technical support, trade and marketing information to the organic sector; as well as information about organic farming methods and organic foods to the consumers.

1.3 Organizational Structure of HKORC-Cert

HKORC-Cert is comprised of the Board of Directors, Executive Committee, Certification Board, Standard Board and HKORC-Cert staff. Members of the Board of Directors come from HKORC Governing Board. The Board serves as the body for final appeal of certification decisions.

The Standard Board is made up of farmers, fisherman, environmentalists/scientists, government and HKORC founding organization. The Standard Board is responsible for the formulation or revision of a set of organic standards applicable to Hong Kong.

The Certification Board is consisted of farmers, fisherman, retailers, environmentalists/ scientists, consumers, government, worthy personages and HKORC founding organization. The Board is responsible for the formulation or revision of the certification system applicable to Hong Kong. Furthermore, the Certification Board, based on this standard, assesses organic farming and processing operations in compliance with the standards and makes decisions about their certification status.

The Executive Committee is made up of a Centre Director and a Centre Manager. It is responsible for managing HKORC-Cert staff to execute the entire system.

1.4 About "HKORC-Cert – Organic Production, Aquaculture, Processing and Input Manufacturing Standard (IFOAM Accredited Version)"

The formulation and revision of "HKORC-Cert – Organic Production, Aquaculture, Processing and Input Manufacturing Standard (IFOAM Accredited Version)" is a continuous and important duty of the Standard Board. As the number of organic producers, sellers and consumers are increasing and the market for organic products is developing, this standard provides a liable, objective, locally-produced platform which is recognized by all stakeholders in the society.

The operations of all units certified by HKORC-Cert shall meet or exceed this standard. In order to ensure that their operations comply with our standards, HKORC-Cert will arrange periodic and unannounced inspections of the applicants. The system is designed to create mutual trust between the producers and the consumers.

The following organic standards were referenced during the formulation of this standard:

1. *AgriQuality Organic Standard*.NewZealand.2007
2. *Organic production and labelling of organic products and repealing Regulation(ECC) No 834/2007*.European Union（歐盟）.2007.
3. *Guidelines for The Production, Processing, Labelling and Marketing of Organically Produced Foods（GL32– 1999,Rev.1–2001）*.FAO/WHO Codex Alimentarius（食品法典委員會）.2001.
4. *IFOAM Basic Standards for Organic Production and Processing*. International Federation of Organic Agriculture Movements（國際有機農業運動聯盟）.2019.
5. *Interim Final Report of the Aquaculture Working Group*. U.S. Department of Agriculture. National Organic Program. 2006.
6. *International Certification Standards*. Organic Crop Improvement Association International（國際有機作物改良協會）.2008.
7. *Naturland Standards for Organic Aquaculture*. Naturland 2007.
8. *OMRI Generic Materials Lis*t. Organic Materials Review Institute.2009.
9. *ACT Organic Agriculture Standards*. Organic Agriculture Certification Thailand. 2009.
10. *Standards for KRAV- certified Production.* Sweden Standard. 2007.
11. *Soil Association organic standards.* Soil Association. 2006.
12.《有機生產標準》，香港：香港有機農業協會，2002。
13.《有機作物生產守則》，香港：漁農自然護理署，2000。
14.《有機耕種守則及有機驗證章則》，香港：幼聯大自然教育中心，2002。
15.《有機認證標準》，南京：中國國家環境保護總局有機食品發展中心，2007。

This standard is drafted by the Standard Board and is reviewed and approved by the Governing Board

after an extensive public consultation. The process of formulation is transparent and representational, with the local conditions and various factors seriously considered. Apart from this, in order to address the changing needs in aspects like knowledge, technology, material supply, environment and law, the standards are subject to review so as to cater for the benefits of producers and consumers.

This standard is a set of operational rules that producers or processors who apply for the organic certification must follow. The standards are not oriented towards the use of laboratory test result as the only indicator for "organic products". Organic production focuses on whether the procedures for food productions enhance the balance and conservation of the environment. This standard provides regulation of methods and materials used for organic production and processing and, thus certification under the standard provides verification that operators are using practices that have been approved by the HKORC-Cert. Furthermore, the certification system only examines the compliance of the operation of the applicants with this standard. The compliance of the operations with the relevant legal requirements in the territory is out of HKORC-Cert's legitimate authority.

1.5 Structure

This standard's chapters are presented in 2 parts, namely principles and standards:

- Principles: Principles are the instructive statements of the chapter. The standards under each principle are the specific ways to actualize that principle. The principle is formatted in *italic* in this standard, and is located between the chapter heading and the standards. In addition, a list of General Principles for Organic Production, Processing and Inputs are presented in Chapter 2.

- Standards: Standards are the minimum requirements for HKORC-Cert certification. Each standard, located under the chapter heading and principle, is numbered.

1.6 Execution

This standard is the basic requirement for organic production and processing. Applicants for organic certification must sign an agreement with HKORC-Cert to promise and guarantee the fulfilment of every relevant rule in this standard and to cooperate with the inspectors by allowing them to carry out site inspections. The Certification Board awards certificate of organic certification to producers and processors that meet this standard. Certified operators and HKORC-Cert enter into a legal agreement, formalized by a signed contract, which allows the operators to use the seals of HKORC-Cert, according to this standard, on certified products. When there is any discrepancy between English and Chinese versions, the Chinese version shall be taken as the official version.

1.7 Scope

This standard illustrates every requirement in the production, processing and handling, and labelling of organic products. The scope is as follows:

1. Unprocessed agricultural and aquacultural products;
2. Processed comestible products for humans that are made with one or more agricultural ingredients;
3. Inputs for organic production and processing handling; and
4. Other products not stated in the above two items but approved by the Certification Board.

Chapter 2

Basic Principles of Organic Production*, Processing* and Inputs*

The basic principles of organic production, processing and inputs include:

2.1 To produce sufficient food and other products* of high quality

2.2 To work compatibly with natural cycles and living systems through the proper management of soil, plants and animals in the entire production system.

2.3 To maintain and promote the recycling of materials within the production and processing system. To encourage the use of local resources for self-sufficiency and cutting down the demand for external inputs at the same time

2.4 To conserve and enhance the long-term fertility and biological activity of soil.

2.5 To value the conservation of ecosystem.

2.5.1 Clearing or destruction of sites of conservation importance is prohibited.

2.6 To protect biodiversity* within and outside the production systems, including the protection of wild animals, plants and their habitats.

2.6.1 On-farm wildlife refuge habitats must be established to maintain and improve the ecosystem of the farm. Such habitats may include, but are not limited to:

2.6.1.1 Pools which are not used for intensive agriculture;

2.6.1.2 Areas with wild plants.

2.7 To use, maintain, and conserve soil, water and other resources in a responsible and sustainable manner.

2.8 To encourage a proper balance between crop production and animal husbandry.

2.9 To respect animals' biological needs and habits in nature and to provide them with a living environment that suits their natural needs.

2.10 To use renewable resources in production and processing systems as much as possible and avoid all sorts of pollution and waste production.

2.11 To avoid excessive packaging and to encourage material recycling, and the use of biodegradable* or recyclable materials.

2.12 To prohibit the use of any genetically modified organisms* and their derivatives in the organic production, processing and input manufacturing systems, except genetically engineered vaccines. All inputs, processing aids and ingredients must be traced back one step in biological chain to the direct source organism* from which they are produced to verify that they are not derived from GMOs., a description of the source organism(s), a verifiable statement that they are not genetically engineered may be required.

2.13 To prohibit the use of nanomaterials* in the organic production, processing and input manufacturing systems.

2.14 To foster local production and consumption.

2.15 To respect, understand, protect and benefit from local knowledge and traditional farming systems.

2.16 To ensure that everyone involved in the organic production, processing and input manufacturing systems can have sufficient rewards and fulfillment under a safe, secure and healthy working environment.

2.17 Production that violates human rights and social justice requirements listed in Laws of Hong Kong and in this standard cannot be certified as organic.

2.17.1 Operators must not violate indigenous land rights.

2.17.2 Operators must not use forced or involuntary labour or apply any pressure such as retaining part of the workers' wages, property or documents such as identity and travelling documents, etc.

2.17.3 Operators must not interfere with the right of their employees, suppliers, farmers and contractors to organize and to bargain collectively, free from interference, intimidation and retaliation.

2.17.4 Operators must provide their employees and contractors equal opportunity and treatment, and shall not act in a discriminatory way.

2.17.5 Operators must have a disciplinary procedure with a system of warning before any suspension or dismissal. Workers dismissed shall be given full details of reasons for dismissal.

2.17.6 Employees should be granted the right to take at least one day off after six consecutive days of work. Operators should not require workers to work more than the contracted hours and the national or regional sectorial legislation. Overtime should be remunerated in the form of supplementary payments or time off in lieu.

2.17.7 Operators must never require an employee to work who is ill or during medical leave and must not sanction an employee for the sole fact of missing work due to illness.

2.17.8 Operators must not use child labor (under 13 children). Children are allowed to experience work on their family's farm or business or a neighboring farm provided that:

2.17.8.1 such work is not dangerous or hazardous to their health and safety;

2.17.8.2 it does not jeopardize the child's educational, moral, social, mental, spiritual and physical development;

2.17.8.3 children are supervised by adults or have authorization from a legal guardian.

2.17.9 Operators must pay employees wages and benefits that meet legal minimum requirements of the operation's jurisdiction or, in the absence of this minimum, the sectorial benchmark.

2.17.10 Operators should provide written terms and conditions of employment to both permanent and temporary employees, in a language and presentation understandable to the worker. The terms and conditions must specify at least: wages; frequency and method of payment; location, type and hours of work; recognition of workers' freedom of association; disciplinary procedure; health and safety procedure; eligibility and terms of overtime, holiday pay, sickness benefit and other benefits such as maternity and paternity leave; and worker's right to terminate employment. Operators should ensure that the workers understand the terms of their employment contract. Operators shall respect the terms of the contract in good faith, including timely payment of wages. In case where:

2.17.10.1 the operator is unable to write, or

2.17.10.2 workers are hired for periods of less than 6 days, or

2.17.10.3 emergency labor is needed to address unpredictable problems oral mutual agreements on the terms and conditions of employment are sufficient.

2.17.11 Operators must ensure adequate access to potable water.

2.17.12 Operators must provide appropriate safety training and equipment to protect workers from noise, dust, sunlight and exposure to chemicals or other hazards in all production and processing operations.

2.17.13 Operators should provide residential employees with habitable housing and access to potable water; to sanitary and cooking facilities and to basic medical care. If families reside on the operation, the operator shall also enable access to basic medical care for family members and to school for children.

2.17.14 Operators must file employees' personal records. Workers will have access to their own files.

2.17.15 Operators with more than 10 employees must have a written employment policy.

2.17.16 Requirements in this section apply equally to all workers on the operation regardless of how they are employed, for example, direct employment, employment agencies, labor contractors and employment brokers. Except for subcontractors performing.

2.18 To foster organic production, processing, input manufacturing and distribution systems that are ecologically responsible, socially just and economically sound.

2.19 To produce crops in sufficient quantity and of suitable quality; to cycle nutrients; to enhance biological activity; to provide a balanced animal diet; to protect crops from pests, parasites, and diseases; to regulate growth; and to maintain and improve soil quality necessarily when input application.

Chapter 3

Standards for Crop Production

3.1 Conversion Period

Conversion to organic production implies the revival of the ecosystem so that soil fertility can be improved. The farmland will then be developed into a vital and sustainable agro-ecosystem.

3.1.1 A conversion period is required before product may be labelled as "organic".

3.1.2 During the conversion period, all the provisions on crop production standards (Chapter 3) must be followed.

3.1.3 A farm* may be converted to organic production in stages. Please refer to Section 3.2 Split Production for detail.

3.1.4 The conversion periods for the farmland of different types of crops are as follows:

3.1.4.1 In case of farmland cultivating annual crops* (for example, vegetables, cereal, etc.), a conversion period of at least 12 months is required.

3.1.4.2 In case of farmland cultivating perennial crops* (for example, fruit trees), a conversion period of at least 18 months is required.

3.1.5 The start of the conversion period is calculated from the date of application. If non-Group I inputs have been applied, the commencement of the conversion period must not be earlier than the date of the last application of those inputs.

3.1.6 Annual crops that are sown and perennial crops that are harvested after the end of the conversion period can be sold as organic products.

3.1.7 Depending on factors such as previous land use, management practices and the environmental conditions of the land, the Certification Board may extend the conversion period as applicable to an individual farm applying for certification.

3.1.8 If there is adequate documentation to prove that organic production has been adopted in the farmland before application for certification, and is verified by inspection, the Certification Board may shorten the required conversion period accordingly.

3.1.9 Immediate notification to HKORC-Cert is required if there is any significant change in the land use or production of the conversion farm.

3.1.10 Products produced on land in conversion can only be labelled as "organic (in conversion)" *when a period of at least 12 months has elapsed, but must not be labelled as "organic" nor include similar description.

3.1.11 If conventional* practices are used on the land that is organic or in conversion, the certification given to the land will be revoked. Reapplication and another conversion period are required for gaining back the organic certification. However, the Certification Board reserves the right to accept or reject such re-applications.

3.1.12 Crops harvested less than 36 months after the application of a prohibited input to crop or soil cannot be labelled as "organic" nor include similar description.

3.2 Split Production*

Split production is the term used to describe a farm whose fields are not all certified as organic. The remainder of the fields may be (1) conventional, (2) in conversion, or (3) organic but not certified.

3.2.1 When managing split production, producers must clearly separate the certified organic crops from all other types of crops and products of holdings with split or parallel production, e.g. physical barriers, management practices, storage of certified inputs and products throughout the entire production, harvest, storage, transport, processing and packaging and sales process with complete audit trial* documentation.

3.2.2 Producers* must allow inspectors* to access all production and processing areas (including storage area) in order to inspect both organic and non-organic operation and the related records. The inspector must be granted adequate access to information in order to verify the organic and non-organic products are not being commingled and the certified products are not contaminated by prohibited materials.

3.2.3 Genetically modified organisms and their derivatives are prohibited on farms with split production in terms of production, storage and trading.

3.2.4 In any farms with split production, producers must not produce the same crops in both organic and non-organic (including organic in conversion) production areas at the same time, except they are visually distinguishable.

3.3 Buffer Zone*

The establishment of buffer zone is to prevent the crops in the production area from external contamination.*

3.3.1 If there is a potential for contamination, such as the spread of synthetic* pesticides, herbicides, fungicides or fertilizers, from adjoining areas (including the non-organic fields in farms with split production), a buffer zone of at least 2 metres must be established between the organic and such areas to prevent contamination to the organic production area.

3.3.2 If physical barriers such as hedges, barrier plants or drains are available in the buffer zone, the Certification Board may relax the width requirement on the buffer zone on a case by case basis.

3.3.3 If necessary, the Certification Board may require a wider buffer zone or additional physical barriers.

3.3.4 Plants in the buffer zone must be grown organically but cannot be sold as organic. These plants must be easily distinguishable from the certified organic products grown on the farm.

3.4 Choice of Crops and Varieties

The varieties selected should be adaptable to the local environment and tolerant to local pest/diseases, preferably be local varieties.

3.4.1 All seeds or vegetative propagation materials used shall be certified organic.

3.4.2 In-conversion materials may be used when organic seed and planting materials are not commercially available*.

3.4.3 Conventional materials may be used provided that they have not been treated with post-harvest pesticides not otherwise permitted by this standard when organic or in-conversion sources are commercially unavailable.

3.4.4 Treated seeds and vegetative propagation materials may only be used where post-harvest chemical treatment is prescribed by law for phytosanitary purposes. However, prior approval must be sought and the usage must be documented.

3.4.5 Annual seedling must be produced according to this standard.

3.4.6 Products that are grown from non-organic, perennial seedlings maybe sold as organic only if they have been cultivated according to this standard for at least 12 months.

3.4.7 Meristem culture is allowed for propagation.

3.4.8 All multiplication practices on the farm, vegetal propagation materials, bedding materials and substrates must conform with HKORC-Cert Standard except meristem culture.

3.4.9 Any use of seeds and planting materials* produced by genetic engineering* is prohibited.

3.5 Diversity in Crop Production

The enhancement of diversity in crop production is important for soil conservation and pest/ disease control.

3.5.1 A farm must practise crop rotation* for annual crops. Crop rotations must be diverse and include leguminous crop and green manure. Producers of annual crops maybe exempted from this requirement only if they demonstrate diversity in plant production by other means that are found satisfactory by HKORC-Cert.

3.5.2 Cover vegetation must be planted in farms growing perennial crops to enhance biodiversity.

3.5.3 Aquatic plant culture and greenhouse crops that are not grown on ground maybe exempted from crop rotation requirements but must demonstrate enhancement of biodiversity.

3.5.4 Intercropping* must be practiced to avoid monoculture.

3.6 Fertility Management

Organic matter, nutrients and other resources within the production system must be returned to the soil in order to enhance or at least maintain its fertility and biological activity. Fertilizers introduced externally to the production system must be regarded as a complement to rather than a substitute for the nutrient cycle.

3.6.1 Operators must return nutrients, organic matter and other resources removed from the soil through harvesting by the recycling, regeneration (such as composting) or addition of organic materials and nutrients.

3.6.2 The use of fertilizers must be maintained at a suitable level without causing problems of over-nutrition and pollution. Over-accumulation of heavy metals and other pollutants in the soils must also be prevented.

3.6.3 The sources, quality, quantity and application method of fertilizers must cause no adverse effect to the environment.

3.6.4 The fertility of the soil can be replenished by allowing the land to lie fallow.

3.6.5 Materials of microbial, plant or animal origin shall form the basis of the fertility management program. Maintenance of fertility may not rely solely on off-farm inputs.

3.6.6 Non-synthetic mineral fertilizers can only be used as a supplement to the soil fertility enhancement programmes based on techniques such as addition of organic matter, other biodegradable inputs, green manuring, crop rotation and nitrogen fixation by plants. Their use must be justified by appropriate soil and leaf analysis or diagnosed by an independent expert.

3.6.7 Non-synthetic mineral fertilizers must be applied in the form in which they are naturally composed. Besides using water for extraction or mixing with other naturally occurring and allowed materials (Appendix 7.2.1), the use of any other means to increase the solubility of the mineral fertilizers is prohibited.

3.6.8 Microorganisms or their derivatives may be used to speed up the process of composting.

3.6.9 The compost* applied on the farm must comply with the requirements of Appendix 7.2.1.

3.6.10 The use of fertilizers containing genetically modified organisms and their derivatives is prohibited.

3.6.11 The use of synthetic fertilizers or fertility amendments rapidly available to the plant is restricted. Exceptions maybe granted by the Certification Board for the use of restricted items as specified in the Appendix (Appendix 7.2.1) only when sufficient evidence of deficiency in a specific micro-nutrient of the farmland is provided and as a necessary complement when other fertility building techniques have been applied and are insufficient.

3.6.12 The use of human excrement is prohibited.

3.6.13 The use of sewage sludge* and chemical waste is prohibited.

3.6.14 Raw animal manure may only be applied to perennial crops, crops planted not for human consumption or crops harvested at least four months after application.

3.6.15 Materials used in the fertility management (including the adjustment of soil pH) must be in compliance with the requirements listed in Appendix 7.2.1.

3.6.16 For mushroom production, substrates must be made of products of organic agriculture, or other non-chemically treated natural products such as peat, wood, mineral products or soil.

3.6.17 The production of terrestrial plants must be soil-based. The production of such crops in hydroponic systems* is prohibited.

3.6.18 The farm must take appropriate measures to prevent soil erosion. Such measures may include, but are not limited to: reduced tillage, maintenance of cover plants and other management practices that conserve soil.

3.6.19 The removal of soil from the farm is prohibited, except incidental removal when harvesting crops.

3.7 Pest, Disease, Weed and Growth Management

Organic production system shall minimize crop loss by the use of a preventive farm management program.

3.7.1 Specific measures must be taken in an organic production system to prevent the invasion of pests, diseases and weeds, such as:

3.7.1.1 Adopting appropriate farming practices, such as crop rotation, intercropping, cultivation, fallowing, plowing or green manure planting, etc.

3.7.1.2 Adopting appropriate fertility and irrigation program.

3.7.1.3 Managing and conserving habitats for natural enemies, such as planting hedges or windbreaks, providing nesting sites or ecological buffer zones.

3.7.2 Pests, diseases and weeds can be controlled by means of mechanical, physical or biological measures, including but not limited to the following:

3.7.2.1 Adopting physical measures, such as handpicking, traps, barriers, light, sound, electricity, heat or mechanical methods.

3.7.2.2 Selecting varieties with resistance to pests and diseases.

3.7.2.3 Growing crops with pest control function (such as insect repelling or predator attracting).

3.7.2.4 Using mulch.

3.7.2.5 Releasing natural enemies.

3.7.2.6 Using visual or physical traps.

3.7.2.7 Using animals, plants, micro-organisms or their preparations.

3.7.3 When preventive, mechanical, physical or biological measures are not effective, the following restricted measures may be adopted:

3.7.3.1 To use materials listed in the Appendix 7.2.2 in accordance with the stated requirements.

3.7.3.2 For structure coverings, mulches, insect nets and bags which contain plastic materials, only products made from polyethylene (PE), polypropylene (PP) or polycarbonates (PC) are allowed. All these must be removed completely from the field and cannot be burned.

3.7.4 To avoid using the following methods in organic production:

3.7.4.1 To avoid burning of weeds so as to prevent contamination of crop and the environment.

3.7.4.2 Thermal sterilization* of soils is prohibited. Unless severe disease or pest infestation happen in crops growing under protected facilities and cannot be remedied through allowed measures in 3.7.1 to 3.7.3. Approval from HKORC-Cert must be sought prior to every usage.

3.7.4.3 Burning of vegetation or crop residues for land preparation is prohibited. Except for pest, disease or weed control. Prior application and approval must be sought for every burning.

3.7.5 The use of the following materials is prohibited in organic production:

3.7.5.1 Synthetic herbicides, fungicides, insecticides, growth regulators or other pesticides.

3.7.5.2 Materials made from genetically modified organisms and their derivatives.

3.7.5.3 Category III substances listed in Appendix 7.2.2 or all substances that do not appear in Appendix 7.2.2.

3.7.6 All formulated inputs must have only active ingredients listed as Category I, or Category II after being approved, in Appendix 7.2.2. All other ingredients must not be carcinogens, teratogens, mutagens or neurotoxins.

3.7.7 Prohibited materials shall not be stored where organic products are grown and handled.

3.8 Avoiding Contamination

Effective measures shall be applied to prevent contamination of the products and the environment.

3.8.1 Contamination of crop, soil, water, or inputs by prohibited substances or environmental contaminants must be monitored.

3.8.2 A buffer zone must be established if the organic farmland maybe contaminated by the adjoining area. The buffer zone must meet the requirements of this standard (please refer to §3.3).

3.8.3 Materials containing plastic must be removed completely from the field after use. Burning of such materials is prohibited.

3.8.4 Water used for handling non-organic produce must not be used for organic crops.

3.8.5 If a farm is accidentally contaminated by GMOs (such as seeds or pollen), its products and other

possibly contaminated products must be immediately and completely uprooted. The cleared products are prohibited from being sold as organic or organic (in conversion). Same crop(s) and crops visually undistinguishable from those contaminated ones cannot be grown in the farm and all volunteer plants of the contaminated products must be completely uprooted within one year after clearance. In particular cases, such as long lifespan for seeds of contaminated products, the Certification Board may make further consideration.

3.8.6 If a farm is suspected of being contaminated, Certification Board may take samples of soil, water or plants etc. from it for analysis in order to investigate the case.

3.8.7 Certification Board may suspend, revoke or deny the certification status or certification application enjoyed by the farm or the contaminated area if the level of heavy metal or other contaminants* in the soil or the products exceeds safety standard*.

3.8.8 Operators must prevent or remedy soil and water salinization where these pose a problem.

3.9 Use of Machinery, Equipment and Facility

Producers shall ensure that the use of machinery, equipment and facility will not cause negative impacts to the quality of organic products and the environment.

3.9.1 All machinery and equipment that have been used on a non-organic area must be cleaned thoroughly to remove any contaminants (including genetically modified organisms and their derivatives) before being used in organic production.

3.9.2 The use and maintenance of machinery should be monitored to avoid contamination to the organic products or the environment by the hydraulic fluid, fuel or lubricant, etc. of the machinery.

3.9.3 The use of heavy machinery should be avoided if they may damage soil structure.

3.9.4 Artificial light is only allowed for plant propagation and as a complement to sunlight to extend the day length to a maximum of 16 hours.

3.9.5 Operators must monitor, record and optimize any energy used for artificial light, heating, cooling, ventilation, humidity and other climate control.

3.10 Irrigation

Water resources should be effectively chosen and utilized to avoid water contamination.

3.10.1 Producers must not excessively exploit and deplete water resources. They must where possible recycle rainwater and monitor water extraction.

3.10.2 Producers should utilize water sources that meet the safety standard for irrigation (please refer to §3.8.7).

3.10.3 Producers should apply water in a way that causes no pollution to surface run-off and underground water.

3.11 Packaging, Storage and Transport

Effective measures should be applied to prevent contamination of the organic products.

3.11.1 When producers carry out simple packaging, storage or transport after harvesting, measures to avoid contamination to their products must be implemented at all times (May refer to Chapter 5 Processing and Handling Standards).

3.12 Breeding of organic varieties

Organic plant breeding and variety development aims for new varieties suited for organic production systems, rather than simply use or production of organic seeds from regular (conventional) varieties. It is a holistic approach that respects natural crossing barriers, relies on natural reproductive ability, and always creative, cooperative and open for science, intuition, and new findings, enhances genetic diversity and is sustainable.

3.12.1 To produce organic varieties, plant breeders must select their varieties under organic conditions that comply with the requirements of this standard. All multiplication practices except meristem culture must be under certified organic management.

3.12.2 Organic plant breeders must develop organic varieties only on the basis of genetic material that has not been contaminated by products of genetic engineering.

3.12.3 Organic plant breeders must disclose the applied breeding techniques. Organic plant breeders must make the information about the methods, which were used to develop an organic variety, available for the public latest from the beginning of marketing of the seeds.

3.12.4 The genome is respected as an impartible entity. Technical interventions into the genome of plants are not allowed (e.g. ionizing radiation; transfer of isolated DNA, RNA, or proteins).

3.12.5 The cell is respected as an impartible entity. Technical interventions into an isolated cell on an artificial medium are not allowed (e.g. genetic engineering techniques; destruction of cell walls and disintegration of cell nuclei through cytoplast fusion).

3.12.6 The natural reproductive ability of a plant variety is respected and maintained. This excludes techniques that reduce or inhibit the germination capacities (e,g, terminator technologies).

Chapter 4

Standards for Aquaculture* Production

4.1 Conversion

Conversion to organic cultivation is a process to develop an environmentally friendly and sustainable aquaculture production system with special consideration for the thriving and health of the cultivated organisms.

4.1.1 Save as is provided in 4.1.5, the length of the conversion period must be at least the life span of the animal or one year, whichever is shorter. Lifespan is defined as the period from birth to sale of the animal.

4.1.2 Starting from the conversion period, all the provisions on aquaculture production standards (Chapter 4) must be followed. Relevant requirements of Chapters 3 and 5 must also be complied.

4.1.3 The conversion period starts from the date of application for certification.

4.1.4 Organic aquafarms must not be switched between organic and conventional management. If conventional practices are reverted to the aquafarm that has been certified organic or in conversion, the certification given to the aquafarm will be revoked. Re-application and another round of conversion are required for gaining back the organic certification. However, the Certification Board reserves the right to accept or reject such re-applications.

4.1.5 If there is adequate documentation to prove the aquafarm has been managed using organic methods in compliance with this standard before the application for certification, the Certification Board may shorten the required conversion period.

4.1.6 Depending on factors such as previous usage, management practice and environmental condition of the aquafarm, the Certification Board may extend the conversion period.

4.2 Buffer Zone

Organic aquaculture production units must have adequate physical barriers or appropriate distance from contamination sources or conventional aquaculture production units, so as to prevent pollution from the outside of the system.

4.2.1 Save as is provided in 4.2.2, the buffer zone of pond culture and marine cage culture must not be less than 2 metres and 100 metres, respectively.

4.2.2 If physical barriers such as hedges, barrier plants or drains are available in the buffer zone, the Certification Board may relax the buffer zone requirement in a case by case basis.

4.2.3 If necessary, the Certification Board may require the aquafarm to set a wider buffer zone or to introduce additional physical barriers.

4.2.4 Any physical barriers should minimize the impact on biodiversity as far as possible.

4.2.5 Plant species in buffer zone should be conserved appropriately in order to maintain the biodiversity.

4.2.6 Plants in the buffer zone must be grown organically or naturally. The plants cannot be sold or used as organic.

4.3 Parallel Production

Parallel Production means simultaneous production, preparation or practicing of organic and non-organic aquaculture of the same species within the same aquafarm. Non-organic production modes can be (1) conventional, (2) in conversion or (3) uncertified organic.

4.3.1 Parallel production may be practiced if the following conditions are satisfactorily implemented under an agreement with HKORC-Cert.

4.3.1.1 Buffer zones must be established between the area for organic production and other production modes in accordance with Standard 4.2.

4.3.1.2 Mixing of water body between organic and other aquaculture modes is prohibited.

4.3.1.3 A clear and identifiable separation between the areas for organic production and other production modes must be maintained. Feed, fish products harvested and other inputs for organic production must be stored separately.

4.3.1.4 Organic and non-organic aquatic animals must be visually distinguishable. Exceptions can only be granted by HKORC-Cert on a case-by-case basis.

4.3.1.5 Complete records (including accurate production estimates) and accounting of organic production must be maintained, and must be filed separately from those of other production modes.

4.3.2 At least two inspections annually for aquafarms practicing parallel production, including organic and non-organic production areas.

4.4 Aquatic Ecosystems

Organic aquaculture management shall maintain the health of aquatic ecosystems.

4.4.1 The aquaculture production system should not have negative impact on the environment and harm other living organisms in the surrounding.

4.4.2 In order to maintain the aquatic environment and surrounding aquatic and terrestrial ecosystems, the following production practices should be adopted comprehensively.

4.4.2.1 Encouraging and enhancing biological cycles.

4.4.2.2 Utilizing preventive methods for disease control, such as control of stocking density, control of feeding quantity, sun-baking of pond sediment, earth moving, etc.

4.4.2.3 Conserving biodiversity through polyculture.

4.4.2.4 Taking adequate measures to prevent predation on species living in enclosures. These measures must not intend to harm any predators. Toxic substances must not

be used.

4.4.3 Producers must take appropriate measures to prevent excessive exploitation and use of water resources. They must where possible reuse water, recycle rainwater and monitor water extraction.

4.4.4 The quality of water, including the degree of pollution and the dissolved oxygen content, for organic aquaculture should not cause physiological or behavioural symptoms on cultivated animals. Water Source should have minimal or no contaminants such as pesticides or human pathogens.

4.4.5 Destruction of primary ecosystems is prohibited.

4.4.6 Stocking densities must not pollute water resources.

4.4.7 Operators must take verifiable and effective measures to minimize the release of nutrients and waste into the aquatic ecosystem. Quality of drained water must comply with government regulations.

4.4.8 Operators must take appropriate measures to prevent escapes of introduced or cultivated species, and documenting any that are known to occur.

4.4.9 Use of chemical fertilizers and pesticides, and genetically modified organisms, technology and products thereof are prohibited.

4.4.10 Materials for bund construction should not contaminate the water body of the aquafarm.

4.4.11 Operators must prevent or remedy water salinization where these pose a problem.

4.5 Breeds and Breeding

Aquatic animals should begin life on organic units.

4.5.1 Destructive fishing method is prohibited for collecting organisms for culture, and the extent of harvesting should not lead to over depletion of the species.

4.5.2 Brought-in cultured aquatic animals must come from organic sources. For the species that may be reproduced by the farm itself, the introduction of conventional sourced animals must be replaced soonest by the organic ones bred within the farm. For the species that may not be

reproduced by the farm itself, conventional animals may only be introduced with no organic animals are available in the same region. The brought-in conventional aquatic animals shall spend not less than two third of their life span in the organic system.

4.5.3 Any brought-in conventional stock must not contain any drug residue.

4.5.4 Cultured species must be well adapted to local conditions.

4.5.5 Aquatic animals produced by natural spawning must be used.

4.5.6 Polyploided stock, artificially sex-reversed stock as well as stock produced by the use of hormones are prohibited.

4.5.7 Transgenic and genetically modified culture stocks are prohibited.

4.6 Nutrition

Organic aquatic animals shall receive their nutritional needs from good quality, organic and other sustainable sources. Feeds for aquatic animals shall be formulated taking into account of the natural feeding habit, using organic ingredients, with appropriate ration size, to satisfy the nutritional requirements of the aquatic animal.*

4.6.1 Save as is provided in 4.6.2 and 4.6.3, aquatic animals must be fed with organic feed.

4.6.2 Based on stocking time of fish fry and dry weight of feed, the following percentage of organic feed must be used in one lifespan or annually, whichever is shorter:

4.6.2.1 50% or above before Dec 31st, 2017

4.6.2.2 75% or above after Dec 31st, 2017

4.6.3 When organic feed is of inadequate quantity or quality, other feeds may be used under permission of HKORC-Cert, and comply with the duration and conditions prescribed by HKORC-Cert, and the requirements stipulated from 4.6.4 to 4.6.5.

4.6.4 Non-organic aquatic animal protein and oil sources can only be used if the following conditions are satisfactorily implemented:

4.6.4.1 They are harvested from independently verified sustainable sources; and

4.6.4.2 They are verified to have contaminants below safety limits.

4.6.5 Animals maybe fed with vitamins, trace elements and supplements* from natural sources. Synthetic vitamins, minerals and supplements not listed under 4.6.6 maybe used when natural sources are not available in adequate quantity or quality.

4.6.6 Use of the following materials in diet to aquacultural animals is prohibited:

4.6.6.1 The same cultured species or its slaughter products;

4.6.6.2 All types of excrements including droppings, dung or other manure;

4.6.6.3 Feed subjected to solvent extraction;

4.6.6.4 Synthetic amino acids;

4.6.6.5 Urea and other synthetic nitrogen compounds;

4.6.6.6 Synthetic growth promoters or stimulants;

4.6.6.7 Synthetic appetizers;

4.6.6.8 Synthetic preservatives (preservatives based on natural products are allowed);

4.6.6.9 Artificial colouring agents;

4.6.6.10 Genetic modified organisms or their derivatives;

4.6.6.11 Any Antibiotics.

4.6.7 Operators should feed animals according to their natural feeding habit.

4.6.8 Operators should feed animals efficiently, with minimum losses to the environment.

4.6.9 Operators should design systems so that the production area comprises the entire food chain with minimal reliance on outside inputs.

4.7 Health and Welfare

The measures of organic management should be able to promote and maintain the health and well-being of animals through balanced organic nutrition, stress-free living conditions appropriate to the species and breed selection for resistance to diseases, parasites and infections.

4.7.1 Production practices must follow the principles below:

4.7.1.1 Freedom from malnutrition;

4.7.1.2 Freedom from thermal or other physical discomfort;

4.7.1.3 Freedom from injury or disease;

4.7.1.4 Freedom from fear or distress;

4.7.1.5 Freedom from unnecessary restrictions of behaviour.

4.7.2 Water quality, stocking density, health and behaviour of aquatic animals must be monitored regularly and managed properly to maintain the health and well-being of animals.

4.7.3 Preventive animal husbandry practices should be implemented to minimize the potential of disease outbreaks.

4.7.4 Cause of diseases should be identified as far as possible.

4.7.5 Natural methods and medicines must be used as the first choice, when treatment is necessary.

4.7.6 Provided that the treatment is prescribed by veterinarian, synthetic substances such as allopathic drugs can be used if preventive measures and natural medicines fail. In case of any treatment prescribed by the veterinarian, a withdrawal period of not less than double of that recommended

by veterinarian, or a minimum of 48 hours, whichever is longer, must be taken before selling the stocks.

4.7.7 To avoid causing suffering to animals, sick or injured aquatic animals should be treated promptly and adequately and if necessary in isolation. Aquafarms should not withhold medication, even if the use of such medication will cause the animal to lose its organic status.

4.7.8 Prophylactic use of veterinary drugs is prohibited.

4.7.9 Use of allopathic veterinary drugs and antibiotics is prohibited for invertebrates.

4.7.10 Synthetic hormones and growth regulators are prohibited for use to stimulate or suppress natural growth or reproduction of animals.

4.7.11 Vaccination of aquatic animals is prohibited unless specified below:

4.7.11.1 Under the permission of HKORC-Cert for the purpose of endemic/pandemic disease control;

4.7.11.2 As instructed by the local government.

4.7.12 All treatments must be documented. Each treatment record shall indicate the type of diseases and possible causes, treatment details and withdrawal period. Records should be retained properly.

4.7.13 Stocking densities should not compromise animal welfare.

4.7.14 The maximum hours of artificial light used to prolong natural day length must not exceed a maximum that respects the natural behavior and general health of the animals.

4.7.15 Mutilations are prohibited.

4.8 Handling, Transport and Slaughter

Organic aquatic animals are subjected to minimum stress during handling, transport and slaughter.

4.8.1 Aquafarm must handle live organisms in ways that are compatible with their physiological requirements.

4.8.2 Aquafarm should minimize the transport frequencies and distances for the animals. Transportation time must not exceed 4 hours.

4.8.3 Aquafarm must ensure that organic aquatic animals are provided with conditions during handling, transport and slaughter that meet animal specific needs and minimize the adverse effects of:

4.8.3.1 Diminishing water quantity or quality;

4.8.3.2 Long transportation time;

4.8.3.3 High stocking density;

4.8.3.4 Exposure to toxic substances;

4.8.3.5 Escape.

4.8.4 The use of chemically synthesized tranquilizers or stimulants is prohibited.

4.8.5 Aquafarm should use appropriate equipments to handle and harvest animals so as not to harm the organisms and not to affect the environment.

4.8.6 The use of any apparatus that produces or transmits electricity and is capable of stunning aquatic animals completely or partially is prohibited.

4.8.7 During the slaughter process, the stresses and pains of the aquatic animals must be minimized. Aquatic animals must be stunned immediately before slaughtering. The equipment used for stunning must be checked periodically to ensure it is in good working condition.

4.8.8 No toxic substance should be migrated from transportation equipment and materials. Transportation equipment and materials should be cleaned adequately before use.

4.8.9 Each animal or each group of animals must be identified at each step in the handling, transport and slaughter process. Organic and conventional aquatic animals must be slaughtered and stored separately, and must be clearly marked.

Chapter 5

Processing and Handling* Standards

5.1 Processing and Handling

In the entire processes for organic processing, handling and selling, organic integrity of the products should be preserved, and should provide consumers with high quality organic products.

5.1.1 If a producer or processor processes or handles certified organic products, the processing/packing operation must be certified by HKORC-Cert before products are labelled with HKORC-Cert seals according to the standards in Chapter 6. Exceptions can be granted to producer of HKORC-Cert certified organic farms in where simple packaging practices are being used.

5.1.2 The principles of good manufacturing practices must be followed. This includes implementing appropriate procedures based on identification of critical processing steps.

5.1.3 In case of split production, organic and non-organic products must be distinguishable and handled separately and cannot be commingled or substituted. HKORC-Cert must be informed when non-organic products are prepared or stored in the preparation unit. Operators are required to comply also with the standards in Chapter 3.2 where requirements for farms and crops also apply to processing and handling operators and products.

5.1.4 Handlers and processors must ensure traceability in the organic processing and handling chain.

5.1.5 If prohibited substances or methods are applied to the equipment or facilities, necessary precautionary measures must be taken to prevent contamination of organic products, such as removal of the products or cleaning of the facilities. Documentation is required for every measure taken.

5.1.6 Operators must take all necessary precautions to protect organic products against contamination by substances prohibited in organic farming and handling, pests, disease-causing organisms, and foreign substances.

5.1.7 Equipment and areas that have been used for conventional processing and handling must be

cleaned thoroughly before being used for organic processing and handling.

5.1.8 All processing areas and facilities must be clean and sanitary to avoid contamination to the organic products.

5.1.9 Water and cleansers, sanitizers and disinfectants listed in Appendix 7.2.23 are allowed for use in processing and handling facilities and area. Documentation is required for the cleaning procedures and the use of materials if substances other than those listed in Appendix 7.2.3 are used. Rinsing after use of such substances must be thorough to avoid any contamination.

5.1.10 Risks of environmental pollution resulting from handling and processing activities must be identified and minimized.

5.1.11 The effluents of processing facilities must not have adverse effects on the environment.

5.1.12 All repacked food must be certified organic by HKORC-Cert or other recognized organization. Otherwise, HKORC-Cert seals cannot be used.

5.2 Raw Materials*, Food Additives* and Processing Aids*

Organic processing should use organic ingredients entirely.*

5.2.1 Ingredients must be HKORC-Cert certified or be certified by a recognized organization* except for those materials listed at Appendix 7.2.3. In case where an ingredient of organic origin is commercially unavailable, a processor may use a non-organic source of the ingredient which must not contain GMOs and their derivatives or nanomaterials. Prior approval for such non-organic ingredient must be sought and every use must be documented with HKORC-Cert "Use of Non-organic Ingredients Record". The product must be labelled in compliance with Chapter 6 (Labelling of Organic Products and the Use of HKORC-Cert Seals). The non-organic ingredient must be obtained from organic sources as soon as it becomes commercially available.

5.2.2 The use of non-organic and organic sources of the same ingredient in a product is prohibited.

5.2.3 Water used in organic processing and handling must comply with the requirements of World

Health Organization Guidelines for Drinking-water Quality.

5.2.4 The use of minerals (including trace elements) or vitamins are not allowed for enhancing nutrient content of the products. Unless their use is legally required or where severe nutritional deficiency can be demonstrated in the market to which the particular batch of product is destined. Prior approval must be obtained.

5.2.5 Materials listed at Appendix 7.2.3 are allowed for use as per the associated annotations in the materials list. The use of GMOs and their derivatives or nanomaterials are prohibited. All materials not listed in Appendix 7.2.3 are prohibited unless otherwise specify.

5.3 Processing Methods

Processing methods should maintain the natural constituents and nutritional value of the products.

5.3.1 Substances or techniques used in processing or handling procedures to achieve the following objectives are prohibited:

5.3.1.1 Reconstitute properties lost by the processing and storage of products;

5.3.1.2 Conceal negligent processing;

5.3.1.3 Mislead the true nature of products.

5.3.2 Water may be used for re-hydration or reconstitution.

5.3.3 Biological, physical or mechanical methods (e.g. extraction, heating or mined) in organic processing are allowed. Any additives, processing aids, or other substances that chemically react with or modify organic foods shall comply with the requirements of Appendix 7.2.3.

5.3.4 Irradiation is prohibited for any ingredient or the final product.

5.3.5 Filtering equipment, materials or techniques, which contain harmful substances or may generate harmful substances, are prohibited. Filtration agents and adjuvants are considered

processing aids and therefore must appear in Appendix 7.2.3.

5.3.6 Intentional manufacture or use of nanomaterials is prohibited.

5.3.7 Equipment surfaces and utensils that might come into contact with organic products must be free of nanomaterials.

5.3.8 Solvents used to extract organic products must be either organically produced or food grade substances that appear in Appendix 7.2.3.

5.4 Pest and Disease Control

The prevention of pest and disease within processing and handling areas and facilities should be accomplished through preventive management program such as cleaning and sanitization.

5.4.1 Measures for controlling pest and disease must be used according to the following priorities:

1. Preventive measures such as elimination of habitat and exclusion;
2. If preventive measures are ineffective, mechanical, physical and biological methods may be used;
3. If the above measures are ineffective, allowed materials listed at Appendix 7.2.2 may be used but contact with organic products is prohibited.

5.4.2 Physical barriers, sound, ultra-sound, light, ultra-violet light, temperature control, controlled atmosphere or etc. is allowed for pest and disease control practices.

5.4.3 Irradiation and materials not listed at Appendix 7.2.2 are prohibited as pest and disease control measures.

5.5 Packaging

Packaging methods and materials should be simple so as to avoid unnecessary packaging and negative impact on the environment, and should maintain the quality of the products.

5.5.1 Packaging must be based on the principle of waste reduction. The use of materials and methods must minimize the negative impact on the environment.

5.5.2 The use of packaging materials that contaminates the products is prohibited. This includes reused bags or containers that have been in contact with any substance likely to compromise the organic integrity.

5.5.3 Packaging materials, or storage containers must not contain disinfectants, preservatives, fumigants, insecticides, genetically modified organisms and their derivatives or nanomaterials.

5.5.4 Biodegradable, recyclable or reusable packaging materials are recommended.

5.5.5 Vacuum packing is allowed.

5.5.6 Processors should try to use inks and adhesives which are harmless to human beings.

5.6 Storage

Storage procedures for organic products should preserve product quality.

5.6.1 When organic and non-organic products are stored at the same unit, they must be stored in separated, identified places and be labelled or packaged differently to prevent commingling*.

5.6.2 The following storage methods are allowed:

- controlled atmosphere;
- temperature control;
- humidity regulation; or
- drying.

5.6.3 All invoice and storage records for the product in and out must be kept.

5.7 Transport

Transportation of organic products should be able to preserve product quality.

5.7.1 When transporting organic and non-organic products together, products must be clearly marked and packaged to prevent commingling.

5.7.2 Only allowed materials listed at Appendix 7.2.3 are allowed for cleaning conveyances.

Chapter 6

Labelling of Organic Products and the use of HKORC-Cert Seals

Organic products shall be accurately and clearly labelled.

6.1 Labelling of organic products

6.1.1 HKORC-Cert seals and name may only be used by operators holding a valid certificate of registration from HKORC-Cert and only in conjunction with those organic products identified on the certificate.

6.2 Products classification

6.2.1 Unprocessed organic agricultural and aquatic products

6.2.1.1 Agricultural and aquatic products that are certified by HKORC-Cert may be labelled as “organic” with the use of “organic” seal of HKORC-Cert.

6.2.1.2 Agricultural products that are certified by HKORC-Cert as being produced in the conversion period may be labelled as “organic in conversion” and use the “organic (in conversion)”seal of HKORC-Cert, but cannot be labelled as “organic” nor use the “organic” seal of HKORC-Cert.

6.2.2 Processed organic products

6.2.2.1 Products with not less than 95% of organic raw materials (excluding water and salt) that are certified by HKORC-Cert or other recognized organization, and processed and handled by HKORC-Cert certified facilities, maybe labelled as “organic” and use the “organic” seal of HKORC-Cert.

6.2.2.2 Products with not less than 70% but not more than 95% of organic raw materials (excluding water and salt) that are certified by HKORC-Cert or other recognized organization, and processed and handled by HKORC-Cert certified facilities, may use "made with organic" seal of HKORC-Cert and may be labelled as "made with organic", followed by a clear indication of the proportion of the organic ingredients, but cannot be labelled as "organic".

6.2.2.3 Only single ingredient plant products may be labelled as "in-conversion".

6.2.2.4 Products with less than 70% of organic raw materials (excluding water and salt) that are certified by HKORC-Cert or other recognized organization, which cannot meet the ingredient requirement of HKORC-Cert, cannot be labelled as "organic" and use the name and seal of HKORC-Cert.

Fig 1. "Organic" seal of HKORC-Cert

Fig 2. "Organic (in conversion)" seal of HKORC-Cert

Fig 3. " Made with organic" seal of HKORC-Cert

6.2.3 Multi-component products, live or unprocessed

6.2.3.1 Multi-component products, live or unprocessed (such as vegetable boxes) may be sold or marketed as organic only if all the components are organic.

6.2.4 Input materials

6.2.4.1 Input materials that are certified by HKORC-Cert may use the "organic" seal of HKORC-Cert and can be used in organic crop production, aquaculture, food and feed processing.

6.2.4.2 "In-conversion" ingredients may be used in multi-ingredient feed. However, the ingredient list must identify their status and the total percentages of "in-conversion", organic and non-organic ingredients on a dry matter basis.

6.3 Labelling

6.3.1 Seal

6.3.1.1 Only organic products that comply with relevant part in this standard may use "organic", "organic (in conversion)" or "made with organic" seal of HKORC-Cert.

6.3.1.2 Using the seals of HKORC-Cert as product brand name is prohibited.

6.3.1.3 In case of promotion, HKORC-Cert seals must be clearly referred to products which are being certified by HKORC-Cert. Any misunderstanding shall not be tolerated whatsoever.

6.3.1.4 In the uses of the relevant HKORC-Cert seals, the diameter of the seal shall not be larger than 12.5% of the length or width (whichever is longer) of the product panel. Moreover, the shape, proportion and color of the seal must be followed.

6.3.2 Product Label*

6.3.2.1 The labels of processed and handled organic products must show the certificate* number and comply with the relevant labelling laws in Hong Kong.

6.3.2.2 The label for "organic (in conversion)" must be clearly distinguishable from the label for "organic".

6.3.2.3 The name of the person, company and certifier responsible for the production or processing of the product must be clearly showed.

6.3.2.4 All ingredients of the product shall be listed on the product label in order of their weight percentage. It shall be clear which ingredients are certified organic and which are not. All additives shall be listed with their full name.

6.3.2.5 Using HKORC-Cert seals or the certification status for the claim of GMO free or similar description is prohibited. Any reference to genetic engineering on product labels must be limited to the production and processing in which GMOs are not used.

Chapter 7

Appendices

7.1 Definitions

Annual crop

A crop that will be harvested or cut within 12 months of when it was planted.

Audit trail

A system of documentation of each process (including but not limited to, purchase, production, harvest, storage, transport, processing, handling, and sales); which is used to verify organic products or organic raw materials if conformity of the product to the organic standard.

Aquaculture

The cultivation of animal species in natural or man-made marine, brackish water or fresh water environment in compliance with this standard.

Biodegradable

Decomposition of a substance into more elementary compounds by the biochemical action of microorganisms.

Biodiversity

The level of variety of life forms and ecosystem types, which includes genetic diversity, species diversity and ecosystem diversity.

Buffer zone

An area, with identifiable boundaries, between an organic and a non-organic production site that is established to protect the organic production site against the contamination from the non-organic production site.

Certificate

A document issued by HKORC-Cert which attests the compliance of the production system of the applicant with the standards of the certification agency. It identifies the name, address of the entity certified, effective date of certification number, types of products and etc.

Commercially unavailable

The documented unavailability of a production input or ingredient in an appropriate form, quality, quantity, or variety due to its supply.

Commingling

The mixing together, or physical contact between organic products and non-organic products during production, processing, handling, transportation or storage other than the processing of multi-ingredient products which contain both organic and non-organic ingredients

Compost

The decomposition product of organic solid substances into stabilized humus by microorganisms under aerobic or anaerobic condition.

Contaminant

A prohibited substance, disease-causing substance, or genetically modified organisms and its derivatives that presents in an organic product, production facility or the environment.

Contamination

The introduction of a prohibited substance, disease-causing substance, or genetically modified organisms and its derivatives to organic products and ingredients through processing, handling or from the environment.

Conventional

Production or processing systems that are not certified organic or organic “in-conversion”.

Crop rotation

The practice of alternating the species or families of plants grown on a specific field in a planned pattern or sequence so as to prevent or control weed, pest and disease, and to improve soil fertility and organic matter content.

Direct Source Organism

The specific plant, animal, or microbe that produces a given input or ingredient.

Farm

An agricultural production unit with clear boundary which is under control of or managed (including rent) by one person or collective of people.

Food additive

A substance added into the food which may change its characteristics including color, flavour, taste and etc. or may be used for preservation and other specified technical purpose. The substance will persist in the final product.

Genetic engineering

Genetic engineering is a set of techniques from molecular biology by which the genetic material of plants, animals, micro-organisms, cells and other biological units are altered in ways or with results that could not be obtained by methods of natural mating and reproduction or natural recombination. Techniques include, but are not limited to: recombinant DNA, cell fusion, micro and macro injection, encapsulation, gene deletion and doubling. Genetically engineered organisms do not include organisms resulting from techniques such as conjugation, transduction and natural hybridization.

Genetically modified organism, GMO

A plant, animal, or microbe that is transformed by genetic engineering.

Handling

Transportation, storage, packaging, repacking, selection, and distribution of products.

Hydroponic systems

Crop production systems in which suspended or dissociated nutrients used as prime source of nutrient

supply are added to inert media (except soil) or liquid. Growing crops in water only is not considered as a hydroponic system.

Ingredient

Any substance including raw material, additive, water and salt that is used in food processing and handling, and will present in the final product although possibly in a modified form.

Input

Materials (including but not limited to additives, processing aids, and other substances) which are allowed for used in organic production and processing system.

Inspector

A person who is authorized by HKORC-Cert to perform inspections.

Intercropping

Intercropping is the process of growing two or more crops together on the same farmland.

Label

Any written, printed or graphic representation that accompanies the product or product packaging, or is displayed near the product.

Nanomaterials

Substances deliberately designed, engineered and produced by human activity to be in the nanoscale range (approx. 1-300 nm) because of very specific properties or compositions (e.g. shape, surface properties, or chemistry) that result only in that nanoscale. Incidental particles in the nanoscale range created during traditional processing methods such as homogenization, milling, churning, and freezing, and naturally occurring particles in the nanoscale range are not intended to be included in this definition.

Organic (in conversion)

Products produced during the time between the start of the organic management and the certification of crops as organic.

Organic production

Production system that is in compliance with this standard.

Perennial crop

A crop that can be harvested from the same planting for more than one crop year.

Planting material

Any plant or plant tissue, including vegetative propagation material or seedling used in plant production or propagation.

Processing

Including but not limited to cooking, baking, heating, drying, mixing, grinding, churning, separating, extracting, cutting, fermenting, slaughtering, eviscerating, pickling, preserving, dehydrating, freezing, dyeing, packaging, canning, jarring, or other enclosing method, other than normal post-harvest simple packing of crops within the farm.

Processing aid

Any material intentionally used in processing to fulfil a certain technical purpose which will not persist in the final product or result in the presence of residues or derivatives in the final product.

Producer

A person or an organization who is responsible for crop, feed or livestock production.

Product

Any product, unprocessed or processed, that is marketed for human consumption, animal feed or other use.

Raw material

The main ingredient in final product which is not additive.

Recognized organization

An organization which has gained formal approval of its organic standards and certifying procedures by HKORC-Cert.

Safety Standard

(1) "The Dutch Standard – Intervention Value" is adopted as the soil safety standard.

(2) "The China National Standard–Standards for Irrigation Water Quality" is adopted as the irrigation water safety standard.

(3) The safety standard of products shall be in accordance with relevant legal requirements in Hong Kong of the food safety regulations of FEHD.

Sewage Sludge

A solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works.

Split production

A farm or a processing or handling operation which is only partially under organic management.
The remainder of the operation can be non-organic (conventional, non-certified organic or organic (in-conversion)).

Supplement

An essential nutrient or nutrients added to feed to improve the nutritive balance or performance of the total ration.

Sustainable sources

The sources capable of being continued with minimal long-term effect on the future providing capacity. The source should come with independent verification.

Synthetic

A substance that is formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from naturally occurring plant, animal, or mineral sources, except for those substances created by naturally occurring biological processes.

Thermal sterilization

A process to sterilize soil by using steam, boiling water, solarisation or other thermal control.

7.2 List of Materials

Substances that do not appear in this standard are prohibited for use in organic production.
Application of Input Manufacturing Certification must comply with Appendix 7.2 List of Materials/ Appendix 7.3 Inputs other than Appendix 7.2 List of Materials.

The following tables contain lists of the inputs, additives, processing aids, and other substances that are allowed for use in organic production and processing under this standard. These lists will be amended based on a review by HKORC Standard Committee, taking into account the criteria for evaluation of inputs.

Materials Classification

Group I: Allowed

Materials which may be used in organic production and processing system. Materials must be from a known source and shall contain no contaminants, prohibited substances, GMOs and their derivatives and nanomaterials. Use of some allowed materials may be subject to specific annotations as shown in the Materials List.

Group II: Restricted

Operators must obtain approval for use of the restricted materials from HKORC-Cert prior to the application of the material. In general, the use of these materials is discouraged. Only under special conditions, the use would be approved.

Group III: Prohibited

Materials which are prohibited to be used in organic production and processing system.

7.2.1 Materials for Soil Management and Fertilization

	Materials	Category	Remarks
1	Soy bean meal	I	Must be free from genetically modified organisms and its derivative
2	Peanut cake or peanut cake meal	I	
3	Hoof and horn meal	I	
4	Bone, bone meal, blood meal, meat meal and their mixed produce	I	Sources must be free from contaminants or prohibited materials
5	Wood, bark, sawdust, wood shavings, wood ash, wood charcoal	I	Sources must be free from contaminants or prohibited materials
6	Fish and fish products	I	Sources must be free from contaminants or prohibited materials
7	Seaweed and seaweed products	I	As far as obtained by: 1. physical processes including dehydration, freezing and grinding; 2. extraction with water or potassium hydroxide solutions, provided that the minimum amount of solvent necessary is used for extraction; 3. fermentation.
8	Plant preparations and extracts	I	Sources must be free from contaminants or prohibited materials
9	Feather meal, shell products, wool and fur, hide, hair, dairy products	I	Sources must be free from contaminants or prohibited materials
10	Eggshell	I	
11	Plant residues and green manure from organic farms	I	
12	Compost made from organic materials produced on organic farms	I	
13	Compost made from plant	I	
14	Compost made from animal excrement	I	

	Materials	Category	Remarks
15	Commercially produced organic fertilizers, compost and soil conditioners	I	Commercially produced guano is prohibited
16	Plant materials imported from areas outside the farm	I	Source must be free from contaminants or prohibited materials
17	Biodegradable processing by-products, plant, animal or microbial origin, including by-product of food, feed, oil seed, brewery, distillery	I	(i) Free of contaminants, or (ii) composted before bringing onto organic land and free of contaminants
18	Compost made from food waste	I	Must be free from genetically modified organisms and its derivatives
19	Humus from insects	I	
20	Vermicastings / vermicompost	I	Vermicastings and vermicomposting from sewage sludge are not allowed .
21	Raw animal excrement	I	(i) Only use on perennials or crops not for human consumptions or applied at least four months before harvesting if the crop is for human consumption. (ii) Shall not constitute the main source of nitrogen in the absence of other nitrogen generating practices on farm (iii) Shall not be from conventional intensive livestock production systems without prior permission from HKORC-Cert.
22	Perlite, vermiculite	I	
23	Mineral zeolite	I	
24	Peat moss	I	Prohibited to be used as soil amendment, only permitted for inclusion in potting mixes. Sources must be free from contaminants or prohibited materials
25	Hydrated lime (calcium hydroxide)	I	Use with moderate amount; For application on aerial plant parts only

	Materials	Category	Remarks
26	Natural limestone (calcium carbonate) or gypsum (calcium sulfate)	I	
27	Magnesium rock, kieserite and Epsomsalt (magnesium sulfate)	I	Use with moderate amount
28	Mineral potassium (e.g. sulfate of potash, kainite, sylvanite, rock potash)	I	Use with moderate amount; Shall be obtained by physical procedures but not enriched by chemical processes
29	Natural phosphates (e.g. pulverized phosphate rock)	I	Use with moderate amount and cadmium content less than or equal to 90 mg/kg of P_2O_5
30	Carbon dioxide	I	Must be non-synthetic carbon dioxide; Shall not be the result of burning fuel solely to produce carbon dioxide; allowed only as a by-product of other processes
31	Natural microbiological preparations	I	Must be free from GMO and their derivatives
32	Spent mushroom compost	I	
33	Marl, maerl, chalk, sugar beet lime, calcium chloride	I	
34	Pulverized rock, stone meal, crushed stone	I	
35	Sodium chloride	I	
36	Sulfur	I	
37	Biodynamic preparations	I	
38	Calcium lignosulfonate	I	
39	Bentonite	I	
40	Borax	II	Allowed only to correct documented deficiencies determined by soil test. Acceptable only as a necessary complement when other fertility building techniques have been applied and are insufficient, and no natural substitute is available. Use in moderate amount
41	Calcareous and magnesium amendments	II	Allowed only to correct documented deficiencies determined by soil test. Acceptable only as a necessary complement

	Materials	Category	Remarks
			when other fertility building techniques have been applied and are insufficient, and no natural substitute is available. Use in moderate amount
42	Trace elements	II	Allowed only to correct documented deficiencies determined by soil test. Acceptable only as a necessary complement when other fertility building techniques have been applied and are insufficient, and no natural substitute is available. Use in moderate amount. Synthetic micronutrients in ammonium, chloride, nitrate, or polyphosphate forms are prohibited. Micronutrients may not be used as a defoliant, herbicide, or desiccant
43	Synthetic fertilizers (e.g. Nitrophoska 13-13-21, Nitrophoska12-12-17-2, urea)	III	Unless otherwise specifically listed
44	Human excrement	III	1. Standard 3.6.12 states that use of human excrement is prohibited 2. Risk of pathogen spreading
45	Sewage sludge	III	
46	Synthetic phosphate	III	
47	Synthetic potassium salt	III	
48	Synthetic zeolite	III	
49	Commercially produced guano	III	Harmful to the environment when collected and shipped to Hong Kong
50	Chilean nitrate	III	

7.2.2 Materials for Pest, Disease and Weed Management

	Materials	Category	Remarks
1	*Bacillus thuringiensis*	I	
2	*Spodoptera litura Nuclear Polyhedrosis* Virus (SlNPV)	I	
3	Entomopathogenic nematodes (e.g. Steinernema spp.)	I	
4	Microbial pesticides	I	Sources must be free from contaminants, prohibited materials or GMOs and its derivatives
5	Pheromones and insect attractants (e.g. DBM sex pheromone, cuelure)	I	Only allowed to use on traps and dispensers
6	Natural enemies (e.g. release of parasitic wasps)	I	Beware of the effect of introduced species on local ecological balance before releasing natural enemies
7	Beauveria bassiana	I	
8	Natural acids (e.g. vinegar)	I	
9	Melia or Melia extracts (*Melia azedarach* L.)	I	
10	Neem or Neem extracts (Azadirachta indica)	I	
11	Pyrethrum or Pyrethrum extracts (*Chrysanthemum cinerariaefolium*)	I	Must be free from piperonyl butoxide
12	Native plant species or other permitted use natural plant extracts	I	
13	Plant oils	I	
14	Light mineral oils (paraffin oil)	I	Sources must be free from contaminants, prohibited materials and low in phytotoxicity
15	Sulfur	I	
16	Hydrated lime (calcium hydroxide)	I	For application on aerial plant parts only. Use with moderate amount
17	Baking soda (sodium bicarbonate)	I	
18	Bordeaux mixtures	I	
19	Potassium Bicarbonate	I	

	Materials	Category	Remarks
20	Diatomaceous earth	I	
21	Copper salts (e.g. sulfate, hydroxide, oxychlorine, octanoate)	I	Maximum application rate is 6 kg/ha/yr
22	Soft soap	I	
23	Carbon dioxide	I	Must be non-synthetic carbon dioxide. Use as soil treatment is not allowed. Shall not be the result of burning fuel solely to produce carbon dioxide; allowed only as a by-product of other processes.
24	Animal and plant products and their preparations (e.g. honey, propolis, milk, coffee grounds, cane sugar and oil, but excluding tobacco and nicotine)	I	
25	Beeswax	I	
26	Natural Chitin	I	Not processed by acid hydrolysis
27	Physical methods (e.g. chromatic traps, mechanical traps, mulches, nets)	I	Protection of non-target species shall be the first priority of consideration
28	Algal preparations	I	As far as obtained by: (i) physical processes including dehydration, freezing and grinding; (ii) extraction with water or potassium hydroxide solutions, provided that the minimum amount of solvent necessary is used for extraction; (iii) fermentation.
29	Corn gluten meal	I	
30	Gelatin	I	
31	Lecithin	I	
32	Ethyl alcohol	I	
33	Homeopathic and Ayurvedic preparations	I	
34	Iron phosphates (for use as molluscicide)	I	
35	Seasalt and salty water	I	
36	Plant based repellents	I	

37	Chloride of lime (calcium chloride)	I	
38	Lime sulfur (Calcium polysulfide)	I	
39	Silicates (e.g. sodium silicates, quartz)	I	
40	Biodynamic preparations	I	
41	Permitted use fungal preparations	I	Must comply with the requirements of local laws / regulations on the dose and ingredients
42	Permitted use viral preparations	I	Must comply with the requirements of local laws / regulations on the dose and ingredients
43	Rotenone *(Derris elliptica*, *Lonchocarpus* spp. *Thephrosia* spp.)	II	Approval from HKORC-Cert must be sought prior to every usage. Application near water course is prohibited.
44	Synthetic pesticides, including insecticides, fungicides, herbicides etc	III	Unless otherwise specifically listed
45	Tobacco and tobacco extracts (pure nicotine is also forbidden)	III	Highly toxic

7.2.3 Materials for Processing and Handling

	INS	Materials	Category	Type	Remarks
1		Activated carbon	I	Processing aids	
2		Diatomaceous earth	I	Processing aids	For sugar processing, fruit and vegetable products, sweeteners, wine and food filtering only
3		Perlite	I	Processing aids	For filtering only
4		Bleach	I	Cleansers, sanitizers and disinfectants	Only calcium hypochlorite, sodium hypochlorite and chlorine dioxide can be used and allowed as a sanitizer on food contact surfaces. An intervening event or action must occur to eliminate risks of contamination. Residual chlorine levels in wash water treated by bleach shall not exceed the recommendation by WHO Guidelines for Drinking-water Quality (currently 5ppm)
5		Hydrogen peroxide	I	Cleansers, sanitizers and disinfectants	For disinfection of processing equipments only. The equipments must be washed with hot water after use
6		Detergents	I	Cleansers, sanitizers and disinfectants	For cleaning of processing equipments and areas only and must wash with hot water after use
7		Ozone	I	Cleansers, sanitizers and disinfectants	For disinfection of processing equipment only
8		Casein	I	Processing aids	For wine only
9		Isinglass	I	Processing aids	For wine only
10	428	Gelatin	I	Processing aids	
11		Essential oils	I	Food additive; processing aids	Only essential oils produced by means of solvents such as oil, water, ethyl alcohol(ethanol), carbon dioxide can be used
12		Ethyl alcohol (ethanol)	I	Food additives; processing aids; cleansers, sanitizers and disinfectants	As a food additive & processing aid: Only organic source is allowed As a cleanser, sanitizer and disinfectant: Non-organic source may be used and must be rinsed with hot water after use

	INS	Materials	Category	Type	Remarks
13		Vinegar	I	Food additives; processing aids; cleansers, sanitizers and disinfectants	As a food additive & processing aid: Only organic source is allowed; As a cleanser, sanitizer and disinfectant: Non-organic source may be used and must be rinsed with hot water after use.
14		Natural flavourings	I	Food additives	All of the constituents used in the natural flavourings must be from natural sources and have not been chemically modified in a way that makes them different from their natural chemical state. The natural flavourings must not have been produced using any synthetic solvent, carrier systems or artificial preservatives.
15		Natural food colourings	I	Food additives	All of the constituents used in the natural food colourings must be from natural sources and have not been chemically modified in a way that makes them different from their natural chemical state. The natural food colourings must not have been produced using any synthetic solvent, carrier systems or artificial preservatives.
16		Natural preservatives	I	Food additives	All of the constituents used in the natural preservatives must be from natural sources and have not been chemically modified in a way that makes them different from their natural chemical state. The natural preservatives must not have been produced using any synthetic solvent, carrier systems or artificial preservatives.
17		Vegetable oils	I	Processing aids	Can be used as greasing agent and releasing agent
18		Preparations of microorganisms and enzyme	I	Food additives; processing aids	Except those from GMO and its derivatives. Microorganisms shall be grown on substrates consisting entirely of organic ingredients and substances listed in this appendix, if available.
19		Ethylene	I	Processing aids	Allowed for degreening of citrus and ripening

	INS	Materials	Category	Type	Remarks
20		Preparations of bark	I	Processing aids	For sugar processing only
21		Salt	I	Food additives; processing aids	As a food additives: Contain no flowing or bleaching agents
22		Water	I	Food additives; processing aids	Must comply with the requirements of World Health Organization Guidelines for Drinking-water Quality
23	170	Calcium carbonates	I	Food additives; processing aids	Not for coloring
24	184	Tannin acid, Food grade	I	Processing aids	Filtration aid for wine
25	220	Sulfur dioxide	I	Food additives	For wine only
26	224	Potassium metabisulphite	I	Food additives	Only for wine
27	260	Acetic acid	I	Cleansers, sanitizers and disinfectants	
28	270	Lactic acid (L-, D- and DL-)	I	Food additives; processing aids	Must be naturally fermented products
29	290	Carbon dioxide	I	Food additives; processing aids	Must be derived from oil-free source
30	296	L-malic acid	I	Food additives; processing aids	
31	300	Ascorbic acid	I	Food additives	
32	306	Tocopherols, mixed natural concentrates	I	Food additives	
33	322	Lecithins	I	Food additives; processing aids	As a food additive: Extracted without the use of bleaching chemicals and organic solvents
34	330	Citric acid	I	Food additives; processing aids	Must be naturally fermented products
35	331	Sodium citrates	I	Food additives	
36	332	Potassium citrates	I	Food additives	
37	333	Calcium citrates	I	Food additives	
38	334	Tartaric acid (L(+)-)	I	Food additives; processing aids	
39	335	Sodium tartrate	I	Food additives; processing aids	
40	336	Potassium tartrates	I	Food additives	For cereals, baked goods and confectionery only
41	338	Phosphoric acid	I	Cleansers, sanitizers and disinfectants	Only for dairy equipment
42	341(i)	Monocalcium orthophosphate	I	Food additives	For raising flour only

43	342	Ammonium phosphate	I	Food additives	Restricted to 0.3 gm/l in wine
44	400	Alginic acid	I	Food additives	
45	401	Sodium alginate	I	Food additives	
46	402	Potassium alginate	I	Food additives	
47	406	Agar	I	Food additives	
48	407	Carageenan and its Na, K, NH4, Ca and Mg salts (includes furcellaran)	I	Food additives	
49	410	Carob bean gum	I	Food additives	
50	412	Guar gum	I	Food additives	
51	413	Tragacanth gum	I	Food additives	
52	414	Gum arabic (acacia gum)	I	Food additives	
53	415	Xanthan gum	I	Food additives	
54	440	Pectins	I	Food additives	Must be unmodified
55	460	Cellulose	I	Processing aids	
56	500(ii)	Sodium hydrogen carbonate (Sodium bicarbonate, baking soda)	I	Food additives	For baked goods and confectionery
57	501	Potassium carbonates	I	Food additives; processing aids	For cereals, baked goods and confectionery
58	503	Ammonium carbonates	I	Food additives	For cereals, baked goods and confectionery
59	504	Magnesium carbonates	I	Food additives	For cereals, baked goods and confectionery
60	508	Potassium chloride	I	Food additives	
61	509	Calcium chloride	I	Food additives; processing aids	
62	511	Magnesium chloride	I	Food additives; processing aids	As a food additive: For soybean products; As a processing aid: Coagulation agent
63	513	Sulphuric acid	I	Food additives; Processing aids; cleansers, sanitizers and disinfectants	As a processing aid: For pH adjustment of water in sugar processing only; As a cleanser, sanitizer and disinfectant: For cleaning of equipments only and must be rinsed with hot water after use; As additive for wine and apple cider production.

	INS	Materials	Category	Type	Remarks
64	516	Calcium sulphate	I	Food additives; processing aids	As a food additive: For cakes, biscuits, soybean products and bakers yeast. Carrier; As a processing aid: Coagulation agent
65	517	Ammonium sulfate	I	Food additives	Only for wine, restricted to 0.3 mg/l
66	524	Caustic soda (Sodium hydroxide)	I	Food additives; processing aids; Cleansers, sanitizers and disinfectants	As a food additive: For cereals only; As a processing aid: For pH adjustment of water in sugar processing. Prohibited for use in peeling of fruits and vegetables; Cleansers, sanitizers and disinfectants : An intervening event or action must occur to eliminate risks of contamination
67	525	Caustic potash (Potassium hydroxide)	I	Processing aids; cleansers, sanitizers and disinfectants	As a processing aid: For pH adjustment of water in sugar processing. Prohibited for use in peeling of fruits and vegetables; As a cleanser, sanitizer and disinfectant: For cleaning processing plants where adequate rinsing is provided
68	526	Calcium hydroxide	I	Food additives; processing aids	Food additive for maize tortilla flour ; Processing aid for sugar
69	529	Calcium oxide (quicklime)	I	Cleansers, sanitizers and disinfectants	
70	551	Silicon dioxide (amorphous)	I	Processing aids	
71	553(iii)	Talc	I	Processing aids	
72	558	Bentonite	I	Processing aids	Only for fruit and vegetable products
73	559	Kaolin	I	Processing aids	
74	901	Beeswax (white +yellow)	I	Food additives; processing aids	As a food additives: Must be from organic source As a processing aids: Releasing agent
75	903	Carnauba wax	I	Processing aids; Releasing agent	
76	938	Argon	I	Food additives	
77	941	Nitrogen	I	Food additives; processing aids	Must be from non-oil source
78	948	Oxygen	I	Food additives; processing aids	Must be from non-oil source

	INS	Materials	Category	Type	Remarks
79		Animal oils	I	Processing aids	For extraction only
80		Isopropyl alcohol (isopropanol)	I	Cleansers, sanitizers and disinfectants	
81		Chloride of lime (calcium oxychloride, calcium chloride, and calcium hydroxide)	I	Cleansers, sanitizers and disinfectants	
82		Formic acid	I	Cleansers, sanitizers and disinfectants	
83		Natural essences of plants	I	Cleansers, sanitizers and disinfectants	
84		Oxalic acid	I	Cleansers, sanitizers and disinfectants	
85		Peracetic acid	I	Cleansers, sanitizers and disinfectants	
86		Plant extracts	I	Cleansers, sanitizers and disinfectants	
87		Organic certified micro-organisms	II	Food additives; processing aids	May be used as ingredient or processing aids with approval from the control body
88		Asbestos containing filtering material	III	Processing aids	
89	285	Borax (or sodium tetraborate)	III	Food additives	
90	621	Monosodium glutamate	III	Food additives	
91	954	Saccharin	III	Food additives	

7.2.4 Materials for Pest and Disease Management in Aquaculture

Aquafarm may use the material(s) listed in the 7.2.3 "Materials for Processing and Handling" (subject to specific annotations shown in the list) and below:

	Materials	Category	Remarks
1	Iodine	I	Use for disease control
2	Lime	I	Allowed to use only during sun-baking of pond sediment or in emergency cases to adjust the water quality during cultivation
3	Sodium bicarbonate	I	
4	Plant materials	I	Use for disease or pest control, e.g. tea meal
5	Physical methods	I	e.g. catching by hand, net, trap
6	Alkali carbonates	I	Cleansers, sanitizers and disinfectants: An intervening event or action must occur to eliminate risks of contamination
7	Caustic potash (potassium hydroxide)	I	Cleansers, sanitizers and disinfectants: An intervening event or action must occur to eliminate risks of contamination
8	Caustic soda (sodium hydroxide)	I	Cleansers, sanitizers and disinfectants: An intervening event or action must occur to eliminate risks of contamination
9	Citric, peracetic acid, formic, lactic, oxalic and acetic acid	I	Cleansers, sanitizers and disinfectants: An intervening event or action must occur to eliminate risks of contamination
10	Ethanol and isopropanol	I	Cleansers, sanitizers and disinfectants: An intervening event or action must occur to eliminate risks of contamination
11	Hydrogen peroxide	I	Cleansers, sanitizers and disinfectants: An intervening event or action must occur to eliminate risks of contamination
12	Natural essences of plants	I	Cleansers, sanitizers and disinfectants: An intervening event or action must occur to

			eliminate risks of contamination
13	Potassium and sodium soap	I	Cleansers, sanitizers and disinfectants: An intervening event or action must occur to eliminate risks of contamination
14	Rock Salt	II	Must only be used to maintain product quality and keeping ability and enhance composition, consistency and appearance
15	Sea salt	II	Must be unrefined with no additives and only be used to maintain product quality and keeping ability and enhance composition, consistency and appearance
16	Tobacco and tobacco extracts (pure nicotine is also forbidden)	III	Highly toxic

7.2.5 Materials for Nutritional Management in Aquaculture

	Materials	Category	Remarks
1	Fishmeal/ fish oil	I	Must be harvested from independently verified sustainable sources; verified to have contaminants below safety limits; and feed from non-organic source shall not exceed 25% of the total feed used
2	Wheat bran/ Wheat flour from organic farms	I	
3	Rice bran from organic farms	I	
4	Corn/ corn flour from organic farms	I	
5	Soybean from organic farms	I	
6	Vegetables and fruits from organic farms	I	
7	Bloodworm	II	Must be harvested from independently verified sustainable sources; verified to have contaminants below safety limits; and feed from non-organic source shall not exceed 25% of the total feed used
8	Artemia (Brine shrimp)	II	Must be harvested from independently verified sustainable sources; verified to have contaminants below safety limits; and feed from non-organic source shall not exceed 25% of the total feed used
9	Pomacea canaliculate (Golden apple snail)	II	Must be harvested from independently verified sustainable sources; verified to have contaminants below safety limits; and feed from non-organic source shall not exceed 25% of the total feed used
10	The same cultured species or its slaughter products	III	
11	All types of excrements including droppings, dung or other manure	III	
12	Feed subjected to solvent extraction	III	

13	Synthetic amino acids	III	
14	Urea and other synthetic nitrogen compounds	III	
15	Synthetic growth promoters or stimulants	III	
16	Synthetic appetizers	III	
17	Synthetic preservatives (preservatives based on natural products are allowed)	III	
18	Artificial colouring agents	III	
19	Genetic modified organisms or their derivatives	III	
20	Any antibiotics	III	

7.3 Inputs other than Appendix 7.2 List of Materials.

Criteria used to evaluate additional inputs for organic production and processing other than Appendix 7.2 List of Materials are based on the principles of necessity and alternatives, source and manufacturing process, environment, human health and social, economic, and ethical and they are stated as follows.

7.3.1 Evaluation Criteria for Crop Production Inputs

The following criteria are applied to inputs that are used to evaluate dossiers submitted for crop production.

7.3.1.1 Necessity and Alternatives

All dossiers shall document the necessity of the substance, its essential nature in organic production systems, and the availability of alternative methods, practices, and inputs.

7.3.1.1.1 The input is necessary to produce crops or livestock in sufficient quantity and of suitable quality; to cycle nutrients; to enhance biological activity; to provide a balanced animal diet; to protect crops and livestock from pests, parasites, and diseases; to regulate growth; and to maintain and improve soil quality.

7.3.1.1.2 A given substance shall be evaluated with reference to other available inputs or practices that may be used as alternatives to the substance.

7.3.1.1.3 Every input shall be evaluated in the context in which the product will be used (e.g. crop, volume, frequency of application, specific purpose).

7.3.1.2 Source and Manufacturing Process

All dossiers shall document sources and manufacturing processes.

7.3.1.2.1 Biological substances require a description of the source organism(s), a verifiable statement that they are not genetically engineered as defined by IFOAM-Organics International, and the processes required to breed, culture, produce, multiply, extract, or otherwise prepare the substance for use. Naturally occurring plants, animals, fungi, bacteria and other organisms are generally allowed. Substances that undergo physical transformations, such as by mechanical processing, or biological methods, like composting, fermentation, and enzymatic digestion are also generally allowed. Limitations and prohibitions may be set based on consideration of the other criteria. Substances that are modified by chemical reaction are considered synthetic and

therefore subject to 7.3.1.2.3 below.

7.3.1.2.2 Natural non-renewable resources—such as mined minerals—require a description of the deposit or occurrence in nature. Non-renewable resources are generally restricted or limited in their use. They may be used as a supplement to renewable biological resources, provided they are extracted by physical and mechanical means, and are not rendered synthetic by chemical reaction. Inputs with high levels of natural environmental contaminants, such as heavy metals, radioactive isotopes, and salinity, may be prohibited or further restricted.

7.3.1.2.3 Synthetic substances from non-renewable resources are generally prohibited. Synthetic, nature-identical products that are not available in sufficient quantities and qualities in their natural form may be allowed, provided that all other criteria are satisfied.

7.3.1.2.4 Inputs that are extracted, recovered, or manufactured by means that are environmentally destructive may be restricted or prohibited.

7.3.1.3 Environment

All dossiers shall document the substance's environmental impact.

7.3.1.3.1 The environmental impact of a substance includes, but is not limited to, the following parameters: Acute toxicity, persistence, degradability, areas of concentration; biological, chemical, and physical interactions with the environment, including known synergistic effects with other inputs used in organic production.

7.3.1.3.2 Effect of substance on the agro-ecosystem, including soil health; the effects of the substance on soil organisms; soil fertility and structure; crops and livestock.

7.3.1.3.3 Substances with high salt indexes, measured toxicity to non-target organisms, and persistent adverse effects may be prohibited or restricted in their use.

7.3.1.3.4 Inputs used for crop production shall be considered for their impact on livestock and wildlife.

7.3.1.4 Human Health

All dossiers shall document the impacts of the substance on human health.

7.3.1.4.1 Documentation about human health includes, but is not limited to: acute and chronic toxicity, half-lives, degradants, and metabolites. Substances reported to have adverse effects may be prohibited or restricted in their use to reduce potential risks to human health.

7.3.1.4.2 Dossiers shall document any human who might be exposed by all possible pathways, at every stage: workers and farmers who extract, manufacture, apply, or otherwise use the substance; neighbors who may be exposed through its release into the environment; and consumers exposed by ingestion of food-borne residues.

7.3.1.5 Quality

All dossiers shall document the substance's effect on product quality. Quality includes, but is not limited to, nutrition, flavor, taste, storage, and appearance of the raw product.

7.3.1.6 Social, Economic, and Ethical Considerations

All dossiers shall document the substance's social, economic, and cultural implications.

7.3.1.6.1 Social and economic implications include, but are not limited to, the impact of the substance on the communities where they are made and used, whether the use of the substance favors any economic structure and scale, and the historical use of the substance in traditional foods.

7.3.1.6.2 Consumer perceptions of the compatibility of inputs shall be taken into account. Inputs should not meet resistance or opposition of consumers of organic products. An input might be reasonably considered by consumers to be incompatible with organic production in situations where there is scientific uncertainty about the impact of the substance on the environment or human health. Inputs should respect the general opinion of consumers about what is natural and organic.

7.3.1.6.3 Inputs used for animal feed and livestock production shall be evaluated for their impact on animal health, welfare, and behavior. Medications must either alleviate or prevent animal suffering. Animal inputs that cause suffering or have a negative influence on the natural behavior or physical functioning of animals kept at the farm may be prohibited or restricted.

7.3.2 Evaluation Criteria for Processing and Handling Inputs

These criteria apply to the evaluation of additives and processing aids. Substances used for technical, sensory, and dietary purposes are subject to these criteria. The criteria may also apply to substances in contact with the product. For processing, an input, non-organic ingredient, additive, or processing aid shall be essential to maintain or improve human health, environmental safety, animal welfare, product quality, production efficiency, consumer acceptance, ecological protection, biodiversity, or landscape. Carriers and preservatives used in the preparation of additives and processing aids must also be taken into consideration. The following aspects and criteria should be used to evaluate additives and processing aids in organic products.
All of the criteria below shall be fully and positively documented in a dossier and review for an input to be allowed in organic processing.

7.3.2.1 Necessity and Alternatives
All dossiers shall document the necessity of the substance, its essential nature in organic production systems, and the availability of alternative methods, practices, and inputs.

7.3.2.1.1 All dossiers shall take into consideration the technical feasibility of the following alternatives:

a) Whole products that are organically produced according to the standard.
b) Products that are organically produced and processed according to the standard.
c) Purified products of raw materials of non-agricultural origin, e.g. salt.
d) Purified products of raw materials of an agricultural origin that have not been organically produced and processed according to the standard but appear on Appendix 7.2.3.

7.3.2.1.2 If an ingredient is required to manufacture a processed product to independently established minimum technical specifications recognized by consumers, and no organic substitute is available, then a non-organic ingredient may be deemed essential.

7.3.2.1.3 A given additive, processing aid, or carrier shall be evaluated with reference to other available ingredients or techniques that may be used as alternatives to the substance.

7.3.2.1.4 A substance is considered essential if a processed product requires that substance in order to meet established standards of identity, governmental regulations, or widely accepted consumer expectations.

7.3.2.2 Source and Manufacturing Process

All dossiers shall document sources and manufacturing processes.

7.3.2.2.1 Additives and processing aids from biological sources, such as fermentation cultures, enzymes, flavors, and gums must be derived from naturally occurring organisms by the use of biological, mechanical, and physical methods. Non-organic forms are allowed in organic products only if there are no organic sources.

7.3.2.2.2 Natural non-renewable resources — such as salt and mined minerals — must be obtained by physical and mechanical means, and are not rendered synthetic by chemical reaction. Dossiers must document and meet Food Chemical Codex specifications for natural contaminants, such as heavy metals, radioactive isotopes, and salinity, and may be prohibited or restricted based on unacceptable levels of contamination.

7.3.2.2.3 Synthetic nature-identical products that are not available in sufficient quantities and qualities in their natural form may be allowed provided all other criteria are satisfied.

7.3.2.2.4 Synthetic substances from non-renewable resources are generally prohibited as additives and processing aids.

7.3.2.3 Environment

All dossiers shall document the substance's environmental impact.

Documentation for environmental impact: the release of any harmful waste stream or by-products from both manufacturing and use in processing. Additives and processing aids that result in toxic by-products or polluting waste may be restricted or prohibited. This includes persistence, degradation, and areas of concentration.

7.3.2.4 Human Health

All dossiers shall document the impacts of the substance on human health.

7.3.2.4.1 Documentation about human health includes, but is not limited to: acute and chronic toxicity, allergenicity, half-lives, degradants, and metabolites. Substances reported to have adverse effects may be prohibited or restricted in their use to reduce potential risks to human health.

7.3.2.4.2 Dossiers shall document any human who might be exposed by all possible pathways: workers and farmers who manufacture, apply, or otherwise use the substance; neighbors who may be exposed through release into the environment; and consumers exposed by ingestion of food-borne residues.

7.3.2.4.3 IFOAM-Organics International will consider only processing aids and additives evaluated by the Joint FAO/ WHO Expert Committee on Food Additives (JECFA) of the Codex Alimentarius.

a) A food additive shall have an Acceptable Daily Intake (ADI) level that is either 'not specified' or 'not limited' to qualify for use without limitation.
b) A food additive with any other status shall either be prohibited or have specific use restrictions to limit dietary exposure.
c) Evaluation of food additives shall also take into account known allergenicity and immunological responses.

7.3.2.4.4 Information about the practical daily intake of the substance by several groups of humans should be taken into account. It should be demonstrated that no group has a normal intake that is higher than the accepted ADI.

7.3.2.5 Quality (in processed products)

All dossiers shall document the substance's effect on overall product quality, including, but not limited to, nutrition, flavor, taste, storage, and appearance.

7.3.2.5.1 Additives and processing aids shall not detract from the nutritional quality of the product.

7.3.2.5.2 A substance shall not be used solely or primarily as a preservative, to create, recreate or improve characteristics such as flavors, colors, or textures, or to restore or improve nutritive value lost during processing, except where the replacement of nutrients is required by law.

7.3.2.5.3 Non-organic ingredients, additives, or processing aids used to process organic products shall not compromise the authenticity or overall quality of the product or deceive the consumer of the product's value.

7.3.2.5.4 Each additive shall be evaluated with respect to its specific uses and applications without preference for any specific techniques or equipment, and shall be added to the list only when it is demonstrated to be absolutely essential and necessary for the formulation and production of a specific product that is consistent with organic principles stated in the IFOAM Standard.

7.3.2.6 Social, Economic, and Ethical Considerations

All dossiers shall document the substance's social, economic, and cultural, implications.

7.3.2.6.1 Social, economic, implications include, but are not limited to, adverse impacts on communities caused by the manufacture and use of the substance, whether certain economic structures or scales are favored by the use of the processing aid; and the historical use of the additive or processing aid in traditional products.

7.3.2.6.2 Consumer perceptions of the compatibility of additives and processing aids shall be taken into account. An input might be reasonably considered to be incompatible with organic production in situations where there is scientific uncertainty about the impact of the substance on the environment or human health. Inputs should respect the general opinion of consumers about what is natural and organic.

* Fish Feed need to comply with both the evaluation criteria for Crop production and Processing handling.