Ministry for Primary Industries Manatū Ahu Matua



Consultation document on the proposed National Organic Standard

April 2023

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2 Introduction

This document summarises the proposed content of the National Organic Standard. It includes proposed requirements for both regulation and supplementary notice and additional content that will appear in guidance. It aims to capture the intent of the requirements, not the specific wording, this will be set during the formal drafting of the regulations and notices.

These proposals have been drafted with significant contribution from the organic sector through participation in technical working group workshops in 2022.

2.1 How to read this document

When reading this document, we have split the content into three different categories which are differentiated by the below coloured borders:

Proposed Principle / Aim

The content outlined in red provides the context for the proposed regulations and supplementary notices that follow. It should be read first as it provides background of what the sections aim to achieve. This content is not enforceable.

Proposed Regulation content

The content outlined in green is what we propose will make up the regulations that an organic operator will need to follow. The regulations will be enforceable.

Proposed supplementary notice or guidance content

The content outlined in blue will either be set in notice as it aims to supplement the requirements set out in regulation or it will be in guidance. This content could be in the form of a list or as statements.

The supplementary notice content will be enforceable. The guidance will not be enforceable.

3 General requirements

3.1 Scope

This National Organic Standard (this Standard) applies to products from primary production and processing including food, beverages, plant and animal products. This includes products sold or used as an ingredient in a product to be sold for human or animal consumption where labelling, advertising material or commercial documents claim the product, its production or its ingredients as 'organic'.

This Standard covers:

- a. unprocessed plant products (including seeds and propagating material),
- b. fungi (including mushrooms),
- c. live animals,
- d. unprocessed animal products (including honey),
- e. aquaculture products and algae (including seaweeds),
- f. processed agricultural products for use as feed or food (including wine).

This Standard specifies the minimum requirements for the production, handling, processing and labelling of organic products.

3.2 Links to other legislation

Compliance with this Standard does not absolve the operator from compliance with the requirements of other relevant New Zealand legislation related to processing, handling, and primary production products in New Zealand. All other applicable New Zealand legislative requirements must be met.

Requirements set under the Food Act 2014, the Wine Act 2003, the Agricultural Compounds and Veterinary Medicines Act 1997 and the Animal Products Act, 1999 are examples of some legislation that intersect with this Standard. A more extensive, but not an exhaustive list of other applicable New Zealand legislation may be found in supplementary notice or guidance.

Examples of legislation that must be complied with:

- a. Food Act 2014,
- b. Wine Act 2003,
- c. Animal Products Act 1999,
- d. Agricultural Compounds and Veterinary Medicines Act 1997,
- e. Animal Welfare Act 1999,
- f. Biosecurity Act 1993,

- g. Fisheries Act 1996,
- h. Australia and New Zealand Food Standard Code,
- i. Hazardous Substances and New Organisms Act 1996,
- j. Resource Management Act 1991.

3.3 Principles

Organic production and processing systems sustain and enhance the health of soil, plant, animal, human and planet simultaneously. Healthy ecosystems produce healthy crops that foster the health of animals and people.

Organic production and processing systems are holistic, considering the total environment based on ecological and soil health strategies under pinned by responsible and sustainable production practices. Those involved in organic production conduct their relationships with fairness.

Organic production systems encourage self-sufficiency rather than reliance on external measures or inputs and non-renewable resources, that is, working as far as practicable within a closed system by conserving, recycling and efficient use of nutrients, water, and other material.

Organic management practices use cultural, biological and mechanical methods where possible for pest, weed and disease management. These practices encourage a balance and growth of beneficial microbial and insect populations.

Organic production and processing systems are managed in a precautionary, responsible and sustainable manner to protect the health and well-being of current and future generations and the environment.

Production, processing, and handling practices ensure the integrity and traceability of organic products throughout the supply chain and provide consumer confidence.

3.4 Maintaining Organic Integrity

All activities in the organic supply chain are undertaken in such a way that ensures the integrity of the organic production system and product.

The measures taken to safeguard against the risk to the organic integrity is understood at all levels of the operation.

Where organic materials are not available, or a measure is not effective, a hierarchy of alternatives may be allowed in different areas of this Standard.

A process to support the use of alternatives is set in this Standard. This is limited to circumstances where there is a known issue with sourcing organic material or products.

3.5 Prohibitions

In order to maintain consumer confidence in organic production, this Standard intends to require a number of prohibitions.

The following are prohibited for use in organic production methods (including growing, manufacturing or processing) and must not be used in products labelled as organic.

Genetically Engineered (GE)/ Genetically Modified Organisms (GMOs)

All materials and/or the products produced from genetically engineered or modified organisms are not consistent with the principles of organic production and are prohibited in organic production and processing systems.

Irradiation (Ionizing radiation)

Irradiation is prohibited for use in the production of organic products and on organic products (including ingredients/additives).

Synthetic substances

The use of the following synthetic substances is prohibited:

- a. synthetic pesticides and fertilisers, including but not limited to synthetic nitrogen fertilisers, unless otherwise allowed in this Standard;
- b. synthetic veterinary medicines or antibiotics for preventive treatments, excluding vaccines.

Nanotechnology

The use of nanotechnology in organic production and processing is prohibited.

Sewage and human waste

The application of sewage and human waste to crops intended for human consumption, or to the edible parts of plants, is prohibited.

Hydroponics

Hydroponic production methods are prohibited.

3.6 Environment

This section aims to set requirements of how organic production should aim to benefit the ecosystem through holistic management of land in a way that recognises and supports biodiversity.

3.6.1 Biodiversity

Biodiversity sustains natural processes, including the decomposition of waste, pollination, pest control, soil conservation and maintenance of water quality. Recognising, understanding, working with, and enhancing biodiversity is an important consideration in organic production and particularly important on sites with less-than-ideal production conditions.

Organic production systems support the enhancement of natural ecosystems through managing biodiversity.

Environmentally sensitive areas (e.g., wetlands, ponds, tussocks or watercourses) within the boundaries of an organic production unit must be managed to ensure their enhanced ecological function. This includes:

- Protection with an appropriately broad, effective buffer zone against input of sediment, excess nutrients, or other contaminants;
- Restriction of livestock access to buffer zones and environmentally sensitive areas;
- Environmentally sensitive areas must not be reconverted into agricultural land.

Where practical, ecological corridors should be established or retained between wild or semi-wild areas, including wild areas on adjoining properties.

Maintenance work within wild and semi-wild habitats, including operations such as hedge trimming, drain clearance and mowing of field boundaries must be carried out in a phased operation, maintaining some portion of the respective element undisturbed or untouched at any time.

Ecologically diverse habitats must be maintained or enhanced.

Choosing more than one crop and varied rotations, intercropping, hedgerows, cover crops, mixed species shelter belts and other alternatives to monoculture should be considered.

Pest control in organic production depends on building an environment based on a natural balance through establishing floral and faunal diversity.

Protect and encourage the natural predators of pests through provision of favourable habitats, e.g., swards, hedges and shelterbelts, rough grass areas, nesting sites etc.

3.6.2 Soil health

Healthy soil is a prerequisite for healthy plants, animals, and products. In land-based organic production, the care of a living soil and consequent maintenance and improvement of soil quality e.g., nutrient supply, soil structure, organic matter content, aeration, water retention and soil organisms, are fundamental to all measures adopted.

Soil organic matter and soil flora and fauna must be conserved or enhanced to improve soil fertility, soil structure and humus.

Where adequate soil fertility cannot be maintained or improved by the methods set out by this Standard (see methods in notice/guidance box below), fertilisers and soil conditioners may be used where there is a demonstrated need and regarded as supplementary to, not a substitute for, nutrients cycled via organic matter return.

Soil must be managed in a way that enables the recycling of nutrients and maintain water levels within soil.

Soil health and fertility levels must be monitored to ensure that the overall fertility of the soil is maintained and enhanced.

Organic production methods must minimise the risk of soil erosion; the loss of top soil and soil compaction as much as practicable.

Soil organic matter and soil structure are of paramount importance, and must be maintained or enhanced by using any or all of the following:

- a. composts and mulches;
- b. living mulches (especially leguminous);
- c. green manure crops;
- d. animal manure (preferably composted) / effluent
- e. herbal leys;
- f. grazing by livestock; and
- g. sympathetic sward management techniques.

Supplementary notice may specify allowed input for use as soil conditioners and fertilisers.

3.6.3 Water Management

Water must be fit for purpose to ensure appropriateness for use.

Water must be used efficiently by carefully matching water usage to crop or pasture requirements, the use of water budgets and the adoption of efficient irrigation practices and systems.

Water use should minimise wastage and be recycled where appropriate.

Effluent management, manuring, nutrient budgeting, cultivation, stock access to streams and irrigation must be managed using good operating practice to minimise adverse effects on water quality such as elevated levels of nutrients, suspended solids, and microbial pathogens.

3.7 Managing risks to your operation

This section aims to set requirements for how an operator should proactively manage and minimise risks to their organic operation.

Operator must identify any potential risks to their operation. The production area must be an appropriate distance from sources of contamination.

The operator must be able to demonstrate that sources of external contamination have been minimised. This may require:

- a. the use of buffer zones;
- b. ineligibility of any affected areas for organic status for a period of time; or
- c. ineligibility of contaminated product to be labelled as meeting this Standard

Organic operators must notify neighbouring properties that they are an organic operation. Operators should request that neighbouring properties inform them of intended prohibited substance application that may impact the organic integrity of the operation.

In the case of reasonable suspicion of contamination, the operator will investigate the possible sources (soil, water, air and inputs) to determine the level of contamination and notify the Recognised Entity.

If there is a known risk, testing for the presence of contaminants or inputs not allowed in this Standard must be carried out.

Inputs not allowed under this Standard must not be stored within an organic production site.

All relevant measures should be taken to minimise contamination. You must ensure that all equipment is properly cleaned and free from any residues before arrival at your property, or if not practical, before being used, to ensure organic integrity is maintained.

3.8 Conversion to organic

The following sets out general requirements regarding organic businesses that are subject to conversion. Specific conversion requirements for each type of operation are set out in the relevant sections e.g., 5.3 Conversion [of land]; 4.9.2 Conversion [of Mushrooms]; 5.3 Conversion [of Livestock].

If a conversion period is required, the operator must:

- Document the date from which organic practices required under this Standard will be followed;
- Notify MPI of this date;
- Keep records demonstrating how this Standard is being met during the conversion period

Specific conversion requirements for each type of operation are set out in the relevant sections.

Any additional requirements of what an operator must do within a conversion period may be covered in supplementary notice

3.8.1 Re-conversion

Operators must be able to demonstrate a production system that does not rely on continuous switching between organic and non-organic management.

Re-conversion is allowed on a case by case basis.

3.9 Split and Parallel Production

This section aims to set out the controls an organic operator must have to run a Split and Parallel operation.

Operations that utilise parallel production of organic, and non-organic products must document in the Organic Management Plan outlining how the integrity of the organic product is maintained.

Precautions must be taken to avoid practices and use of inputs not allowed in this Standard in the production of organic products.

The Organic Management Plan must clearly outline the practices and record keeping required to demonstrate that segregation measures in place are clear and effective.

Organic and non-organic units and activities must be managed separately. Separation can be managed through space or time. This includes, but is not limited to physical barriers, management practices, cleaning and sanitising between products of different systems.

Adequate cleaning, rinsing, pest management inputs, and storage systems must be in place to ensure that organic and non-organic products do not mix and organic products are not contaminated in any way in areas of production that contamination risk may occur.

An adequate identification system and traceability system between organic and nonorganic is in place at all times of production and supply.

In cases where an entire property is not converted at one time, it can be done progressively where this Standard is applied from the start of conversion on production units within the property.

In cases where the entire property is not converted at the same time the property must be split into clearly identified units.

3.10 Cleaning and Sanitising

Operators must carry out cleaning and sanitising activities of product contact surfaces in a way that does not compromise the organic integrity of the products.

Operators must select cleaners, sanitisers and disinfectants that are consistent with principles of organic production as outlined in this Standard, specific requirements may be specified in a supplementary notice.

Any equipment used in the production, processing and handling of organic products must be either:

- i. dedicated to organic production/processing/handling; or
- ii. able to be cleaned effectively to prevent contamination that could compromise the organic integrity of the organic products.

An intervening step must be performed between the use of cleaners and sanitisers on surfaces in contact with organic products. This intervening step must be sufficient to manage the risk of residues of cleaners or sanitisers not allowed in this Standard, being detected in organic products.

3.11 Transport and Storage

Organic products are transported and stored in a manner that does not compromise the organic integrity of the products.

The operator owning the product at the point of transport is responsible for ensuring the organic integrity is maintained during the transport process, unless the transport operator chooses to gain approval as organic in their own right.

All unsealed and unpackaged organic product must be stored separately from non-organic products. All organic storage areas must be clearly designated and identifiable as such whilst organic products are present.

These measures must ensure the prevention of:

- i. contamination with prohibited inputs; and
- ii. substitution (accidental or deliberate) with non-organic products.

3.12 Packaging and labelling

The packaging and labelling of organic products is crucial to ensure the product maintains organic integrity and the customer is able to positively identify the product as 'organic'. This section aims to set requirements for the packaging and labelling of organic products.

Packaging of organic products must be fit for purpose and comprised of suitable packaging that is reusable, recycled, recyclable, compostable or biodegradable where possible.

Packaging material must not contaminate the organic product or compromise the organic integrity.

Packaging material must be robust enough to protect against the risk of product substitution and durable to contain the product safely.

Where packaging is being reused/recycled, it must be thoroughly cleaned and pose no risk to the integrity of organic products.

Packaging likely to risk contamination or packaging that contains any substance known to have the potential to contaminate the product during its maximum shelf life must be avoided.

Organic operators must avoid unnecessary packaging materials.

Organic operators must ensure the responsible disposal of packaging within their operation.

Some packaging material types are not considered appropriate for use in organic production, these may be specified in supplementary notice.

The use of energy and finite resources in packaging should be minimised.

Packaging materials should compact easily to reduce space in trucks and landfills and should be compatible with any other endpoint disposal methods such as incineration.

3.12.1 Labelling

Labelling must be clear, truthful and not misleading to the customer.

The label must comply with the requirements of the Australia New Zealand Food Standards Code.

The label must identify the Registered Entity that verifies the operator as organic through name, logo or numerical identifier.

The labelling and marketing of a product that is either whole food or multi-ingredient as organic, must comply with this Standard in order to make the organic claim.

3.12.1.1 Organic:

An "organic" claim can be used on both whole or multi-ingredient products.

Multi-ingredient products must contain at least 95% of organic ingredients that is organically produced and processed (by weight or fluid volume, excluding added salt and water) in accordance with this Standard.

The remaining product ingredients must be less than 5% of allowed non-agricultural ingredients or non-organic agricultural products.

3.12.1.2 Made with Organic ingredients:

Products may be labelled or represented as "Made with organic ingredients" where 70% or greater of ingredients (by weight or fluid volume, excluding added salt and water) are organic, so are produced in compliance with this Standard.

Organic ingredients must be clearly identified as such in the ingredients list.

Products that contain less than 70% organic ingredients (by weight or fluid volume, excluding added salt and water) cannot refer to the term organic, claim organic, or containing organic ingredients, produced in accordance with this Standard.

Ingredients need to be clearly differentiated as organic or non-organic on the label and clear to consumer which ingredients are not meeting the production requirements of this Standard.

3.12.2 Product Identification

Product identification methods must ensure traceability at all stages of the supply chain.

3.13 Pest, weed and disease management

Organic production systems should be designed to minimise the need for intervention to control pests, weeds and diseases while ensuring that pest and disease damage does not significantly reduce yield or quality. Disease management for livestock is covered in sections 6.5 Health Management – Prevention and 6.6 Health Management- Treatment.

Pests, diseases and weeds must be managed in a way that minimise negative impacts to the overall ecology of the system.

Cultivation for weed control resulting in bare ground must be minimised in order to protect soil health.

Supplementary notices may specify measures appropriate to the organic production systems to control pest, weeds and diseases.

If preventative methods are inadequate, the first choice for pest control should be mechanical, physical or biological methods. Control measures include using anyone, or a combination, of the following measures suitable to geographical location:

- a. biological control;
- b. development of habitat for natural enemies of pests;
- c. rotation programmes;
- d. mechanical controls;
- e. choice of appropriate species and varieties;
- f. selection of optimum planting dates;
- g. hedges and nesting sites, ecological buffer zones which maintain the original vegetation to house pest predators;
- h. diversified ecosystems;
- i. thermal weed control techniques, such as flame weeding,
- j. natural enemies including controlled release of predators and parasites;
- k. biodynamic preparations from stone meal, farmyard manure or plants;
- I. mulching and mowing (note- mulching materials must consider environmental impact during use and disposal);
- m. grazing of animals;
- n. green manure crops;
- o. mechanical controls can include traps, barriers, light and sound;
- p. steam sterilization when proper rotation of soil renewal cannot take place;
- weed mats and soil solarisation (note soil solarisation can only be used as a temporary control, and any plastics used must be disposed of responsibly);
- r. pesticidal inputs as permitted by this Standard may be used.

4 Plants requirements

4.1 Introduction and Scope

This section covers plants and plant products grown in soil including seeds, propagation material, annual and perennial crops. Wild harvest is covered in section 4.8 and Fungi (mushrooms) are covered in section 4.9.

Organic production should aim to benefit the ecosystem through holistic management of land in a way that recognises and supports the crops and soil.

Crops and, where applicable crop rotation should seek to maintain and enhance soil health.

4.2 Conversion of land

This section covers the specific requirements around the conversion of land and plants and should be read in conjunction with the general conversion requirements in section 3.8.

The conversion period of land for annual horticulture crops is two years, and three years for perennials and any other land use (subject to variables such as the nature and prior use of the organic operation).

The conversion period for pasture, open air runs and exercise areas used only for nonherbivores is 12 months.

The operator is required to complete background contamination testing (of persistent compounds) of the land to demonstrate the suitability of the operation to organic operation.

The operator must provide a declaration confirming the date of the last prohibited substance applied to the land.

4.2.1 Conversion of plants

Non-organic plant material must be grown for a minimum of 12 months in compliance with this Standard for conversion.

Non-organic trees used for shelter belts and other non-productive areas may be considered exempt from conversion on a case-by-case basis following notifying the Recognised Entity or to be excluded from the organic operation area.

4.3 Environment

Organic plant production should ensure crop rotation is varied and balanced to maintain and enhance long-term soil fertility and plant health.

Organic plant products must be grown from organic seed or organic plant material where available.

Companion plants and commercial crops (e.g., sward) should be diverse and include flowering plants that attract beneficial insects and managed under a minimal mowing regime to encourage sustained flowering.

4.3.1 Soil health

The operator must put measures in place to protect and enhance the soil, and so that there is minimal need for intervention to control weeds.

Soil fertility and health is supported through planting restorative crops (or companion planting) in field crop rotations. The establishment of suitable understorey plants, mulches or other similar practices is encouraged to maintain and enhance soil structure, biological activity and soil carbon content.

4.4 Split and Parallel Production

This section outlines specific requirements for split or parallel production for plant production and should be read in conjunction with section 3.9 Split and Parallel Production [General].

Split production is two different varieties of organic and non-organic crops grown on one operation.

Parallel production is the same variety of organic and non-organic crops grown on one operation.

Where horticultural operations manage both organic and non-organic systems, an operator must document how separation is adequately managed. This must include how facilities separate storage for products, equipment, and inputs (e.g., fertilisers, agrichemicals, seed) to manage risk of cross-contamination.

Records must be kept demonstrating effective separation, including records pertaining to non-organic units.

4.5 Seeds & Propagation Material

4.5.1 Source

Seeds, and vegetative propagation material (including grafting wood) from organic parent plants must be used where available.

Non-organic seeds and vegetative propagation material may be used where organic is not reasonably available, based on the following order of preference:

- a. In-conversion seeds and vegetative propagation material may be taken from a parent plant which has been produced under conversion to organic production;
- b. Untreated non-organic seed or vegetative propagation material;
- c. Treated, non-organic material, provided they are treated with a product acceptable under this Standard;
- d. Treated, non-organic material that is treated to meet New Zealand import requirements.

For operators sourcing non-organic seed or vegetative propagating material as outlined above they must notify the Recognised Entity and provide the following:

- i. Appropriate justification that use of this material is necessary for the continuity of production;
- ii. Evidence to demonstrate that material of a preceding order of preference is not available.

Seeds and vegetative propagating material may temporarily be grown in containers, before transplanting for production.

Seeds used to produce sprouts or microgreens must be organic.

4.5.2 Variety

The operator must demonstrate that the selection of crop type is suited to the local conditions and the property the product will be grown on.

The operator must demonstrate that the selection of varieties and strains are suited to organic production and minimise the likelihood of weeds, pest and disease problems.

4.6 Compost

Commercial compost for use in organic production must meet the requirements as set out in NZS 4454:2005 in addition to the requirements set out in this Standard.

On-farm composting must be done in accordance with organic production principles as set out in this Standard.

All compost must be managed to ensure that storage and use does not lead to pollution of soil or water by leaching.

4.6.1 Source

Compost ingredients should be chosen from organic sources and/or on-farm sources where possible.

Where ingredients for compost are sourced from off-farm, the operator must confirm all compost ingredients must comply with this Standard.

Further details around on-farm composting methods and acceptable inputs may be set out in supplementary notice/guidance.

4.7 Landless production systems

Landless Production Systems are plant or plant products that are grown in a pot or container without connection to the earth.

Container growing systems should be part of a holistic system that returns the soil based growing medium back to the soil.

Inputs required to sustain the health of the plant or plant product in a container growing system are minimised, based on organic growing practices.

Container growing systems (including microgreens) must use soil or compost allowed in accordance with this Standard.

Use of naturally derived growing media (e.g. sand, bark, moss) is allowed in combination with soil or compost.

Only allowed products must be used in container systems for soil fertilising or conditioning.

Perennial plants may be established in pots only until they are sufficiently robust enough to be planted out.

In cases where perennial plants are required to be planted in a pot for the entire lifecycle, the operator must notify the Recognised Entity and provide the following:

- i. Appropriate justification;
- ii. Evidence to demonstrate that growing method is sustainable and aligns with organic principles as set in this Standard.

Cleaners and sanitisers used in the washing of containers and equipment must not compromise the organic integrity.

4.8 Wild harvest

Wild harvest products include plants, plant products, aquatic plants, and fungi.

These wild harvest products are harvested from areas which have not been subject to any significant type of cultivation, grazing by domestic animals or other forms of management.

Specific requirements for operators harvesting wild products may be set out in a supplementary notice. These requirements include:

- a. clear definition and identification of the collection area; and
- b. only having allowed inputs applied to the collection area for a period of three years before products are harvested; and
- c. ensuring the collection area is at an appropriate distance from non-organic activities, to minimise pollution and contamination; and
- d. harvesting of wild product must be shown to be within the natural regenerative ability of the ecosystem and must not contribute to the spread of noxious plants or pests.

Wild harvest of naturally growing aquatic plants (e.g. algae) includes picking, cutting, or otherwise harvesting aquatic plants where they are naturally growing and not being managed in any way.

Harvest of wild products including aquatic plants, must meet relevant regulation, permits and requirements under legislation (e.g., Fisheries Act).

4.9 Fungi

4.9.1 General Principles

This section aims to set requirements around the production of fungi (e.g. mushrooms)

To maintain a healthy growing environment in the production of fungi an operator should consider, proper airflow, sanitation and removal of used material.

4.9.2 Conversion

For existing mushroom production facilities, a conversion period of twelve months or two complete production cycles, whichever is greater, is required. For new mushroom production facilities where new equipment and new substrate is used, a conversion period of three months is required.

Further details relating to the production of mushrooms substrates, may be set supplementary notice.

4.9.3 Source of substrate

For the production of mushrooms, only substrates composed of any of the following components may be used:

- a. farmyard manure and animal excrements from:
 - i. organic operations; or
 - ii. operations in their final year of conversion; or
 - iii. operations not in compliance with this Standard, where it can be shown that the animals have not been fed feed containing GMO or antibiotics. This material must not exceed 25% by weight (excluding the covering material and any added water);
- b. non-animal products from:
 - i. organic operations; or
 - ii. operations in their final year of conversion to organic; or
 - iii. non-organic operations, where it can be shown that the products have not been treated with prohibited inputs;
- c. peat (not chemically treated);
- d. wood and wood products (not chemically treated);
- e. mineral products as listed supplementary notice;
- f. water and soil.

Fungal spawn or cultures must come from organic operations.

5 Livestock requirements

5.1 Scope

This Standard applies to livestock production defined as the production of domestic or domesticated terrestrial animals; and the products derived from them.

Aquatic species and their products are covered in section 6 Aquaculture Production. Apiary (bee) and apiary products are covered in section 7.

5.1.1 Identification

Livestock and livestock products must be clearly identified at all stages of the supply chain.

Appropriate identification techniques should be used based on type of production systems (e.g. individual animal vs batch identification).

Non-organic livestock must be clearly identifiable from organic livestock. Adequate documentation must be supplied, in order that the recipient of the livestock is able to easily identify and trace livestock.

5.2 Prohibitions

This section covers specific livestock prohibitions and should be read in conjunction with the general prohibitions in section 3.5.

Confinement on artificial surfaces

Permanently keeping animals confined on artificial surfaces is prohibited.

Substances to control growth or production

Production stimulants, suppressants, and growth promoters (including antibiotics, coccidiostats, hormones and other artificial aids) are prohibited.

Breeds and breeding

- Cloning is prohibited.
- Embryo transfers and/or other reproductive manipulations are prohibited.
- Artificial synchronisation (including synchronising heat using hormones) and induction of oestrus is prohibited, with the exception for individual animals as per section 5.6.2 Use of veterinary medicines.

Feed and nutrition

- The use of synthetic nitrogen or non-protein nitrogen compounds in feed for herbivores is prohibited.
- The feeding of animal products or by-products to ruminant species is prohibited, with the exception of milk and milk products to mammalian young as per section 5.7.1 Livestock feed.
- Force-feeding and feed deprivation without veterinary direction are prohibited.

Animal welfare

- The continuous tethering of livestock is prohibited, unless for short term intervention.
- The use of any device to deliver an electrical shock to coerce livestock movement is prohibited.
- Surgical procedures are prohibited, with the exception of the procedures listed in 5.6.6 Painful husbandry procedures.

Housing

Terrestrial animals must not be kept in cages, unless for short term intervention.

Transport and slaughter

The use of any tranquilliser before, and during transport, is prohibited, unless withholding tranquiliser compromises the animal's welfare.

Constraining livestock for transport for more than 8 hours without water and 24 hours without food is prohibited. The total elapsed time of transport of young livestock must not exceed 12 hours, (as per the code of welfare).

Compost

The use of ruminant protein as an ingredient for compost is prohibited.

5.3 Conversion

5.3.1 General

This section covers conversion of livestock and should be read in conjunction with general and plants conversion requirements in sections 3.2 and 4.2.

Livestock and their products can hold no greater status (either in-conversion to organic or organic) than is currently held by the production unit itself.

For livestock products to be organic, the livestock must be:

- 1. managed according to this Standard for at least:
 - a. equine, cervine, bovine and ratite species, and other animals not specified below, for meat production, 12 months;
 - b. small ruminants (e.g. sheep), six months;
 - c. pigs (porcine), six months;
 - d. animals for milk production, six months;
 - e. poultry for egg production, pullets must be brought in before they are 18 weeks old, six weeks;
 - f. poultry for meat production, brought in before they are 3 days old, six weeks.

Fibre produced within the framework of this Standard, the animal must:

- a. have been managed in accordance with this Standard for at least six months before shearing; and
- b. not have received treatments for external parasites in the previous three months.
- 2. free from known sources of contamination.

5.3.2 Source and origin

For all livestock brought into an organic operation, the following requirements apply:

- a. health records including treatments administered in the 12 months prior to its arrival must be recorded to maintain continuity of traceability;
- in-conversion livestock brought onto in-conversion or organic land do not need to re-start conversion. If the land is organic, the livestock must still complete their conversion period;
- c. organic livestock brought onto in-conversion land will be downgraded in status to in-conversion and will regain organic status at the same time as the land (this is not considered "continuous switching").

Where a herd or flock is constituted for the first time, and organically managed livestock are unavailable in sufficient numbers, non-organic managed livestock may be brought into an organic production unit subject to the condition that all livestock must be managed according the specific conversion periods set out in section 5.3.1. The requirements of breeding livestock are set out in section 5.3.3.

5.3.3 Breeding

Non-organic animals brought in for breeding purposes may not be represented or sold as organic.

Female breeding livestock should be bred on the production unit or obtained from sources which comply with the requirements of this Standard. However, when livestock complying with this Standard are not available, non-organic females may be brought on subject to the following annual limits:

- a. for ovine, porcine, and caprine up to a maximum of 20% carrying capacity of the production unit;
- b. for all other animals up to a maximum of 10% carrying capacity of the production unit.

These animals must be managed in accordance with this Standard and meet the specific conversion periods set out in section 5.3.1.

A greater number of non-organic female breeding livestock may be brought-in where organic livestock is unavailable and it can be demonstrated that the operation has increased the organic land area, or has undergone a change of production system, or has suffered an adverse event causing high mortality of animals. The operator must demonstrate that:

- a. organic animals are not commercially available; and
- b. this is a temporary measure necessary to ensure access to live animals.

Breeding sires should be from sources which meet the requirements of this Standard, and where suitable livestock is available. However, males for breeding may be brought-in from other sources if it is impractical to source livestock which has been managed organically.

Progeny born onto organic land from non-organic parents must:

- a. meet the specific conversion periods set out in section 5.3.1; or
- b. have the same status as the mother while she undergoes the conversion period, provided the progeny is fed either organic feed or milk from the mother, and the mother is managed in accordance with this Standard.

5.3.4 Simultaneous conversion

Where an operation is in-conversion to organic, the whole area of the operation used for animal feed must comply with this Standard, using the conversion periods established relating to plants and plant products. Refer to section 4.2 Conversion [of land]

5.4 Split and Parallel Production

This section aims to set out the specific livestock controls an organic operator must have to run a Split and Parallel operation. This section should be read in conjunction with sections 3.9 Split and Parallel Production [General] and 4.4 Split and Parallel Production [Plants].

Non-organic livestock must be clearly separated from organic livestock. Non-organic livestock may be kept on organic production units under the following conditions:

- a. Organic livestock are not present on the same organic production unit at the same time as non-organic livestock so that there is no overlap and co-mingling between organic and non-organic livestock.
- b. Non-organic livestock must be managed organically, according to this Standard while they are kept on the organic production unit.
- c. Non-organic livestock must be visually different from organic livestock.

5.5 Health management – prevention

Animal health management must be primarily based on prevention.

Operators must ensure that the physical, health and behavioural needs of the livestock are met in a manner that is in accordance with both good practice and relevant welfare codes.

Operators must have effective preventative measures in place to minimise the occurrence of diseases.

Disease prevention and management of parasite populations must be based on the following:

- a. selection of appropriate breeds or strains; and
- b. application of animal husbandry practices appropriate to the requirements of each species; and
- c. handling that minimises stress; and
- d. use of high-quality feedstock, including:
- e. mixed species pasture; and
- f. rotational grazing; and
- g. mineral supplements where necessary;
- h. allowance for regular exercise and access to grazing; and
- i. appropriate density to avoid overstocking; and
- j. adequate housing maintained in hygienic conditions, including clean bedding.

5.6 Health management – treatment

5.6.1 General requirements

If an animal becomes sick or injured in spite of all of the preventative measures outlined in 5.5, it must be treated immediately.

Operators must ensure that ill or injured livestock receive treatment that alleviates any unreasonable or unnecessary pain or distress.

Treatment must not be withheld where it will result in unnecessary pain and suffering of the livestock, even if this will result in the animal losing its organic status.

Life should not be prolonged unnecessarily where treatment has proven ineffective.

Where treatment is required, operators must:

- a. determine and document an appropriate intervention and treatment; and
- b. following treatment, review the effectiveness of existing preventative measures to avoid the need for future treatments.

Only veterinarian medicinal products that are authorised for the specific uses under legislation or are exempt must be used e.g., refer to the Agricultural Compounds and Veterinary Medicines (ACVM) and Hazardous Substances and New Organisms (HSNO) Acts.

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

Records must be kept of every treatment administered to any livestock. These records must include:

- a. date treated and which livestock were treated;
- b. type of product used (brand and active ingredient);
- c. withholding period of products;
- d. justification for use;
- e. if animal was quarantined, and where;
- f. date on which quarantine ended, and details of where livestock were released;
- g. status of animal and appropriate management (e.g. reconversion or removal).

Non-synthetic treatments should be used in preference, provided that their therapeutic effect is effective for the species of animal, and the condition for which the treatment is intended.

5.6.2 Use of veterinary medicines

If non-synthetic treatments are not effective, veterinary medicines, may be used, as follows:

- a. for restricted veterinary medicines: by authorization of a veterinarian; and
- b. for unrestricted veterinary medicines: under the supervision of a veterinarian or a qualified person.

Animals that receive more than the following number of courses of treatment with restricted veterinary medicines are not compliant with this Standard:

- a. for animals with a productive lifecycle greater than one year: three courses of treatment per year; or
- b. for animals with a productive lifecycle less than one year: one course of treatment.

Animals that have received more than the number of courses of treatments specified above may be re-converted in accordance with section 5.3.1.

For restricted veterinary medicines a single course of treatment is the period of treatment the veterinary medicine is to be used for, as specified by the authorising veterinarian.

The following treatments are excluded from the number of treatments counted in above:

- a. treatments for parasites, subject to the operator demonstrating that preventative measures are not sufficient to manage parasite populations;
- b. treatments under compulsory eradication schemes;
- c. unrestricted veterinary medicines.

You may only treat individual animals with hormones following veterinary recommendation for uses other than those prohibited in this Standard.

Artificial synchronisation and induction of oestrus may be granted for individual animals under veterinary direction in conjunction with prior written notification to the Recognised Entity.

5.6.3 Vaccines

An organic operator may use a vaccine under the following conditions:

- a. there is a known disease risk in the specific region of your farm and the disease cannot be controlled by other management techniques; or
- b. vaccination is legally required; or
- c. you need to ensure control of a disease communicable to humans.

5.6.4 Withholding periods

The withholding period applied must be twice the label withholding period or, where this period is nil or is not specified, 48 hours.

The following are exempt:

a. homeopathic treatments and vaccines with no legal withholding period, a nil withholding period applies (zero days).

There is no withholding period for herbal repellents, or disinfectants.

5.6.5 Quarantine

You must have a clearly defined quarantine area on the farm and farm map, and it must be part of the organic production unit.

When not in use for quarantine purposes, the quarantine area may be returned to organic production following a two week stand down period.

Organic livestock must not mingle with any non-organic stock held in quarantine.

Where livestock are obtained from external units or have come into contact with products not complying with this Standard, the animals must be held in a quarantine area as per the withholding period specified in 5.6.4.

5.6.6 Painful husbandry practices

Painful husbandry procedures may be used, subject to the following conditions:

- a. they are allowed under relevant Codes of Welfare; and
- b. they are carried out in accordance with any recommended best practise described in relevant Codes of Welfare; and
- c. they are accepted as part of the OMP, and records are maintained.

Surgical procedures are prohibited, with the exception of the following:

- a. castration or cryptorchid;
- b. tail docking of lambs;

- c. de-horning or disbudding;
- d. ear marking or tagging;
- e. veterinary surgery;
- f. vasectomies;
- g. velveting;
- h. nose ringing of pigs and bulls;
- i. infrared beak tipping.

5.7 Livestock feed

This section aims to set requirements to ensure that all organic livestock are fed a diet that is balanced in all the nutrients necessary for good health and to meet their physiological requirements, whilst allowing them to exhibit their natural feeding and digestive behaviour.

5.7.1 General

Livestock must have access to sufficient quantities of organic feed and clean, fresh water on demand.

The operator must demonstrate that management systems for herbivores are based on the optimum use of grazing.

Young mammalian livestock must receive colostrum for a minimum of three days after birth. They must receive organic milk, unprocessed from their own species where available, until they reach the weight at which they would normally be weaned from their mothers. This period may be reduced where a rearing system uses supplements in addition to milk to produce well-managed and healthy livestock.

The movement of livestock on foot from one grazing area to another must be carried out efficiently to ensure that animals grazing on non-organic land is minimised.

5.7.2 Supplementary feed

Where required, livestock should also have access to organic supplementary feed to ensure that their nutritional needs are met.

Supplementary feed must be organic, except where it is demonstrated that organic feed is unavailable during:

- a. natural disasters;
- b. extraordinarily difficult weather conditions that are abnormal for the region; or
- c. supply shortages of accessible organic feed.

Non-organic feed should be sourced from, in order of preference:

- a. in conversion to organic operations;
- b. documented low-chemical-input, non-organic operations;
- c. wild harvested in situ products (e.g., high country grazing);
- d. non-organic GE/GMO free products.

For all use of non-organic feed as listed in this clause above (a - d) the operator must notify the Recognised Entity and provide the following:

- v. justification for use that access to this feed is necessary for the continuity of production;
- vi. evidence to demonstrate that feed of a preceding order of preference is not available.

Unless animal welfare is about to be compromised, proposed actions must not be implemented until the Recognised Entity has reviewed and accepted the justification for use.

5.8 Transport and slaughter of livestock

5.8.1 Transport of livestock

This section aims to ensure that the transport of organic livestock is carried out to limit the stress suffered by the animals in accordance with the relevant legislation in force. The organic operator is encouraged to consider the recommended best practices in codes of welfare for transport of livestock.

When planning transport, consideration should be given to factors such as distance to be travelled, temperature and humidity, species, age of livestock and condition of road and vehicles.

The operator must demonstrate that provisions have been made for watering and feeding of livestock during transport.

Any feed provided to livestock during transport must be organic.

Livestock must be presented in a state fit for the intended journey and can endure the stress of travel.

Where organic livestock is being transported in the same vehicle as non-organic livestock, the organic livestock should be loaded in such a way as to keep the risk of cross-contamination to a minimum.

5.8.2 Slaughter of livestock

The slaughter of livestock must follow species specific minimum standards for animal welfare and any recommended best practises set in relevant Codes of Welfare.

5.9 Management of manure, effluent, and other by-products

The organic operator must demonstrate the management of manure used to maintain any area in which livestock are housed, penned or pastured is implemented in a manner that:

- a. minimizes soil and water degradation;
- b. minimising adverse impact to contamination of all water by nitrates and pathogenic bacteria;
- c. optimizes recycling of nutrients; and
- d. does not include burning or any practice inconsistent with organic practices.

Where spreading animal manure on to pasture the organic operator must determine the appropriate density of livestock appropriate to local jurisdiction requirements.

5.10 Choice of breeds

The organic operator must demonstrate that livestock breeding practices are based on the following:

- a. Breeding systems based on breeds that are able to give birth naturally.
- b. Selection of breeds which are hardy and well suited to the local conditions, the farming system, and organic production.
- c. Selection of breeding livestock for their suitability to organic production, and resistance to disease.

Artificial insemination using inputs allowed by this Standard is allowed.

5.11 Living conditions

New Zealand farming systems (beef, dairy, and sheep) are primarily based on year-round grazing.

The management of all livestock should enable them, as far as is possible, to exhibit their natural behaviour and to forage.

5.11.1 General

Livestock must have access to free range area or pasture 365 days a year.

Animals may be temporarily confined where the animal's health, safety, welfare or environment could be jeopardised. If confinement is greater than 60 days per year the operator must notify the Recognised Entity and provide the following:

- a. Evidence that the extension is due to health or adverse events; and
- b. Evidence that the extension is necessary to allow organic production to continue; and
- c. it is limited to an agreed period of time.

Free-range, open-air exercise areas/runs must provide sufficient protection against rain, wind, sun and extreme temperatures, appropriate for the local weather conditions and the breed concerned.

Confining livestock to feeding pads, loafing pads, or barns must only be used to:

- a. protect soils from pugging in exceptionally wet weather;
- b. protect soil from contamination (quarantine);
- c. protect the livestock in exceptional weather conditions.

Herd animals must not be kept individually, unless due to health or behavioural issues.

Specific living conditions requirements may be detailed in a supplementary notice.

5.11.2 Stocking rates

Stocking rates for livestock should be appropriate to the farming system, taking into consideration feed production capacity, stock health, nutrient balance, and environmental impact.

The number of animals should not negatively impact the ecosystem of the operation and surrounding environment e.g., grazing should be managed in ways that enhance soil structure, fertility and reduce erosion.

The operator must be able to demonstrate that the outdoor stocking density of livestock kept on pasture, grassland, or other natural or semi-natural habitats, is low enough to prevent degradation of the soil and over-grazing of vegetation.

The stocking density in buildings should:

- provide for the comfort and well-being of the livestock having regard for the species, the breed and the age of the livestock;
- take into account the behavioural needs of the livestock with respect to the size of the group and the sex of the livestock;
- provide them with sufficient space to stand naturally, lie down easily, turn round, groom themselves, and assume all-natural postures and movements (e.g. for poultry stretching and wing flapping).

5.11.3 Housing and construction materials

Housing conditions for organic livestock must follow the recommended best practise in relevant Codes of Welfare to ensure the animals welfare and wellbeing.

When animals are housed, the operator must ensure the animals are regularly visited and monitored, and in the event where welfare and health problems occur, appropriate management adjustments are implemented (e.g. reducing stocking density). Housing conditions must ensure:

- ample access to fresh water, feed, shade and shelter according to the needs of the animals;
- animals have sufficient space to stand naturally, move around, lie down easily, turn around, groom themselves and assume all-natural postures and movements such as stretching, and wing flapping;
- animal housing must have smooth, but not slippery floors, at least one third is to be solid, that is, not of slatted or grid construction and covered with a litter material such as straw, wood shavings, sand or turf;
- where animals require bedding, adequate natural materials are provided;
- if the bedding material is edible it must meet the animal feed requirements as set out in this Standard;
- materials used for housing and bedding that come into direct contact with livestock must be made from materials allowed in this Standard;
- disinfection is carried out with materials allowed in this Standard.

Species specific requirements for housing for animals must comply with all other relevant regulatory requirements.

5.12 Poultry

5.12.1 Housing and Construction Materials

Specific requirements for buildings related to poultry must meet minimum conditions as set out in a supplementary notice. These relate to:

- a. Collection of poultry droppings;
- b. Size of exit/entry pop-holes;
- c. Use of artificial light.

In poultry houses, an assigned area must be available for collection of poultry droppings.

They must have exit/entry pop-holes of a size adequate for the birds, and these pop-holes must have a combined length of at least 4m per 100m2 area of the house available to the birds.

All-natural light for poultry housing may be supplemented by artificial means to provide a maximum of 16 hours light per day. All poultry must have continuous 8 hours without artificial light at night. Poultry must be reared in open-range conditions for at least one third of the birds life, where possible. The open-range conditions must include the following features:

- access to an open-air run whenever weather conditions permit,
- open-air runs are mainly covered with vegetation,
- provide protective facilities, and
- easy access to adequate numbers of drinking and feeding troughs.

Waterfowl must have access to a stream, pond or lake whenever the weather conditions permit in order to respect animal welfare requirements or hygienic conditions.

5.12.2 Stocking rates

Stocking density cannot be considered in isolation from minimum requirements within this Standard and Codes of Welfare.

The stocking density for laying birds in housing must not exceed:

• 6 birds/m2.

The stocking density for meat chickens in fixed housing must not exceed:

- 10 birds/m2;
- more than 21kg liveweight/m2.

Each poultry house must not contain more than:

- 6000 meat chickens;
- 3000 laying hens;
- 2000 guinea fowl;
- 1000 Muscovy or Peking ducks or other ducks;
- 1000 capons, geese or turkeys.

Meat chickens must have access to areas not exceeding 2,500 birds per hectare for set stocking systems, or 4,800 birds per hectare for rotational systems.

Rotational systems are defined whereby housing is either moveable, or whereby rotation and resting of range areas ensures recovery of forage areas between production cycles.

6 Aquaculture

6.1.1 Scope

This section aims to cover the active cultivation of aquatic plants (algae), shellfish, carnivorous, omnivorous and herbivorous organisms of all types and at all stages of growth, grown in any form of enclosure or structure.

Active cultivation means the deliberate growing and controlled harvesting on manmade structures (ropes and other equipment) in water.

Aquaculture includes the farming of many different species using diverse forms of production in fresh, brackish, and saltwater.

Algae includes seaweed, and other non-seaweeds such as kelp and blue-green algae.

Note: The Standard does not set organic requirements for Finfish as it is not currently feasible in New Zealand due to limited access to organic feed. MPI is open to reviewing this scope and working with the aquaculture sector as conditions change.

6.1.2 General

The operator must align aquaculture practices with the principles of organic production as outlined in this Standard, from the cultivation of juvenile algae through to harvesting.

The environmental conditions of the operation and its surrounds must be monitored before, during, and after production activities.

Operators must take effective measures to minimise the release of excess nutrients and waste into the aquatic ecosystem.

Biofouling should be managed in such a way as to reduce risks to the surrounding environment, using exclusion and physical removal methods.

In cases where exclusion or physical removal methods are not practical or effective, products acceptable under this Standard may be used.

Consideration should be given to the impact on any local species of conservation interest.

6.1.3 Prohibitions

The following reproductive techniques are prohibited:

- a. artificially induced polyploidy;
- b. cross-species hybridisation;
- c. mono-sex strains, except when hand sorted;
- d. artificially sterilised populations.

6.1.4 Conversion

Aquaculture production methods can vary widely according to biology of the organisms, technology used, geographical conditions, ownership structure, time span, etc. and these aspects need to be considered when determining the length of conversion.

Aquaculture species must be managed in accordance with this Standard for at least:

- a. 12 months; or
- b. from their earliest life stage to harvest (e.g., if production cycle is less than 12 months).

Land-based aquaculture facilities must be drained, for at least six months, when cleaned and disinfected.

For bivalve molluscs in coastal marine water the conversion period will be three months.

If a production unit is not converted all at once, part of the aquaculture unit may be converted, as long as organically managed stock can be clearly defined, and a designated area is set aside for organic production only.

6.1.5 Split and parallel production

This section outlines specific requirements for split or parallel aquaculture production and should be read in conjunction with section 3.9 Split and Parallel Production [General].

Operators may run organic and non-organic aquaculture production units in the same operation, provided that:

- a. organic and non-organic aquaculture production units must be easily and obviously distinguishable; and
- b. a suitable buffer zone is maintained between organic and non-organic operations;
- c. the non-organic production unit does not contaminate the organic production unit.

For coastal marine water-based operations, the topographical location including the influence of water currents and tidal cycles should be taken into consideration, to ensure suitable separation between the organic and non-organic production sites.

6.1.6 Facilities

Construction materials and production equipment must not contain compounds that:

- a. detrimentally affect the surrounding environment; or
- b. compromise the organic integrity of the organic product; and
- c. cause unnecessary environmental impacts.

The acceptable list of products for use in cleaning and disinfecting facilities is set out in a supplementary Notice.

6.1.7 Origin and breeds

The operator must demonstrate the choice of species / strain has the ability to adapt to local conditions, the production system and maintain their vitality, and their resistance to pests and diseases.

Any aquaculture species introduced to the operation must be farmed responsibly and consideration must be taken to avoid permanent disruption to natural ecosystems.

Breeding methods which minimally interfere with the natural behaviour of the cultivated species must be used, as far as these are practicable.

6.1.8 Specific requirements for Bivalve Molluscs (BMS)

Gametes and seed must come from organic breeding stock. If this is not available, the following can be used:

- a. breeding stock that has been managed in accordance with this Standard for at least three months before harvest; then
- b. wild spat collected (as per requirements below).

Spat must be sourced from the following, in order of preference:

- a. BMS will preferably be raised organically from hatching; and
- b. wild spat, including from outside of the growing area, may be seeded onto ropes if organically produced spat is not available, provided the following conditions are met:
 - i. spat has settled on spat collectors or seaweed which is washed up onto beaches; and
 - ii. the conditions of any permit for collection of the spat are met; and
 - iii. there is no significant damage to the environment; and
- c. spat that has settled naturally on collectors such as sticks, may be used.

6.1.9 Nutrition and feed

This section aims to ensure that organic aquaculture production provides a good quality diet balanced according to the nutritional needs of the organism.

Feed must be provided to the organisms in a way that allows natural feeding behaviour, with minimum loss to the environment.

Feeding and feeding regimes should be organised to give best possible growth on least possible input.

Aquaculture species specific nutrition and feed requirements may be set in supplementary notice.

6.1.10 Health management – prevention

An operator must have preventative measures in place to minimise the occurrence of diseases and be able to demonstrate disease prevention and management through the following:

- a. use of hardy breeds and strains that are resistant to disease;
- b. suitable location and design of the operations; and
- c. application of good husbandry and management practices.

6.1.11 Collection, harvesting and processing

Harvesting organic aquatic organisms from enclosures, structures, or collecting areas must be done in a manner that creates minimum stress to the organisms.

The act of collection does not negatively affect natural areas or the organism.

The harvesting and processing of organic aquatic products must be separated by place or time from similar activities performed on non-organic products, and necessary measures are taken to ensure traceability and to always segregate organic and non-organic products.

6.1.12 Transport and slaughter

The transportation media should be appropriate for the species with regards to water quality including salinity, temperature, oxygen, etc.

Transport equipment and/or construction materials must not compromise the integrity of the organic product.

Oil of cloves, and ice or ice slurry is allowed for transport.

6.2 Algae

6.2.1 Conversion (Algae)

The conversion period of the production unit should take into account, life cycle and species, environmental factors, and past use of the site with respect to waste, sediments, water quality and other relevant risk factors.

For existing algae production units that have been drained, cleaned and disinfected the conversion period must be **six months** or **one full production cycle**, whichever is greater.

For open water facilities, the conversion period will be **three months** or **one full production cycle**, whichever is greater.

6.2.2 Harvesting and Collection (Algae)

The operator must demonstrate that the harvest of algae has taken into consideration:

- a. minimum sizes, ages, reproductive cycles; and
- b. responsible collection of intended species; and
- c. not impact negatively on the surrounding environment.

Specific requirements and record keeping for algae production may be specified in a supplementary notice.

7 Apiary

7.1.1 General Principles

Beekeeping is an important activity that contributes to the protection of the environment and plays a crucial role in agricultural, food and forestry production through the pollination action of bees.

The treatment and management of hives should respect the principles of organic production.

7.1.2 Prohibitions

Clipping the wings of queen bees, is prohibited.

The use of synthetic repellents is prohibited.

Combs containing brood must not be used for honey extraction and honeycomb production.

The extraction of honey from brood chambers where sugar feeding has been used is prohibited.

7.1.3 Origin of Bees

Choice of strain must take into account the capacity of the bees to adapt to local conditions, their vitality and their resistance to disease.

Apiaries must be constituted by means of the division of colonies or the acquisition of swarms or hives from units complying with the requirements of this Standard.

For the renewal of the organic hives, up to 10% per year of the hives may be replaced by hives not complying with this Standard, subject to the conversion period.

An organic apiary may be re-established with non-organic bees. The operator must be able to demonstrate the following:

- a. high mortality of bees was caused by health or adverse events; and
- b. it is necessary to allow organic production to continue or recommence; and
- c. organic bees are not commercially available; and
- d. it is limited to an agreed number of hives and period of time.

7.1.4 Conversion

To be organic, hives must be managed in compliance with this Standard for at least 12 months.

During the conversion period, where no prohibited products have been previously used in the hive, replacement of wax is not necessary. Otherwise, wax must be replaced with organic wax.

When organic wax is not commercially available, non-organic wax may be accepted for use. This wax must be free of contamination and come only from the cap.

7.1.5 Split and Parallel Production

Operators may run organic and non-organic hives in the same production unit for the purpose of pollination and honey activities provided that:

- 1. Organic and non-organic honey hives must be easily and obviously distinguishable.
- 2. Operations must keep records of how parallel production is being managed as specified in supplementary notice.

Records must include the following:

- a. number of non-organic hives;
- b. location of non-organic hives;
- c. *identification and segregation of non-organic hives, honey and other bee products at all stages of production;*
- d. storage facilities for non-organic products;
- e. procedures for ensuring segregation of organic products and non-organic products;
- f. procedures for clean-down of any equipment used for both organic and nonorganic processes; and
- g. a plan for converting the non-organic part of the production unit.

7.1.6 Nutrition and Feed

Collection areas must be large enough to provide adequate and sufficient nutrition and access to water.

At the end of a production season, sufficient reserves of honey and pollen must be left in the hives for the dormant, non-productive season as winter feed.

Supplementary feeding may only be carried out between the last honey harvest (after honey supers have been removed), until the start of the next nectar or honeydew flow period and before the honey supers are placed into the hive.

Where the survival of the hives is endangered or in emergency situations (e.g., extreme climatic conditions) supplementary feeding may occur using organic honey or pollen.

If organic honey or pollen is not available; organic sucrose and pollen substitutes may be used.

If supplementary feeding is to be carried out the operator must notify the Recognised Entity and provide the following:

- a. Justification that supplementary feeding is necessary to ensure the survival of the hives;
- b. If organic sucrose and pollen substitutes are to be used, evidence to demonstrate that organic honey or pollen is not available.

Records of all supplementary feeding products must be kept as specified in supplementary notice.

7.1.7 Husbandry management practices

The replacement of the queen bees involving the killing of the old queen is allowed.

The practice of destroying the male brood is allowed only to contain an infestation with *Varroa destructor*.

Bees can be removed from hives by using physical or mechanical methods or smoker, using fuel from plant materials that have not been treated with inputs not acceptable in this Standard.

Smoker fuel must not be a source of contamination or jeopardise the organic integrity of the apiary products and not cause harm to the bees.

7.1.8 Health Management: Prevention

Disease prevention and treatment is based on the application of practices encouraging resistance to disease and the prevention of infections, such as:

- a. Regular renewal of queen bees;
- b. Systematic inspection of hives to detect any health anomalies;
- c. Control of male brood in the hives;
- d. Cleaning and sanitising of materials and equipment at regular intervals with material and practices allowed under this Standard;
- e. Destruction of contaminated material or sources;
- f. Regular renewal of beeswax; and
- g. Sufficient reserves of pollen and honey in hives.

7.1.9 Health Management: Treatment

Despite any of the listed preventative measures used, if the hives become sick or infested, they must be treated immediately and, if necessary, the hives placed in isolation.

In cases of infestation with *Varroa destructor*, the following set in supplementary notice can be used:

- Formic acid;
- lactic acid;
- acetic acid;
- oxalic acid;
- menthol;
- thymol;
- eucalyptol; or
- camphor.

Non-synthetic remedies must be used in preference, provided that their therapeutic effect is effective for the condition for which the treatment is intended.

If non-synthetic remedies are not effective, veterinary medicines may be used. The treated hives must be placed in isolation and all the wax must be replaced with organic wax. The treated hives are no longer compliant with this Standard and must undergo a conversion period in accordance with section 7.1.4 Conversion.

7.1.10 Living Conditions: Hive Placement

The operator must be able to demonstrate that hive placement ensures to following:

- a. During the nectar or honeydew flow period the location of hives must:
 - i. Ensure enough natural nectar, honeydew, pollen sources and access to water.
 - ii. Ensure that nectar and pollen sources within a 3km radius of the apiary site consists of organic crops, spontaneous vegetation or non-organic areas posing low risk of contamination.
- b. Land uses within a 3km radius of hive placement must not pose a risk to organic integrity including uses such as:
 - i. Producing genetically engineered or modified plants or their products.
 - ii. Urban centres, industrial areas, waste sites.

7.1.11 Living Conditions: Hive Construction and Materials

Hives must be made of natural or inert materials presenting no risk of contamination to the environment or the apiary products.

Beeswax for new foundations must come from organic production units.

Beeswax from non-organic production units may be used for new installations or during the conversion period subject to the operator demonstrating:

- a. organic beeswax is not available in sufficient quality or quantity;
- b. the non-organic wax is free of contamination;
- c. the non-organic wax comes only from the cap.

The protection of frames, hives and combs from pests must be done in accordance with pest management requirements under this Standard.

7.1.12 Extraction, processing and storage

The removal of honey or by-products must not involve the destruction of the hive.

An operator must ensure that honey and bee products are not contaminated with prohibited materials or non-organic honey during extraction, processing and storage.

During extraction and storage, surfaces in direct contact with honey must be constructed of food grade materials or coated with beeswax from sources meeting the requirements of this Standard.

To retain its quality and composition, heating of honey for extraction must not exceed temperatures greater than 45 degrees.

Only organic honey can be used for seeding to promote fine granulation.

Organic wax can only be from the cap or melted down comb from the foundation of organic hives.

Requirements for recording keeping of honey extraction, processing and storage may be set in supplementary notice.

8 Processing & Handling requirements

8.1 Scope

This section includes the processing and handling of agricultural products for use as food or feed, including specific requirements for wine making.

8.2 Processing and preservation

Processing methods should be mechanical, physical, or biological in nature and minimise the use of non-agricultural ingredients, processing aids and additives.

Substances and processing methods that might be misleading as to the true nature of the product must not be used.

Substances and techniques that do the following must not be used:

- reconstitute properties that are lost in the processing and storage;
- correct the results of negligence in processing;
- mislead as to the true nature of these products.

Food additives and processing aids can only be allowed in organic food products if they are essential to the production of the product and allowed under this Standard.

Solvents used to extract organic products must be organically produced and food grade as listed in supplementary notice.

Filtration equipment must not contain asbestos, or utilise techniques or inputs that may negatively affect the product.

Construction materials, production equipment and methods must not detrimentally affect the surrounding environment or compromise the organic integrity of the organic product.

Allowed processing and preservation methods may be outlined in a supplementary notice or guidance.

Allowed processing and preservation methods are as follows:

- a. Filtration
- b. Biological
- c. Mechanical
- d. Physical
- e. Electrical
- f. Smoking where materials used as the fuel source are not treated with inputs that do not comply with the Standard;
- g. Extraction

- h. Precipitation
- i. Freezing
- j. Salting, sun drying or dehydration
- k. Vacuum packing
- I. Gas flushing/CO2+N2+accepted inert gas
- m. Canning /bottling
- n. Heating, including pasteurising and high heat UHT treatment (all methods)
- o. Acidification (e.g. pickling)
- p. Fermentation

The suitability of other methods to organic processing and preservation may be assessed and added to this list as future technology evolves.

8.3 Composition, ingredients, additives, and processing aids

This section covers the ingredients, food additives and processing aids, which may be used in the preparation of products under the scope of this Act to be labelled as 'organic'.

8.3.1 Use of organic & non-organic ingredients

To make a claim the product is 'Organic', a minimum of 95% of ingredients of agricultural origin (before processing, by weight or fluid volume, excluding added salt and water) must be organic.

Up to 5% of the following may be used:

- ingredients of non-agricultural origin.
- non-organic ingredients of agricultural origin.

The operator must demonstrate that the non-organic agricultural ingredient cannot be sourced as organic in sufficient quality and quantity.

There must not be any one particular ingredient in both organic and non-organic form in a multi-ingredient organic product.

Records to demonstrate how these requirements are met may be outlined in a supplementary notice.

To make a claim of 'Made with Organic Ingredients' more than 70% of the ingredients of agricultural origin (before processing, by weight or fluid volume, excluding added salt and water) must be organic.

Up to 30% of the following may be used:

- ingredients of non-agricultural origin.
- non-organic ingredients of agricultural origin.

The operator must demonstrate that the non-organic agricultural ingredient cannot be sourced as organic in sufficient quality and quantity.

There must not be any one particular ingredient in both organic and non-organic form in a multi-ingredient organic product.

Records to demonstrate how these requirements are met may be outlined in a supplementary notice.

Ingredients of non-agricultural origin can include, but not limited to:

- a. Food additives; including carriers for food additives;
- b. Flavourings;
- c. Micro-organism preparations;
- d. Minerals (including trace elements) and vitamins.

Food additives and processing aid can only be allowed in organic food products if they are allowed under this Standard. Refer to supplementary notice.

8.3.2 Use of additives and processing aids

Only food additives and processing aids allowed under this Standard are to be used under the following circumstances:

- a. They are essential to prepare or preserve such food;
- b. They are essential in minimising the physical or mechanical effects on the product;
- c. There is a demonstrated nutritional reason;
- d. They are recommended by legislation;
- e. There is a demonstrated technological need.

Processing aids and ingredients must be traced back one step in the biological chain to the direct source organism from which they are produced to verify they are not derived from GMOs.

Preparations of micro-organisms and enzymes commonly used in food processing may be used.

For the production of organic micro-organisms and enzymes for processed food and feed (e.g., yeast), only organically produced substrate may be used.

This includes cultures that are prepared or multiplied in-house.

8.4 Specific requirements for Grape Wine

The production of organic grape wine must be based on the following principles:

- a. only organic grapes may be used to make organic grape wine;
- b. the use of food additives and processing aids must be kept to a minimum and only where there is an essential oenological need;
- c. only acceptable food additives and processing aids as listed in supplementary notice may be used.

Requirements specific to making organic grape wine may be set in supplementary notice.

The use of gas flushing as a sparging/flushing method is allowed.

The following oenological practises, processes and treatments must not be used:

- a. enrichment of wine by partial concentration through cooling;
- b. elimination of sulphur dioxide by physical processes;
- c. electrodialysis treatment to ensure the tartaric stabilisation of the wine;
- d. partial dealcoholisation of wine;
- e. treatment with cation exchangers to ensure the tartaric stabilisation of the wine;
- f. enrichment of grape must by partial concentration using reverse osmosis, for wines made in the 2022 vintage and later.

The following oenological practises, processes, and treatments may be used within the following limitations:

- a. the temperature for heat treatments must not exceed 70°C;
- b. the pore size for centrifuging and filtration with or without an inert filtering agent must not be smaller than 0.2 micrometre;
- c. enrichment of grape must by partial concentration using reverse osmosis, for wines made up to and including the 2021 vintage.

Final total sulphur dioxide levels up to the maximum content set in supplementary notice plus 30 mg/L, may be allowed providing that the following conditions are met:

- a. exceptional climatic conditions in a specific geographical area have led to severe bacterial or fungal attacks causing a deterioration in the sanitary status of the organic grapes; and
- b. higher levels of total sulphur dioxide than in previous years are necessary to get a comparable final product.

The following packaging materials are not allowed for organic grape wine production:

- PVC capsules for corking / capping;
- plastic and PVC corks;
- corks treated with fungicides and pesticides;
- composite corks incorporating polyurethane, solvents and plasticising agents.

9 Inputs requirements

9.1 General Principles

Organic production systems encourage self-sufficiency rather than reliance on external measures or inputs and non-renewable resources, that is, working as far as practicable within a closed system conserving, recycling and efficient use of nutrients, water, and other material.

Organic production allows appropriate use of acceptable inputs as required. The use of any inputs must meet the following criteria:

- There is a justified need to use the input;
- Inputs are used only for the allowed category of use and in accordance with any restrictions or conditions;
- The minimum amount of inputs is used to achieve the required purpose.

9.2 Definition of an 'Input'

An input is a substance or product, which is brought onto the organic operation, that is a:

- a. generic substance as listed in supplementary notice to this Standard;
- b. non-synthetic / agricultural product that may or may not carry an organic claim;
- c. synthetic product that cannot make an organic claim but is necessary for organic production.

An input is not:

- a. an organic product;
- b. a substance or organism for which there is a requirement or set of requirements specifically managing its use or introduction to the business (e.g. non-organic animals, non-organic seed);
- c. a product or substance produced onsite for use only on the organic property (e.g. cut and carry hay for own use);
- d. an ingredient (*Codex definition: any substance, including a food additive, used in the manufacture or preparation of a food and present in the final product although possibly in a modified form*).

An 'Acceptable input' is one which has been assessed and is accepted for use under this Standard, in accordance with any conditions of use.

An 'Unacceptable input' is any input which has not been assessed for use under this Standard. Or has been assessed and determined as unacceptable for use under this Standard.

9.3 Emergency pest or disease treatment

Where a substance not allowed by this Standard has been used under legislative direction or a mandatory pest or disease treatment programme, operators must:

- a. notify their Recognised Entity and MPI of the mandatory direction as soon as practicable; and;
- b. discuss, develop and document an appropriate risk mitigation plan with their Recognised Entitiy.

The CE must make a decision regarding the on-going organic status of affected operations. Products may be able to continue to be marketed as organic provided residues of the substance are not detectable.

9.4 Criteria for assessment of inputs

The criteria set out below must be applied to assess all proposed inputs before use in organic production. The process for assessment of inputs not currently listed is set out in supplementary notice.

9.4.1 General criteria for assessment

The following criteria must be used for the assessment of all inputs:

- a. they are consistent with principles of organic production as outlined in this Standard;
- b. use of the substance is necessary/essential for its intended use;
- c. use does not compromise the organic integrity of the product;
- d. manufacture, use and disposal of the substance does not result in, or contribute to, harmful effects on the environment, human or animal health and welfare;
- e. organic alternatives are not available in sufficient quantity and/or quality;
- f. restrictions and use comply with all relevant legislative requirements.

The above criteria are intended to be evaluated as a whole in order to protect the integrity of organic production.

If inputs are not available from acceptable methods and technologies in sufficient quantities [in their natural form], then those inputs that have been chemically synthesised may be considered for inclusion in exceptional circumstances. Provided that the conditions for their use do not directly or indirectly result in the presence of residues of the product in the edible parts.

In addition to criteria set out above the following criteria should be applied in the assessment process for specific categories of inputs:

9.4.1.1 Inputs used for fertilization, soil conditioning purposes:

a.	they are essential for increasing or maintaining the fertility of the soil or to fulfil specific nutrition requirements of crops, or specific soil-conditioning and rotation purposes which cannot be satisfied by the practices set out in this Standard and;
b.	the components will be of plant, animal, microbial, or mineral origin and may undergo the following processes: physical (e.g., mechanical, thermal), enzymatic, microbial (e.g., composting, fermentation)*; and
с.	their use does not have a harmful impact on the soil ecosystem or the physical characteristics of the soil, or water and air quality; and
d.	their use may be restricted to specific conditions, specific regions or specific commodities.

9.4.1.2 Inputs used for the purpose of plant pest, disease and weed control:

a.	they should be essential for the control of an organism or a particular disease for which other biological, physical, or plant breeding alternatives and/or effective management practices are not available; and
b.	their use does not have a harmful impact on the biodiversity, ecology (in particular non-target organisms), plant and wildlife habitats of the operation;
C.	they are of plant, animal, microbial, or mineral origin and may undergo the following processes: physical (e.g. mechanical, thermal), enzymatic, microbial (e.g. composting, digestion)* their use may be restricted to specific conditions, specific regions or specific commodities;
d.	their use should work in conjunction with natural cycles rather than trying to control those cycles.

9.4.1.3 Substances used for the purpose of livestock feed, nutritional elements, feed additives or processing aids

- a. they are allowed in compliance with relevant legislation for animal feed
- b. they are necessary/essential to maintain animal health, animal welfare and vitality; and
- c. they contribute to an appropriate diet fulfilling the physiological and behavioural needs of the species concerned; and
- d. they are primarily of plant, mineral or animal origin.

9.4.1.4 Substances used for the purpose of food additives and processing aids

Food additives and processing aids can only be allowed in organic food products if they are essential to the production of the product and:

- a. do not compromise the authenticity of the product;
- b. their use minimises physical or mechanical damage to the product which might result from the use of other methods/technologies;
- c. they are found in nature and may have undergone mechanical/physical processes (e.g. extraction, precipitation), biological/enzymatic processes and microbial processes (e.g. fermentation);
- d. the product cannot be produced or preserved without them;
- e. there are no organic ingredients available of acceptable quality and quantity which can replace the use of additives or processing aids;
- f. they do not give the impression that the final product is of higher quality than is justified by the quality of the raw material. This refers primarily, but not exclusively, to colouring and flavouring agents;
- g. they do not detract from the overall quality of the product;
- h. any permissions and prohibitions under the Australia New Zealand Food Standards Code are followed.

9.5 Use of Inputs

The section aims to set out the requirements for how businesses know what inputs they can use in their organic operation.

Acceptable inputs in organic production must be used in accordance with any conditions that are specified in supplementary notice.

Any inputs not listed in a supplementary notice must be assessed against the criteria for assessment as specified in this Standard before use.

All inputs must be listed in your OMP and prior to initial use of any input the following information must be documented:

- 1. justification for necessity of use, and;
- 2. demonstration that alternative options are unavailable or will be ineffective;
 - a. how the input will be used in practice.