

NATIONAL STANDARD

FOR

ORGANIC AND BIO-DYNAMIC PRODUCE

Edition 3.3

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INTRODUCTION

The National Standard for Organic and Bio-Dynamic Produce (referred to as the Standard) was first implemented in 1992 as the Australian Export Standard for products labelled organic or bio-dynamic. A second edition was released in 1998. Since inception it has provided the organic industry with a nationally agreed Standard.

The Standard stipulates minimum requirements for products placed on the market with labelling which states or implies they have been produced under organic or bio-dynamic systems. In this Standard, the production procedures are an intrinsic part of the identification and labelling of, and claims for, such products.

The Standard provides a framework for the organic industry covering production, processing, transportation, labelling and importation. Furthermore the Standard aims to ensure conditions of fair competition in the market place by distinguishing those products produced according to this Standard from those produced by other means. Use of this Standard provides transparency and credibility for the industry and protects the consumer against deception and fraud.

Certifying organisations which have been accredited by the Australian competent authority, apply this Standard as a minimum requirement to all products produced by operators certified under their inspection system. This Standard therefore forms the basis of equivalency agreements between approved certifying organisations and importing country requirements. Individual certifying organisations may stipulate additional requirements to those detailed here.

The certifying organisations have documented procedures and policies which are able to confirm that certified operators under their control comply with this Standard. Full details of a certifying organisation's responsibilities and duties are outlined in a separate document titled "Administrative Arrangements".

The Standard contains three distinct components:

The first component identifies General Principles that apply to organic and bio-dynamic activities. These are in *italics*. General principles are intended to give the reader a general appreciation of what the Standard intends to achieve.

The second component stipulates the specific conditions (or Standards), which must be met by an operator of an organic or bio-dynamic unit. These are in normal print.

Finally, the only exceptions allowed to this Standard are clearly noted under the heading *Derogation*. Derogations will be available when a situation is defined, and thus a temporary digression to the Standard may be made.

IMPORTANT INFORMATION

1. Requirements outlined in this Standard are complementary and additional to other health, agricultural or food standards or regulatory requirements recognised by or enacted by the Commonwealth, States or Territories. These include but are not limited to food safety, animal welfare and, environmental management and social justice.
2. Operators are responsible for the use of inputs and must adhere to relevant Commonwealth, State/Territory or Local/Statutory laws.
3. Upon adoption of the Standard, approved certifying organisations will implement these requirements immediately for newly applying operators; or for existing operators, within 12 months from date of adoption.
4. This Standard is subject to alteration in light of further experience with technical details or changes to international or importing country requirements. Amendment may be requested through submission of a completed, *Application to Alter the National Standard for Organic and Bio-Dynamic Produce* form as provided at the end of this document.
5. This Standard may be copied or reproduced without the expressed written consent of the author. Should any part of this Standard be used or referenced in any other document, author recognition is required. However, any reference to compliance with this Standard, may only be made where the Standard is implemented in full.

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SCOPE OF THIS STANDARD

- 1.1 This Standard stipulates the minimum criteria that must be met by operators before any certified product can be labelled as in-conversion, organic or bio-dynamic.
- 1.2 A product that complies with this Standard may be described by the terms organic, bio-dynamic (or words of similar intent), in the labelling, advertising material and/or commercial documents.
- 1.3 This Standard applies to the following products:
 - a. unprocessed products from plants, animals and other cultured organisms; and
 - b. processed products derived mainly from (a) above.
- 1.4 Paragraph 1.3 (above) does not apply, where these terms clearly have no connection with the production method.
- 1.5 Products or by-products that:
 - a. are derived from genetic modification technology, or
 - b. treated with ionising radiation, or
 - c. which interfere with the natural metabolism of livestock and plants,
 - d. that are manufactured / produced using nanotechnology,are not compatible with the principles of organic and bio-dynamic agriculture and therefore are not permitted under this Standard.
- 1.6 In itself, this Standard cannot guarantee that organic or bio-dynamic products are free of non-allowed residue material, or other environmental contaminants as they maybe subjected to pollution sources beyond the control and/or detection by the certified operator. However, the procedures practiced in accordance with this Standard by the certified operator will ensure the lowest possible risk of contamination of organic and bio-dynamic produce.
- 1.7 The operator who is certified to this Standard may at times be required to accept a product or instigate a procedure that is contrary to this Standard but which is required under Commonwealth, State or Territory, Local or Statutory laws. In these situations, operators are obliged to comply with any lawful direction and must subsequently inform their certification organisation of the details.

DEFINITIONS

For the purposes of this Standard, the following definitions apply:

- **administrative arrangements:** means the documented arrangement between the competent authority and the approved certifying organisations defining the duties and responsibilities, and how the certification system will be administered by both parties.
- **adventitious contamination:** means contamination that has come from outside, accidental, or occurring in an unusual place.
- **allopathic veterinary drugs:** means substance(s) used to treat disease that produce a reaction or effects different from those caused by the disease itself.
- **approved certifying organisation:** means an organisation that has been approved by the Australian competent authority.
- **aquatic:** means in or around water.
- **biodegradable:** means capable of being decomposed by the action of biological agents, especially bacteria.
- **biodiversity:** refers to the variety of all forms of life — the different plants, animals and micro-organisms, the genes they contain and the ecosystems of which they are components. It underpins the processes that make life possible, such as hydrological cycles and the supply of such human needs as food.
- **bio-dynamic:** means an agricultural system that introduces specific additional requirements to an organic system. These are based on the application of preparations indicated by Rudolf Steiner and subsequent developments for management derived from practical application, experience and research based on these preparations.
- **bio-dynamic preparation(s):** means the natural activators developed according to Steiner's original indications.
- **biological control:** means the control of pests or diseases by natural organisms.
- **buffer zone:** means a clearly defined and identifiable boundary area bordering an organic or bio-dynamic production unit that is established to limit inadvertent application or contact of prohibited substances from adjacent non-organic/bio-dynamic areas.
- **certified/certification:** means procedures by which an approved certifying organisation provides written assurance that an operator has been determined to conform to this Standard. Certification is based on the inspection of practices used, verification against records maintained by the operator and sampling of product.
- **competent authority:** means a government agency having legal jurisdiction.

- **compost:** means the end result of the conversion of organic materials (e.g. vegetation, manure and waste products permitted under this Standard) into humus colloids.
- **cosmetic and skincare products:** means a substance or preparation intended for placement in contact with any external part of the human body, including the mucous membranes of the oral cavity and the teeth.
- **cultural control:** means the management of pests and diseases by manipulation of the production system or production practices e.g. cultivation, heat, pruning, cover crops, resistant varieties.
- **feed ration:** means a feed allowance for an animal in any given period of a day or longer.
- **feed supplement:** means a component added to correct or overcome a deficiency or to prevent the development of a deficiency.
- **genetically modified organisms (GMOs):** means materials produced through the modern engineering methods of biotechnology; specifically gene technology, "recombinant DNA (rDNA)" and all other techniques using molecular and/or cell-biology for altering the genetic make-up of living organisms in ways or with results which do not occur in nature or through traditional breeding.
- **homeopathic preparation/treatment:** means a preparation for the treatment of disease based on the administration of minute potentised doses of a substance that in larger amounts would produce symptoms in healthy animals, similar to those of the disease itself.
- **ingredients:** means substances, including additives, used in the preparation of the products specified in this Standard.
- **inspection:** means the examination of production or processing units to ensure they conform to the requirements of this Standard.
- **inspector:** means a person deemed by an approved certifying organisation to have the expertise, knowledge and authority to inspect operators for certification purposes.
- **ionising radiation (irradiation):** means the use of high energy emissions capable of altering a food's molecular structure for the purpose of controlling microbial contaminants, pathogens, parasites and pests in food, preserving food or inhibiting physiological processes such as sprouting or ripening.
- **in-conversion:** means a production system which has adhered to this Standard for at least one year and has been certified as such but which does not yet qualify as organic or bio-dynamic.
- **landless production:** means the specific production methods used to grow such as mushrooms, sprouts, barley and wheat grass. Hydroponic practices are excluded.
- **labelling:** means any words, particulars, trademarks, brand names, names of certifying organisations, pictorial matter or symbols appearing

on any packaging, document, notice, label, board or collar accompanying or referring to a product specified in this Standard.

- **livestock:** means domestic or domesticated aquatic and terrestrial animals, including insects.
- **marketing:** means holding or displaying for sale, offering for sale, selling, delivering or placing on the market in any form.
- **m/m:** means mass per mass
- **mulch:** means the material applied to the surface of soil to protect plants from weed competition and to moderate soil moisture and temperature.
- **natural:** means existing or formed by nature; not artificial.
- **operator:** means a person, including any delegated person, or organisation who is certified for any stage of the supply chain e.g. primary production, processing, storage, packaging, transportation, retailing, wholesaling, brokering, importing or exporting of products referred to in this Standard.
- **organic:** means the application of practices that emphasise the:
 - use of renewable resources; and
 - conservation of energy, soil and water; and
 - recognition of livestock welfare needs; and
 - environmental maintenance and enhancement, while producing optimum quantities of produce without the use of artificial fertiliser or synthetic chemicals.
- **organic management plan:** means a plan developed and documented by operators that identifies how they will maintain the integrity of their operation in accordance with this Standard and includes a map or floor plan of the production or processing unit.
- **organic management practices:** means organic farming systems and operator practices as described in this Standard.
- **organic produce certificate:** means the official government to government certificate required for all organic export consignments. It does not include any other official health or phytosanitary export certificate.
- **parallel production:** means the production of a product which complies with this Standard by an operator, who is also producing the same type of product, which does not comply with this Standard.
- **potable water:** means the same as that defined by the National Health and Medical Research Council under the Australian drinking water guidelines.
- **preparation:** means the operations of processing, preserving, packaging, storing and handling of product that complies with this Standard.

- **principle display panel:** means the panel on packaging which identifies the primary or advertised description of the product.
- **processing aid:** means substances intentionally added to food for use in the processing of raw materials, food or food ingredients in order to fulfil an essential technological purpose during treatment or processing. Their use may result in their unavoidable presence in the final product.
- **production:** means any primary production involved in producing an agricultural or aquaculture product.
- **production or processing unit:** means a portion of an enterprise that produces a product or food under specific organic management practices.
- **prohibited substance/material:** means an input to organic production, processing or handling not permitted in this Standard.
- **sanitise:** means to adequately treat produce or product-contact surfaces by a process that is effective in destroying or substantially reducing the numbers of undesirable micro organisms, but without adversely affecting the product or its safety for the consumer.
- **sheet composting:** means a method of composting in which organic materials (e.g. plant matter, animal manure) are spread over an area of land and subjected to environmental decomposition, rather than being organised into heaps designed for management under specific heat control.
- **Standard:** means the National Standard for Organic and Biodynamic Produce.
- **synthetic:** means substances formulated or manufactured by a chemical process or by a process that chemically alters compounds extracted from naturally occurring plant, animal or mineral sources.
- **wetting agents (surfactants):** means substances used to reduce surface tension of liquids sprayed onto plants or livestock.
- **wine:** means the product of the complete or partial fermentation of fresh grapes, fruit and / or vegetables, or a mixture of that product

3. PRODUCTION REQUIREMENTS

3.1 FARM

General Principles

- i. The basic aim of an operator complying with this Standard is to achieve optimum quantities of quality produce, while enhancing the sustainability of natural agricultural resources.*
- ii. Emphasis is placed on management practices, use of renewable resources, the need for conservation of energy, soil and water and the maintenance of environmental quality.*
- iii. The principal objectives of the certified operator include:*
 - the production of food of high nutritional value.*
 - the enhancement of biological cycles in farming systems.*
 - maintaining or improving fertility of soils.*
 - working as far as practicable within a closed system by minimising the use of non-renewable resources.*
 - the avoidance of pollution resulting from agricultural practices and processing.*
 - the co-existence with, and the protection of, the environment.*
- iv. The aims and objectives outlined above are achieved through management practices that create soils of enhanced biological activity, as indicated by the humus level, crumb structure and feeder root development, such that plants are fed through the soil ecosystem and not, principally, through soluble fertilisers added to the soil.*
- v. Plants grown in natural systems take up nutrients that are released slowly from humus colloids, at a rate governed by sunlight and warmth. Under such a system, the metabolism of the plant and its ability to assimilate nutrients is not over-stressed by excessive uptake of soluble salts from the soil water (e.g. nitrates). Therefore the development of soil structure and humus is fundamental to organic and bio-dynamic systems.*
- vi. Organic and bio-dynamic systems rely upon crop rotations, use of residual crops, animal manures, legumes, green manures, mechanical cultivation, cultural control, minimal application of approved mineral-bearing rocks and aspects of biological pest management to maintain soil productivity and tilth, to supply plant nutrients and to control diseases, insects, weeds and other pests.*
- vii. The provision of organically grown feed and livestock husbandry practices that reflect the behavioural needs and ethical treatment and*

welfare management of livestock are also of fundamental importance where animals are kept on the farm.

Standards

- 3.1.1 For a farm to comply with this Standard, the operation will be subject to the inspection system outlined under Section 6 of this Standard.
- 3.1.2 Operators shall identify and document how they will develop and maintain the organic integrity of their operation in accordance with this Standard. Such documents may be referred to as an Organic Management Plan.
- 3.1.3 The requirements of this Standard must have been applied to the land for at least three years before products can be labelled as organic or bio-dynamic.
- 3.1.4 Only inputs listed in this Standard are permitted. The use of prohibited treatments or substances will make the product ineligible for sale under this Standard.

Derogation

Where a government authority implements a statutory action plan and prohibited substances and/or practices not consistent with this Standard are applied, the approved certifying organisation may give consideration to reducing, but not less than 12 months, the re-entry requirements for organic and bio-dynamic products. Relevant testing of products by a laboratory is required prior to re-entry.

- 3.1.5 The use of products comprised of or derived from genetic engineering is prohibited.
- 3.1.6 The use of pesticides produced from synthetic chemicals is prohibited.
- 3.1.7 The operator must address the potential risks from prior operations and consequences of external contamination with substances not permitted by this Standard. This may require the implementation of buffer zones / barriers and withdrawal of contaminated product / land from certification.
- 3.1.8 In case of reasonable suspicion of land and / or product contamination, the certified operator shall advise their certification organisation, and provide all factual evidence to support this.
- 3.1.9 Where product has been contaminated with non-permitted substances as a result of factors beyond the control of the certified operator, then:

- a. chemical residue tests of the product must register below 10% of the Maximum Residue Limit before the product can be sold as in-conversion, organic or bio-dynamic.
 - b. Product known to be contaminated by genetically modified organisms, or their by-products must be excluded from sale.
- 3.1.10 Further sampling and analytical testing of organic or bio-dynamic produce will occur should any previous analysed samples exceed 10% of the Maximum Residue Limit for chemical residues.
- 3.1.11 An operator of organic or bio-dynamic production areas must not routinely switch back and forth between organic and conventional production methods.
- 3.1.12 Where Genetically Modified crops have been grown on a production unit, a minimum of at least five years must elapse before products grown or produced on said area can be certified according to this Standard.

3.2 CONVERSION OF LAND

General Principles

- i. Land is converted to organic status by the application of organic management practices.*
- ii. An in-conversion production system is one which has adhered to this Standard for at least one year, and has been certified as such but which does not qualify as organic for reasons such as:*
 - a. the farming system has not operated within the requirements of this Standard for the specified period of three years; or*
 - b. the farm does not meet the quality standards, e.g. soil structure is not yet considered appropriately developed, as necessary for organic farms; or*
 - c. the overall organic management system is not sufficiently developed (e.g. reliance on inputs is too high).*

Standards

- 3.2.1 During the first year under the inspection system, labelling of the produce must not make reference to the production method, or that the produce is under an organic inspection system.
- 3.2.2 From the second year under the inspection system, produce from such units may only be labelled as in-conversion.
- 3.2.3 Systems certified as in-conversion shall progress to organic status within a timeframe determined by the approved certifying organisation, but this cannot be less than three years from commencing organic management practices.

Derogation

The approved certifying organisation may allow exceptions to 3.2.3 where there is:

- i) a transfer of a property between certified operators; or
- ii) clear evidence of existing, prior compliance with this Standard by the applicant/operator; or
- iii) occupation of certified lands by a new operator; or
- iv) landless production systems, bees or aquaculture as detailed under this Standard.

3.2.4 The certification body may extend the length of the conversion period. During this time the production unit must remain under an organic or bio-dynamic inspection system in order for the produce to carry the in-conversion label.

3.2.5 Where the whole farm is not converted at the same time (possibly resulting in parallel production), certified product complying with this Standard must be distinguishable from product that does not comply. The management system must demonstrate, through management practices and record keeping, the segregation of harvested material from the certified and non-certified enterprises and the precautions taken to avoid contamination of the certified product with substances and practices not permitted under this Standard.

3.2.6 GMO products are not compatible with organic and bio-dynamic management practices and are not permitted under a parallel production system.

3.2.7 Operators engaged in parallel production must develop a program of converting their whole farming operation within 10-years to comply with this Standard.

3.2.8 In-conversion areas must not be routinely switched back and forth between organic and conventional production methods.

3.3 GENETIC MODIFICATION

General Principles

- i. Products or by-products that are derived from genetic modification, are not compatible with the principles of organic and biodynamic agriculture.*
- ii. Before purchasing or committing new production areas to organic or biodynamic operations, operators should assess the risk from production areas that have previously grown or produced crops or livestock that were subject to genetic engineering or genetically modified organisms to ensure they are able to meet the expectation*

of freedom of their organic or biodynamic products from genetic engineering contamination.

Standards

- 3.3.1 The use of genetically modified organisms or their derivatives is prohibited. This includes but is not limited to, animals, seed and farm inputs such as fertilisers, soil conditioners, vaccines, crop production materials, food additives or processing aids.
- 3.3.2 Operators shall implement a risk management process to assess how they will avoid the accidental introduction of genetically modified organisms to the organic farm. These actions may include, but are not limited to:
- a) knowing about contaminant risks
 - b) implementing distances / buffer zones from potential contaminants
 - c) implementing special handling, transport and storage arrangements
 - d) maintaining samples
 - e) testing a crop perceived at risk.
- 3.3.3 Inputs, processing aids and ingredients shall be traced back one step in the biological chain to the organism from which they were produced to verify that they are not derived from genetically modified organisms.
- 3.3.4 Where genetically modified crops or livestock have been grown or used on a production unit, other than a landless system, a minimum of at least five years must have elapsed before products grown in or on that land can be certified according to this standard.
- 3.3.5 The certification of organic crops, livestock or agricultural products will be withdrawn where genetically modified crops, live stock or agricultural products are grown or produced on the same farm.

3.4 LANDSCAPE MANAGEMENT AND BIODIVERSITY

General Principles

- i. An organic production unit can enhance biodiversity by:*
 - a. establishing and/or retaining native vegetation on farms; and*
 - b. managing rangelands, waterways, floodplains, rivers, streams and wetlands; and*
 - c. provision of wind breaks and non-cultivated buffer zone areas.*

Standards

- 3.4.1 Operators must include landscape management and biodiversity within organic/bio-dynamic management planning.

- 3.4.2 Operators must develop 5% of their property as treed areas, grasslands or other reserves which are non-cultivated and non-intensively grazed within five years from the date the production unit attains in-conversion status.

Derogation

Although it is recommended, production units of less than four hectares do not have to comply with section 3.4.2.

3.5 SOIL MANAGEMENT

General Principles

- i. *Healthy soil is the prerequisite for healthy plants, animals and products. With organic farming, the care of a living soil and consequently the maintenance or improvement of soil structure, fertility and nutrient cycling is fundamental to all measures adopted.*
- ii. *Sufficient organic material should be regenerated and/or returned to the soil to improve, or at least maintain, humus levels. Conservation and recycling of nutrients is a major feature of any organic farming system.*
- iii. *A high or routine use of off-farm inputs is not encouraged by this Standard.*

Standards

- 3.5.1 The fertility and the biological activity of the soil must be maintained or increased by any combination of the following methods:
- a. use of legumes, green manure crops or perennial deep-rooting plants in an appropriate rotation program.
 - b. sheet composting using animal manures. These areas are required to grow two green manure crops before the area is planted to crops intended for human consumption.
 - c. application of fully composted organic matter derived from selected sources as listed in Appendix I Annex B.
 - d. application of bio-dynamic preparations and methods.
 - e. tillage techniques which preserve or improve soil structure.
 - f. incorporation of livestock into the farming system.
- 3.5.2 The use of off-farm fertilisers shall be regarded as a supplement to nutrient recycling, not as a replacement for good soil management practices. The use of fertilisers (as listed in Appendix I Annex B) shall be applied according to a demonstrated need.
- 3.5.3 Records must be kept of the nutrient inputs (i.e. source, amount and use).

- 3.5.4 Cultivation of soils is to be undertaken with care and consideration. Implements and techniques chosen must maintain or improve soil structure.

3.6 WATER MANAGEMENT

General Principles

- i. Water and agriculture are inextricably linked. The harvest, storage, use and fate of waters are integral components of an organic farm. Management of water will include management of vegetation, soil and drainage on the organic or bio-dynamic farm.*
- ii. Recycling of water should be carried out as much as possible.*
- iii. Surface water leaving an organic farm should not contain greater levels of nutrients, salts and turbidity than when the surface water entered the farm.*

Standards

- 3.6.1 On-site harvest of water for agricultural use (including stock water, aquaculture and processing) must allow for maintenance of on-farm and local ecosystems that are under the immediate influence of the operator. Provision must be made for environmental flows to maintain existing riverine health, wetlands and biodiversity.
- 3.6.2 Where appropriate operators shall design, measure and monitor irrigation water application to minimise water loss.
- 3.6.3 Water that is derived from sources that may introduce undesirable contamination to the property must undergo a risk assessment to determine the level of monitoring and management required.
- 3.6.4 Water containing treated human and industrial effluents, and/or their treated by-products can only be used,
- a) After the water has been subject to effective treatments and has re-entered a natural public waterway system; or
 - b) If directly used for irrigation purposes only after the water has been treated to such a level that State/Territory authorities deem the water suitable for unrestricted agricultural use and the quality of the water used does not add to the risk of contaminating produce, soils, or the environment with nutrients, pathogenetic organisms, heavy metals or residues of non-permitted substances. Use of such reclaimed water, may only be applied to organic production areas if the following occurs:
 - i) It is applied to green manure crops, or
 - ii) It is applied to seedlings, prior to transplant, or
 - iii) It is applied to any production system not designated for human or animal consumption, or
 - iv) It is applied to grazing areas no later than eight days before grazing, or

- v) For crops for human consumption, it may only be applied via trickle irrigation, and in such a manner as to preclude contact with any edible portion of the product during growth and harvest,
- and
- vi) Use of such water must be documented.

- 3.6.5 Partially treated human and industrial waste can only be used on timber producing wood-lots, provided such application does not contribute to ground or surface water contamination. Such water sources must be used with caution as they have the potential to exclude the land from future grazing and agricultural use under this Standard.
- 3.6.6 Raw animal liquid waste must be from a certified organic production system and can only be applied to green manure crops or pastures and never be directly applied to edible crops for human consumption. Application of such substances must not contaminate ground water.
- 3.6.7 Adequate dams and/or drinking facilities shall be established to allow rotational grazing management. Establishment of such sites must ensure overgrazing does not occur near water sites.
- 3.6.8 Water cannot be produced or harvested and labelled as organic or bio-dynamic.

3.7 PLANT PRODUCTION

General Principles

- i. The crops and varieties grown are those best suited to local and regional conditions; the least susceptible to pest and disease; and of a good nutritional and physiological quality.*
- ii. The proper choice of variety, stimulation of soil fertility, careful sowing and cultivation techniques (e.g. rotation, variety, use of mixed cropping, plant spacing, use of green manures) hinders the incidence of pests and diseases. Varied microenvironments such as decoy crops, tree lines and maintaining natural areas within the farm, provide favourable conditions for the natural enemies of pest and disease organisms.*

Standards

- 3.7.1 Organic crops must be grown in soil (i.e. terra firma). Seedling production must use products compatible with this Standard. Growing in earth-less media, hydroponics culture, nutrient-rich plastic films and similar methods and techniques are prohibited in organic and bio-dynamic production systems. The only exception to this rule is detailed under the Landless Production Systems section of this Standard.
- 3.7.2 Organic plants must be grown from organic seed or organic plant propagation material. New seeds and new vegetative reproductive

material shall be considered organic when grown in accordance with the provisions of this Standard for at least one generation or, in the case of perennial crops, two growing seasons.

Derogation

Where an operator can demonstrate to the approved certifying organisation that material satisfying 3.7.2 is not available in sufficient quality and quantity, the operator must seek written approval from the approved certification organisation to use seed or vegetative reproductive material not in accordance with this Standard.

3.7.3 The use of genetically modified/engineered seed and transgenic plants or the application of GMO derived substances for treating plants is prohibited in organic and bio-dynamic farming.

3.7.4 Crop rotations aid long-term soil fertility and ensure healthy plants. Operators shall include deep rooted and leguminous species within crop rotations.

3.8 PLANT PROTECTION

General Principles

- i. The reliance on substances rather than management practices for the control of pests and diseases is not in accordance with the principal aims of organic agriculture.*
- ii. Livestock are an integral part of a broad acre organic farming system.*
- iii. Where used, mulches should be of natural materials.*

Standards

3.8.1 Pests, diseases and weeds must be controlled by any combination of the following:

- a. choice of appropriate species and varieties.
- b. biological control.
- c. appropriate rotation programs.
- d. specific bio-dynamic measures.
- e. mechanical controls such as traps, barriers.
- f. light and sound.
- g. mechanical cultivation.
- h. mulching and mowing.
- i. grazing of livestock.
- j. protection of natural enemies of pests through provision of favourable habitats (e.g. hedges, nesting sites).

- k. flame/steam weeding.
- 3.8.2 Mulching materials must not contain substances prohibited by this Standard and their use must be documented.
- 3.8.3 Where permitted woven plastic/synthetic materials are used their complete retrieval from the environment must be undertaken.
- 3.8.4 Solid non-woven plastic or synthetic material sheets for mulching are prohibited.

Derogation

Where an operator can demonstrate to the approved certifying organisation that material specified under 3.8.4 should be used, the operator must seek written approval from the approved certification organisation.

- 3.8.5 Only in cases of imminent or serious threat to the crop and where the measures identified in 3.8.1 are, or would be ineffective, can operators take recourse to those inputs referred to in Appendix I Annex C. Operator records identifying the reasons for use of inputs must be available for inspection by the approved certifying organisation.

3.9 HARVEST OF PLANTS FROM NATURAL ENVIRONMENTS

General Principles

- i. The collection of plants and parts thereof, growing naturally in pristine areas can be classed as an organic production method.*

Standard

- 3.9.1 The following criteria must be met before products can be labelled as organic:
- a. products must be sourced from a clearly defined collection area and have been under an approved certifying organisation inspection system for at least 12 months; and
 - b. collection areas have received no treatments with products other than those referred to in Appendix I for a period of not less than three years before any collection; and
 - c. where the collection area is grazed by livestock, the livestock must be managed in accordance with the provisions of this Standard; and
 - d. the collection of plants or parts thereof does not disturb the stability of the natural habitat or the maintenance of the species in the collection area; and
 - e. the only term permitted to describe these products is organic.

3.10 LANDLESS PRODUCTION SYSTEMS

General Principles

- i. Landless production systems refer to plant products where production is not linked to soil.*

Standards

- 3.10.1 Under this system, no parallel production is permitted.
- 3.10.2 The use of any substances not listed in this Standard for pest and disease management or for sanitation purposes will require:
 - a. porous equipment to be removed from organic production; and/or
 - b. buildings, areas and impervious equipment to be cleaned down and followed by at least one production cycle that is not labelled as organic or bio-dynamic; and
 - c. product will need to be tested before regaining certification.
- 3.10.3 The production system must have been under an approved certifying organisation inspection system for at least 12 months to be eligible as organic or bio-dynamic.

Mushroom Production

Standards

- 3.10.4 For mushrooms grown in a natural environment the requirements under 'Wild Harvest of Plant Products' applies.
- 3.10.5 Buildings used for mushroom growing must be dedicated to organic production.
- 3.10.6 The use of preventative management, sanitation, proper airflow and removal of spent material must maintain a healthy growing environment. To assist this process, the following methods may be employed:
 - a. controlled atmosphere (airtight vessels containing carbon dioxide or nitrogen, infrared radiation and forced air circulation).
 - b. physical and barrier methods for fly and pest control, along with substances listed in Appendix I Annex C.
- 3.10.7 Growing equipment/trays must be new or thoroughly sanitised using only those products listed in Appendix II Annex A. No prohibited materials shall have been applied for 12 months prior to filling with the growing medium.
- 3.10.8 Cleaning and sterilisation using steam, heating, ethanol and hydrogen peroxide treatment of buildings and equipment is allowed. Other sterilisation or sanitation substances are allowed for buildings, growing containers or any other equipment provided they are listed in Appendix II Annex A.
- 3.10.9 Only organically sourced spawn may be used.

Derogation

Where an operator can demonstrate to the approved certifying organisation that material satisfying 3.10.9 is not available in sufficient quality and quantity, the operator must seek written approval from the approved certification organisation to use spawn not produced in accordance with this Standard.

- 3.10.10 Growing media may only be of untreated wooden logs, untreated sawdust or from materials produced according to the production requirements of this Standard.

Sprouts and Barley/Wheat Grass Production

Standards

- 3.10.11 In the production of these products the operator must use seed produced according to this Standard.
- 3.10.12 Growing areas must be dedicated to organic production.
- 3.10.13 Equipment/trays used in the growing and harvesting of such products must be new or thoroughly sanitised using permitted products listed in the Appendix II Annex A.
- 3.10.14 Growing media for:
- a. Sprouts - require the use of potable water.
 - b. Wheat/Barley Grass – require the use of composts made from material produced according to this Standard.
- 3.10.15 When using chlorinated tap water for final rinsing, the operator must employ a procedure to remove or reduce chlorine levels in the water.

3.11 LIVESTOCK

General Principles

- i. *Livestock make an important contribution to an organic farming system by:*
 - a. *improving and maintaining the fertility of the soil, and*
 - b. *controlling weeds through grazing, and*
 - c. *diversifying the biology and interactions of the farm.*
- ii. *Organic livestock are born and raised on organic farms.*
- iii. *Organic livestock management utilises natural breeding methods and stress minimisation for disease prevention and maintenance of animal health and welfare.*

Standards

- 3.11.1 Stocking rates for livestock must be appropriate for the region, taking into consideration feed production capacity, health, nutrient balance, and environmental impact.
- 3.11.2 Any livestock kept on an organic or biodynamic farm must be managed according to this Standard, and must be rotated in a crop/pasture management system.
- 3.11.3 Livestock must be managed to ensure they range freely on pasture. All livestock must have an adequate supply of clean water.
- 3.11.4 Livestock must be managed to avoid problems of over-grazing, erosion and to minimise the effects of manure concentration on the environment.

3.12 CONVERSION OF LIVESTOCK AND LIVESTOCK PRODUCTS

Standards

- 3.12.1 Livestock products can only carry the same in-conversion or organic or bio-dynamic labelling status as currently held by the production unit.
- 3.12.2 Livestock used for organic or bio-dynamic products must be born or hatched on farms that comply with this Standard. Such livestock must remain on organic or bio-dynamic holdings to maintain their organic or bio-dynamic status.
- 3.12.3 Carcasses of livestock born before a farm is subject to inspection and certification must not be presented or sold as bio-dynamic, organic or in-conversion.

Derogation

Where an operator can demonstrate that certified sources of livestock are not available, conventionally produced livestock may be introduced on to the production unit. Conversion requirements for such livestock product to be sold as organic, bio-dynamic or in-conversion are listed in Table 1

Table 1

Produce	Requirements for organic certification
Wool	From 18 months after entering the system
Milk	From 180 days after entering the system
Eggs	From Chicks up to 2 days old entering the system
Poultry & meat from game birds	From chicks up to 2 days old entering the system
Ruminant and mono-gastric animals for meat	From last trimester (excludes embryo transfer and clones)
Aquaculture	From fingerling form

- 3.12.4 Any livestock introduced from outside sources, other than certified organic livestock, must be quarantined from organic stock and the

production system for a minimum period of three weeks. For a period of at least twelve months after quarantine, such areas shall only be used for livestock production. Crops labelled as organic or bio-dynamic intended for human consumption may be grown on the area after this period.

3.13 LIVESTOCK BREEDS AND BREEDING

General Principles

- i. The choice of breeds, strains and breeding methods consistent with the principles of organic farming, take into account:*
 - *their adaptation to the local conditions,*
 - *their vitality and resistance to disease, and*
 - *the absence of specific diseases or health problems associated with some breeds and strains.*
- ii. Natural breeding methods are consistent with organic principles. Artificial insemination is not recommended.*

Standards

- 3.13.1 Breeding techniques that employ any of the activities listed below are not permitted:
- a. Embryo transfer.
 - b. Genetic engineering.
 - c. Treatments with reproductive hormones.
 - d. Semen sexing.
 - e. Artificial insemination using segregated, separated or otherwise modified sperm.

3.14 LIVESTOCK NUTRITION

General Principles

- i. The organic livestock diet is designed to ensure quality production under sustainable systems while meeting the nutritional requirements of the livestock.*

Standards

- 3.14.1 Livestock systems shall provide 100% of the diet from feed produced according to this Standard, and:
- a. for livestock products to be labelled as organic or biodynamic, the livestock diet must be sourced from organic or bio-dynamic feed.
 - b. feeding any portion of in-conversion feed will result in the labelling of animal products as in-conversion.

Notwithstanding the above,

- c. Feed produced and stored from the same production unit during the in-conversion period may be fed to organic and bio-dynamic livestock without them losing their organic or bio-dynamic status.
 - d. Stored feed produced before the production unit was placed under an inspection system cannot be used for bio-dynamic or organic livestock.
- 3.14.2 Livestock must be provided with a wide variety of food natural to their diet. Force-feeding of animals is prohibited.
- 3.14.3 In order to satisfy their nutritional requirements, livestock should have free access to mineral supplements (e.g. mineral licks, shell-grit, trace elements of mineral origin).
- 3.14.4 Feed supplements of agricultural origin must be of certified organic or bio-dynamic origin.

Derogation

If this is unavailable, then the approved certifying organisation may allow the use of product that does not comply with this Standard provided that the feed supplement:

- a. is free from prohibited substances or contaminants, and
- b. constitutes no more than 5% of the feed ration.

- 3.14.5 Feed supplements of non-agricultural origin can include minerals, trace elements, vitamins or pro-vitamins only if from natural sources.
- 3.14.6 Where feed rations are prepared, the agricultural origin component must consist of in-conversion, or organic, or bio-dynamic products and be labelled accordingly. Components of non-agricultural origin used to supplement feed rations include:
- a. Binders, anti-caking agents, emulsifiers, stabilisers, thickeners, surfactants, coagulants only if from natural sources.
 - b. Marine products of plant origin.
- 3.14.7 Prohibited feed products include, but are not limited to the following:
- a. antibiotics, coccidiostats, medicinal substances, growth promoters or any other substance intended to stimulate growth or production.
 - b. amino acid isolates.
 - c. non-protein nitrogen compounds (e.g. urea).
 - d. GMO products or their derivatives.
- 3.14.8 The feeding of products and by-products of a species - excluding milk and milk products to ruminants - to the same species is strictly prohibited.

- 3.14.9 The grazing of animals in natural/rangeland areas is considered part of an organic production system provided it meets the requirements of this Standard and the:
- a. animals are managed according to this Standard; and
 - b. soil structure in identifiably degraded areas must be re-developed and re-mediated to reflect natural soil structure; and
 - c. grazing and land management activities do not disturb the stability or sustainability of the natural ecosystem, and
 - d. monitoring of re-establishment and/or maintenance of the original native species must be undertaken; and
 - e. in-conversion, or organic or bio-dynamic livestock cannot be grazed with animals whose routine management is not according to this Standard.

Derogation

In situations of extreme climatic or other extenuating circumstances (such as fires, floods, etc) an exemption for the feeding of organic/bio-dynamic feedstuff to certified livestock might be granted by the approved certifying organisation. In such a situation:

- a. where in-conversion feed is sourced, the organic or bio-dynamic status of the livestock is unaffected.
- b. livestock receiving feed that does not comply with this Standard must be fed on feed complying with this Standard for a consecutive six-month period before regaining organic or bio-dynamic status. Residue testing of certified livestock by-products maybe required before any organic or bio-dynamic status is regained.

3.15 DISEASE PREVENTION AND TREATMENT

General Principles

- i. The application of management practices suitable to the requirements of each species encourages strong resistance to disease and the prevention of infections.*
- ii. The provision of adequate and high quality feed produced in accordance with this Standard encourages the natural immunological defence of livestock.*
- iii. The reliance on substances rather than management practices for the control of pests and diseases is not in accordance with organic farming principles.*

Standards

- 3.15.1 Organic livestock health shall be maintained through any or all of the following:
- a. selection of appropriate breeds or strains of animals; and
 - b. rotational grazing management; and

- c. ensuring an appropriate density of livestock, thus avoiding animal health problems, overstocking and land degradation.
 - d. the provision of adequate and high quality feed produced in accordance with this Standard.
- 3.15.2 Products listed in Appendix I Annex D of this Standard are permitted only where the practices of 3.15.1 are, or would be, insufficient.
- 3.15.3 If despite all preventative measures, an animal becomes sick or injured it must immediately have appropriate treatment.
- 3.15.4 The use of medicinal remedies under organic management practices must comply with the following procedure:
- a. In the first instance, the provision of phytotherapeutic (e.g. plant extracts/essences etc.) or homeopathic products (e.g. plant, animal or mineral substances), or
 - b. If the above products are not successful and are unlikely to become effective in combating illness or injury and further treatment is essential to avoid suffering or distress to the animal, allopathic veterinary drugs or antibiotics may be used in accordance with veterinary direction.
- 3.15.5 The use of veterinary drugs on livestock in the absence of illness is prohibited.
- 3.15.6 Where specific disease or health problems occur and no alternative permissible treatment or management practice exists under this Standard, or where treatment is required by law; the following applies:
- a. Therapeutic use of allopathic veterinary drugs or antibiotics is permitted. After such treatment, livestock cannot be sold as *organic* or bio-dynamic. Their products and/or progeny can be marketed as organic or bio-dynamic after a minimum management period as outlined in Table 1 of 3.12.3.
 - b. Livestock treated with substances not listed in this Standard must be identified and quarantined from other livestock for at least three times the withholding period or three weeks, whichever is the greater, specified for the treatment under relevant laws.
 - c. For a period of at least twelve months after quarantine, such areas shall only be used for livestock production. Crops labelled as organic or bio-dynamic intended for human consumption can be grown on the area after this period.
- 3.15.7 Use of vaccines is permitted only where the operator can demonstrate that management practices are insufficient to guard against disease and illness.
- 3.15.8 Caution must be applied when using allopathic veterinary drugs as some medications (especially vaccines) may contain GMO or GMO derived substances. Where such medications are derived from GMO

production, the animal(s) and/or their produce will never regain in-conversion, organic or bio-dynamic certification status.

3.16 LIVESTOCK WELFARE

Standards

- 3.16.1 The welfare of livestock is paramount and Commonwealth, State and Territory legislative requirements, including surgical treatment restrictions apply.
- 3.16.2 Living conditions must provide for the natural needs of the animal for free movement, including free ranging during day light hours, food, water, shelter, shade and for aquatic animals, water for swimming.
- 3.16.3 Surgical treatments permitted under this Standard are:
- a. Castration.
 - b. tail docking of lambs.
 - c. de-horning.
 - d. placement of nose rings in bulls.
 - e. mulesing, for breeds that require mulesing.
 - f. removable nose rings for pigs.
 - g. veterinarian surgery with the use of anaesthetic.
 - h. ear tagging, micro-chipping.
- 3.16.4 The use of anaesthetics will not result in loss of organic or bio-dynamic status.
- 3.16.5 Pain inflicted by surgical treatments must be kept to a minimum level and duration.
- 3.16.6 The slaughter of livestock must be undertaken in a manner that minimises the effects of stress and suffering and be in accordance with the relevant Codes of Animal Welfare Practice.

3.17 LIVESTOCK HOUSING

General Principles

- i. The producer of organic or bio-dynamic livestock should provide shelter, because of:*
 - a. the conditions under which the health, safety and well being of the animal could be jeopardized.*
 - b. inclement weather.*
 - c. the animal's stage of pregnancy.*

Standards

- 3.17.1 *Where housing is provided, the building construction must satisfy the biological and behavioural needs of livestock including freedom of*

movement and comfort as well as protection from climatic extremes and predators.

- 3.17.2 Adequate free ranging capability must be provided between building constructions to ensure the conditions detailed in section 3.11 are met .
- 3.17.3 While housed, livestock must have access to sufficient feed and clean water.
- 3.17.4 All buildings used to house livestock must allow for plentiful ventilation and natural light.
- 3.17.5 Total light supplied to livestock must not exceed 16 hours. Artificial lighting can be used to supplement natural light.
- 3.17.6 Manure, urine and uneaten or spilt feed must be removed as often as necessary to minimise unpleasant odours and avoid attracting pests. Only products listed in Appendix I Annex D are permitted for pest control.
- 3.17.7 Stocking density in buildings shall provide comfort and well-being for the confined livestock; allowing sufficient space to stand naturally, lie down easily, turn around, groom themselves, assume all natural postures and make all natural movements such as stretching and wing flapping.
- 3.17.8 Where livestock are housed, the minimum "on ground" density shall comply with the following, for:
 - a. small to medium ruminant animals, not less than 1.5 meters square for every animal; or
 - b. medium to large ruminant animals, not less than three (3) meters square for every animal on ground; or
 - c. small to medium mono-gastric animals, not less than 1.5 meters square for every animal; or
 - d. medium to large mono-gastric animals, not less than three (3) meters square for every animal; or
 - e. avian species:
 - i. poultry, not less than 1 square meter for every five (5) adult birds including the roosting area; or no more than 10 kilograms of birds per square metre; and not more than 2,500 adult birds under one roof structure; or
 - ii. ducks, geese, housing is not necessary after the agnostic stage however shelter for shade purposes is required; or

- iii. turkeys, not less than 1 meter square for every two (2) birds on ground and not more than 1,000 adult birds under one roof structure; or
 - iv. emu, ostrich, housing is not necessary.
- 3.17.9 Housing, pens, equipment and utensils must be cleaned and disinfected to prevent cross – infection and the build up of disease carrying organisms. Only those products listed in Appendix II Annex A are permitted for sanitation purposes.
- 3.17.10 Where required, floor litter material must be provided from untreated sources. If this litter is consumed by the species housed, the material must comply with the feed requirements outlined in this Standard.

3.18 LIVESTOCK HANDLING

Standards

- 3.18.1 Loading and transport management must be carried out so as to limit stress and injury to livestock.
- 3.18.2 Transport vehicles must be dedicated to the transport of organic stock and/or be cleaned before loading organic stock. Livestock that does not comply with this Standard must be segregated from stock that complies with this Standard.
- 3.18.3 Handling shall be in accordance with the relevant Commonwealth, State or Territory codes of animal welfare practice.
- 3.18.4 The use of any type of electrical stimulation to coerce animals is prohibited.
- 3.18.5 The use of any synthetic chemical tranquillisers is prohibited.

3.19 LIVESTOCK IDENTIFICATION

Standards

- 3.19.1 Livestock and livestock products must be identifiable at all stages of their production, preparation, transport and marketing.
- 3.19.2 Medication of livestock shall be recorded, with treated stock clearly identified. This record shall contain details concerning all treatments, including, but not limited to:
- a. substance and trade name of medication used, and
 - b. the active and inert ingredients of the substances used, and
 - c. the duration of treatment.
- 3.19.3 The operator must record the “method of disposal” of all by-products from treated livestock.

3.20 LIVESTOCK MANURE

Standards

- 3.20.1 Manure management shall be implemented in a manner that optimises recycling of nutrients; while minimising soil and water degradation.
- 3.20.2 All manure storage and handling facilities, including composting facilities, shall be designed, constructed and operated to prevent contamination of ground and/or surface water.
- 3.20.3 Manure storage facilities shall exceed the immediate storage requirement to also provide storage for periods in which application of manure to land is not possible.

3.21 BEE PRODUCTS

General Principles

- i. Organically managed bees should be limited in their foraging to organically managed and naturally occurring flora.*
- ii. Bees are managed humanly and product integrity is maintained throughout all stages of production and processing. In relation to the placement of hives, the certified operator should take into consideration the impact on the indigenous insect population.*
- iii. Operators are encouraged to obtain their queen bees from organic sources.*

Standards

- 3.21.1 Hives must be under a system of inspection for at least 12-months before any products can be labelled as organic or bio-dynamic.
- 3.21.2 Due to the long distances that foraging bees may travel, it is often impossible to limit foraging activities to organic floral sources. Apiaries must be placed on sites where the operator can monitor all activities that may affect colonies.
- 3.21.3 Operators must demonstrate that hive locations are in foraging areas more than five kilometres distant from any prohibited substances which may be derived from, but not limited to:
- a. flower-bearing crops that are treated with pesticides not permitted by this Standard, or genetically engineered and/or modified organisms or their products; or
 - b. urban or industrial activities; or
 - c. waste sites.
- 3.21.4 Records must be kept on the number, location (including maps), condition and management of colonies. These shall be used as part of the documented proof of maintaining organic integrity as well as preventing disease and pest problems.
- 3.21.5 Bee colonies must be provided with a continuous supply of clean water and sufficient forage throughout the season. The food source must fulfil the nutritional needs and good health of the colony.

- 3.21.6 Feeding of hives is only allowed under extreme climatic or other extenuating circumstances and in such cases, only organic honey tested free of American Foul Brood disease or organic sugar can be used.

Derogation

The operator must seek permission from the approved certifying organisation to allow:

- a. the use of honey not produced in accordance with this Standard and/or
- b. re-locate hives to sites not complying with 3.21.2.

After such event the first extraction cannot be not sold as organic or bio-dynamic.

- 3.21.7 Where queen bees, package bees or nucleus colonies are purchased from non-organic sources, the first extraction shall not be labelled and marketed as an organic product.
- 3.21.8 Particleboard and/or toxic wood preservatives and coatings shall not be used in hive construction or maintenance.
- 3.21.9 To retain its quality and composition, honey shall not be heated to temperatures greater than 45°C.
- 3.21.10 During extraction and storage, surfaces in direct contact with honey shall be constructed of food grade materials.
- 3.21.11 The removal of honey or bee-products must not involve the destruction of the colony.
- 3.21.12 Bees shall be removed from hives by the use of bee escape boards, shaking, brushing, forced air blowers, or smoker fuel derived from natural, unprocessed substances.
- 3.21.13 Wing clipping is not allowed.
- 3.21.14 For pest and disease control or hive disinfecting, only the following products may be used:
- i. caustic soda.
 - ii. lactic, oxalic, acetic acid.
 - iii. formic acid.
 - iv. sulphur.
 - v. etheric oils.
 - vi. *Bacillus thuringiensis*.
 - vii. heat (flame, hot water).
 - viii. wax or paraffin dipping.

- 3.21.15 Botanical compounds may be introduced into the hive (e.g. menthol, vegetable oils, essential/etheric oils, and herbal teas). However, such remedies shall not be used within thirty days of honey flow, or whenever honey supers are on the hive.
- 3.21.16 The use of synthetic antibiotics in honey production is prohibited except where the imminent health of the colony is threatened. Before such treatments, the hive(s) shall be removed from the foraging area and taken out of organic production to prevent the spread of antibiotics within the remaining apiary. Bee products harvested for the next twelve months following the use of such antibiotics shall not be certified organic and foundation wax must be replaced.
- 3.21.17 Comb honey is only eligible for certification if the foundation used was certified as organic or bio-dynamic.
- 3.21.18 Wax will only be certified if it comes from either:
- a. Cappings from organic honey: or
 - b. Melted down combs where certified foundation was used in their generation.

3.22 AQUACULTURE

General Principles

- i. *Aquaculture includes many forms of production in fresh, brackish and salt water. This Standard covers aquatic livestock grown from fingerlings or spat, in any form of enclosure under controlled conditions*
- ii. *Organic or bio-dynamic Aquaculture is based on:*
 - a. *high quality water entering the system, and*
 - b. *sound management practices, and*
 - c. *the use of appropriate stocking rates, and*
 - d. *consideration of stock welfare, and*
 - e. *the use of approved inputs.*

Standards

- 3.22.1 Aquaculture products must be under a system of inspection for at least 12-months before any products can be labelled as organic or bio-dynamic.
- 3.22.2 Breeds adapted to local conditions shall be chosen. Natural breeding behaviour, settlement and hatching are desirable traits.
- 3.22.3 Polyploid and genetically engineered aquatic species are not allowed.
- 3.22.4 Provision of ample clean water.

- 3.22.5 The certified operator shall ensure that construction materials and production equipment shall not contain synthetic chemicals or substances, which could detrimentally affect the environment or contaminate the certified product.
- 3.22.6 There must be adequate room in enclosures for the stock to exhibit natural behaviour such as forming shoals.
- 3.22.7 The diet must be suitable for the species and be from any of the following sources:
- a. plant and animal products produced according to this Standard; and/or
 - b. plankton and zooplankton grown in the organic aquaculture system; and/or
 - c. nutrients contained within the water supply; and/or
 - d. disease-free processed waste from wild harvested marine organisms.
- 3.22.8 Minerals and vitamins used as feed supplements must be naturally sourced.
- 3.22.9 Operators must demonstrate that water and the nutrient load leaving the system will not adversely affect the environment, natural ecology or biodiversity.
- 3.22.10 The use of allopathic veterinary drugs is not permitted in the treatment of organic Aquaculture. Where such a substance is required, the treated pond/tank area(s) affected cannot be used for organic production for a minimum of 12 months. Treated species will lose their organic certification status.
- 3.22.11 Capture and handling techniques can stress and damage stock. Aquatic stock should be handled as little as practical and fish shall not be out of water for more than 30 seconds during any handling procedure.
- 3.22.12 The use of synthetic chemical tranquillisers is not permitted.
- 3.22.13 Oil of cloves or ice slurry or carbon dioxide is permitted for the sedation of fish, for pre-slaughter or transportation purposes.
- 3.22.14 Any sorting or moving of aquatic stock must be recorded.

3.23 BIO-DYNAMIC PRODUCTION

In 1924 *Rudolf Steiner* gave a series of lectures at Koberwitz, which provided indications on how to re-enliven the soil and nature environment. The lectures were in response to requests on how to reverse the problems of loss of vitality in crops – which had become noticeable since the introduction of chemical fertilisers. These lectures and associated discussion lead to the development of the Bio-dynamic Method of Agriculture.

Note: The term **Bio-dynamic Preparation(s)** used in this Section means the natural activators developed according to Steiner's original indications.

General Principles

- i. *Land management needs to reflect an understanding of the fundamental principles presented in the Agriculture Course; the series of lectures given by Rudolf Steiner to scientists and farmers at Koberwitz, in 1924.*
- ii. *Bio-dynamic practitioners seek to understand and work with the life processes as well as enhance their understanding of the mineral processes used in conventional agriculture. Healthy soil and a healthy atmosphere are a prime basis for healthy plants, animals and people.*
- iii. *Bio-dynamic farming practices do not rely on water soluble fertiliser inputs, although some organic or natural mineral fertiliser may be required on poor soils especially during the establishment phase. While noticeable changes may occur within a year, development of a sustainable soil structure and nutrient cycles may take several years.*
- iv. *The Bio-dynamic Preparations are not fertilisers themselves but greatly assist the fertilising process. As the name suggests, these Preparations are designed to work directly with the dynamic biological processes and cycles which are the basis of soil fertility. As activators of life processes they only need to be used in very small amounts.*
- v. *The Bio-dynamic Preparations activate soil and plants, develop soil structure and enhance the nutrient cycles. Farming practices need to support this process.*
- vi. *The Bio-dynamic Preparations (numbered 500 to 507) are used in conjunction with established agricultural practices such as composting, sheet composting, manuring, crop and pasture rotations, tree planting, the integrated use of livestock and so on.*
- vii. *Preparation 500, and "prepared" 500 (500 with Compost Preparations 502 to 507 added) specifically enlivens the soil, increasing the micro flora, root exudation and availability of nutrients and trace elements via humus and not through soil water. 500 promotes root growth, especially the fine root hairs. It develops humus formation, soil structure and water holding capacity.*
- viii. *Preparation 501 enhances the light assimilation of the plant, leading to better fruit and seed development with improved flavour, aroma, colour and nutritional quality.*
- ix. *Compost Preparations (502 to 507) help the dynamic cycles of the macro- and micro-nutrients, via biological processes in the soil and plants and stimulate availability of specific elements.*

- x. *In accordance with the research evidence of Lily Kolisko on the often-dangerous effect of minutest substances (even less than a molecule), materials used for the storage of the Bio-dynamic Preparations, stirring machines, spray tanks etc., need to be carefully considered.*
- xi. *Weeds and pests are useful indicators of imbalances in soil and plants; and the aim in the Bio-dynamic method is to use such indicators in a positive way. Many so-called weeds under Bio-dynamic Management become useful herbage.*
- xii. *Pest and disease control is managed by developing the farm as a total organism. However, Bio-dynamic practitioners may make use of specific products for weed and pest control, which they make from the weeds and pests themselves.*
- xiii. *It is encouraged not to dehorn cattle which belong to breeds that are naturally horned. Keeping horned cattle may require different strategies in animal handling, so as not to cause stress nor inflict injury to the animal.*
- xiv. *Fodder produced on the farm itself forms the basis of animal nutrition. Complete self-sufficiency in fodder is the principle aim.*

Standards

- 3.23.1 For products to carry a label or reference to Bio-dynamic production, products must be produced on a certified Bio-dynamic production unit.
- 3.23.2 For a production unit to be certified Bio-dynamic, in addition to the other requirements of this Standard:
 - a. 500 and compost preparations must be applied to the whole production area at least once per year.
 - b. Application of 501 occurs when plants require additional intake of light.
 - c. Bio-dynamic Compost Preparations 502 -507 are to be used to direct all fermentation processes in liquid manures and composts.
 - d. Any off-farm inputs, including manures, must go through a Bio-dynamic composting process. Exceptions are: rock and mineral dusts and mulching materials permitted by this Standard.
 - e. Bio-dynamic Preparations are to be stored in a suitable storage container away from fumes, electricity, contamination sources:
 - i. 500 and compost preparations are to be stored away from heat and light, in a container using at least 8 centimetres of dry peat for insulation. The storage vessel or peat must not contaminate the preparations.
 - ii. 501 must be stored in a glass that has access to early morning sunlight.
 - f. Bio-dynamic Preparations 500 and 501 are to be stirred for one hour.

- g. Stirring of Bio-dynamic Preparations shall be organised to achieve an energetic vortex, followed by an immediate reverse action – causing a “bubbling” chaos and reverse vortex – then subsequent reverse chaos and vortex etc for the full hour (Steiner, Pfeiffer).
 - h. Stirring and spraying equipment must be non-contaminating, clean and dedicated to the purpose of the Bio-dynamic preparations.
- 3.23.3 Wild harvest cannot be certified Bio-dynamic unless the Bio-dynamic Preparations, as per this standard, have been applied to the areas to be harvested.
- 3.23.4 Animals are to be born and raised on a Certified Bio-dynamic farm as part of an indigenous herd. Animals brought onto the farm from non Bio-dynamic sources can never be sold as Bio-dynamic.
- 3.23.5 Certified Bio-dynamic feed must be fed to Bio-dynamic livestock.

4 TRANSPORT AND STORAGE, PREPARATION, PACKAGING

General Principles

- i. Organic products are handled in a manner that prevents contamination or substitution with substances or products not compatible with this Standard.*

4.1 CERTIFIED PREMISES

Standards

- 4.1.1 For a premise and its stored or processed products to comply with this Standard, the operation will be subject to the inspection system outlined under Section 6 of this Standard.
- 4.1.2 Operators shall identify and document how they will develop and maintain the organic integrity of their operation in accordance with this Standard.

4.2 STORAGE AND TRANSPORT

Standards

- 4.2.1 During the storage and transport of in-conversion, organic and bio-dynamic produce, both packaged or non-packaged goods must be clearly separated and identifiable from products not produced in accordance with this Standard.
- 4.2.2 Pest control measures within storage areas or transport containers will include physical barriers or other treatments listed in Appendix II Annex B.
- 4.2.3 Use of substances not listed in this Standard for post harvest or quarantine purposes is not permitted. Use of prohibited substances will result in the loss of in-conversion, organic or bio-dynamic status of the product.

4.3 PREPARATION

General Principles

- i. Preparation systems should use `energy saving technologies; processing methods limiting refining, appropriate use of permitted additives and processing aids.*

Standards

- 4.3.1 Preparation and handling of organic or bio-dynamic produce must be spatially and/or temporally separate and identifiable from products not produced in accordance with this Standard.
- 4.3.2 Products received by certified processors must be clearly identified as in-conversion, organic or bio-dynamic. Where there is doubt about the status of a product, the product must be segregated until such time as its status is confirmed.

- 4.3.3 Where products not covered by this Standard are also processed, packaged or stored, the following criterion applies. That:
- a. the premises must use designated areas for the storage of products complying with this Standard pre and post processing; and
 - b. all equipment must be pre-cleaned of substances not compatible with this Standard. This may include a water rinse, or a sufficient plug (flush) of organic products which must then be diverted to the conventional market, or sufficient time for the cleaning product to volatilise; and
 - c. all operations associated with organic produce must be carried out continuously until the production run is complete and be separated from similar operations performed on products not covered by this Standard; and
 - d. all essential actions/steps must be taken to ensure identification of lots and to avoid mixtures with products not in compliance with this Standard.
- 4.3.4 The use of genetically modified organisms for the processing of organic and bio-dynamic products or their derivatives is prohibited including food additives or processing aids.
- 4.3.5 Operators shall implement a risk management process to assess how they will avoid the accidental introduction of genetically modified organisms to the production area during the time that organic or biodynamic production is in progress. This shall include a procedure that ensures that only organic or biodynamic products are in the processing area at the one time.
- 4.3.6 Inputs, processing aids and ingredients shall be traced back one step in the biological chain to the organism from which they were produced to verify that they are not derived from genetically modified organisms.
- 4.3.7 Where cleaning or flushing procedures are used, the operator must ensure the removal of potential GMO contamination before organic and bio-dynamic produce is passed through the equipment
- 4.3.8 Irradiation is not permitted in the processing, storage or handling of products complying with this Standard.

4.4 PRESERVATION

Standards

- 4.4.1 The following processes are permitted under this Standard:
- a. Filtration
 - b. Biological
 - c. Mechanical

- d. Physical
- e. Smoking, where materials used as the fuel source are not treated with substances that do not comply with this Standard
- f. Extraction, and
- g. Precipitation.

4.4.2 Extraction shall only take place with water, ethanol, vinegar, carbon dioxide, plant and animal oils and nitrogen. These shall be of food grade quality and appropriate for their purpose.

4.4.3 The following preservation methods are permitted under this Standard:

- a. freezing
- b. salting, sun drying or dehydration
- c. vacuum packing
- d. gas flushing e.g. N₂, CO₂
- e. canning
- f. smoking, where materials used as the fuel source are not treated with substances that do not comply with this Standard; and
- g. pasteurising
- h. Ultra heat treatment (UHT)

4.4.4 For the purposes of consumption, natural products such as salt or water cannot be collected or harvested or processed and labelled as organic or bio-dynamic.

4.5 USE OF ADDITIVES AND PROCESSING AIDS

General Principles

- i. *The use of additives and processing aids of non-agricultural origin included in the Annexes, takes into account the expectations of consumers that processed products from organic production systems should be composed essentially of ingredients as they occur in nature.*

Standards

4.5.1 The use of additives and processing aids is permitted only where their use does not compromise the authenticity of the product, or detract from the overall quality of the product.

4.5.2 The use of such substances shall therefore be restricted to a demonstrated technological need, or where:

- a. they are indispensable for ensuring the safety of the product; or

- b. they are essential to prepare or preserve such a product, or
- c. they minimise the physical or mechanical effects to a product, or
- d. the Commonwealth, State or Territory law requires them.

4.5.3 The use of genetically engineered products either directly or indirectly is prohibited.

4.6 PACKAGING

General Principles

- i. Organic packaging excludes any unnecessary materials and incorporates recycled, recyclable and/or biodegradable materials.*

Standards

- 4.6.1 Organic packaging must not contaminate produce and as far as possible excludes unnecessary packaging and incorporates recycled and biodegradable materials.
- 4.6.2 All material used for packaging of organic produce must conform to food grade packaging materials as prescribed by regulations.
- 4.6.3 The use of packaging containing Polyvinyl Chloride (PVC) is prohibited.
- 4.6.4 Packaging shall be clean, and if re-used, be rendered as new through sterilisation and sanitation processes as listed in Appendix II Annex A.
- 4.6.5 There must be no inappropriate or misleading use of re-used packaging material.

5. COSMETICS AND SKINCARE

General Principles

- i) *Organic Cosmetic and Skincare manufacture / production should reflect the general principals outlined in this Standard.*
- ii) *Organic Cosmetic and Skincare products should be primarily composed of certified organic raw materials, be minimally processed to preserve the natural properties and not include harm to animals or involve testing on animals.*
- iii) *Organic Cosmetic and Skincare products should be clearly labelled to provide accurate information to consumers.*

Standards

- 1 Ingredients must satisfy the requirements of this Standard.
- 2 Mined minerals may be used as ingredients when they are essential to the nature of the product. These include Montmorillonite and kaolin clays, chalks, sand, salt and pumice.
- 3 Testing on animals at any stage of the production or development of a product is prohibited.
- 4 Preparation and labelling of the product must satisfy the requirements of this Standard.
- 5 The following may be used as emulsifying agents and/or surfactants: Hydrolysis, hydrogenation or esterification or trans-esterification of the following materials: - Fats, oils and waxes – lecithin – lanolin – monosaccharides, oligosaccharides and polysaccharides – protein and lipoproteins, but only where biological, mechanical and / or physical processing methods consistent with this standard are undertaken.
- 6 Sulphonation, ethoxylation and propoxylation are prohibited as processing methods.
- 7 Prohibited ingredients include, but are not limited to the following: Synthetic colouring agents – synthetic fragrances and perfums – ethoxylated ingredients – silicones – paraffin and other petroleum or petroleum derived products.
- 8 Where a preservative is required for the safety and/or stability of a product, only preservatives derived from natural sources are to be used. Use of preservatives requires the addition of a statement “Preserved with (name of the preservative)” on the label.

6 INSPECTION AND CERTIFICATION

General Principles

- i. *Inspection and certification is the process used by an approved certifying organisation to confirm the operator's activities comply with this Standard.*
- ii. *Approved certification organisations conduct inspection and certification activities as outlined in the Administrative Arrangements.*

6.1 MINIMUM INSPECTION REQUIREMENTS

Standards

- 6.1.1 Operators shall document how they will develop and maintain the integrity of their operation in accordance with this Standard.
- 6.1.2 Operators must allow an appointed inspector access to all production and/or processing areas. This includes, but is not limited to storage of inputs and materials used for products produced in accordance with this Standard. For example paddocks, yards, sheds, equipment, storage and any other premises used for the production, processing, storage, transport and handling of produce.
- 6.1.3 Operators must provide accurate and up to date records of the enterprise concerned including but not limited to those records pertaining to all production, processing, handling, transport, storage and sales. These records will include inputs, description of quantities and sources, and management actions including treatments, fertilisation, spraying and other significant events; and outputs including description, quantities and consignees; and crop quality and environmental management outcomes.
- 6.1.4 Operators will provide the approved certifying organisation with estimates/projections of production and/or processing quantities.
- 6.1.5 Operators will be subject to at least one annual inspection to determine their compliance to this Standard. Other random and/or unannounced inspections may occur.
- 6.1.6 During an inspection, the operator will be inspected for compliance to this Standard.
- 6.1.7 Operators will sign the inspection report, and in doing so agree to continue to operate in accordance with this Standard.

6.2 CERTIFICATION

Standards

- 6.2.1 Any person who produces or prepares or markets, organic or bio-dynamic or in-conversion products must be certified for the activity through an approved certifying organisation.

- 6.2.2 An operator must apply to an approved certifying organisation for certification.
- 6.2.3 On being accepted as certified in-conversion, organic or bio-dynamic, an operator will sign a contract or agreement with the approved certifying organisation that contains a commitment of compliance to this Standard.
- 6.2.4 An operator who elects to transfer to another approved certifying organisation will be subject to an initial inspection by the second approved certifying organisation before being certified by that organisation.
- 6.2.5 An operator leaving, or decertified by, one approved certifying organisation has to include in the application to another approved certifying organisation details of any sanctions imposed by the former certifier.
- 6.2.6 Soil, water and/or product sampling and analytical testing will be conducted as part of the certification process.
- 6.2.7 An operator will retain all records that relate to the certified operation for a period of at least five (5) years.

6.3 SANCTIONS

General Principles

- i. Sanctions are imposed on certified operators for any breach of this Standard. Depending on the severity of the breach, the sanctions may range from a direct instruction to correct a minor discrepancy; additional inspections; suspension of operations; or de-certification of the certified operation where the infringement is significant.*

Standards

- 6.3.1 An inspection report may result in a condition or conditions being imposed on the operator with timelines for compliance.
- 6.3.2 Failure of the certified operator to comply with any condition may result in additional inspections as determined by the approved certifying organisation.
- 6.3.3 Suspension must be applied at any time to the certified operator by the approved certifying organisation where there is reason to believe that the organic or bio-dynamic integrity of the product has been compromised.
- 6.3.4 The right to use labelling indications covered by this Standard is withdrawn during the suspension period and the certified operator may be required to recall product from the market place.
- 6.3.5 Where the right to label product as in-conversion, organic *or* bio-dynamic is withdrawn, any packaging that describes produce as being produced in accordance with this Standard, must be destroyed, or

de-faced to ensure that the packaging is not used for products not complying with this Standard.

6.4 DE-CERTIFICATION

Standards

- 6.4.1 Where an operator is de-certified by an approved certifying organisation for an infringement against this Standard, the operator will not be eligible for re-certification until all requirements of this Standard are met.
- 6.4.2 Where operators voluntarily withdraw from this certification system they shall ensure all pre-printed packaging materials, which indicate the product was produced in accordance with this Standard, will no longer be used.
- 6.4.3 When an operator is de-certified by the approved certifying organisation, all marks, logos and descriptive terms will be either removed, defaced or stencilled over on all products/packaging materials. This excludes all products produced prior to the de-certification date.

6.5 APPEAL

General Principles

- i. An appeals process provides everyone with an independent arbitration in situations where the certified operator believes an issued instruction / condition is contrary to this Standard.*

Standard

- 6.5.1 An operator who has a legitimate concern regarding a condition imposed by the approved certifying organisation, shall in the first instance apply in writing to that approved certifying organisation for a "reconsideration of decision".
- 6.5.2 If the initial appeal is not satisfactorily resolved, the operator has recourse through normal legal processes.

7 LABELLING and ADVERTISING

General Principles

- i. *Products produced in accordance with this Standard are clearly and accurately labelled to ensure consumers are well informed when purchasing products.*

Standards

1. The labelling and advertising of a product specified in Section 1 of this Standard may refer to organic or bio-dynamic production methods only where:
 - a. such labelling and/or advertising shows clearly that it relates to a method of production that satisfies the requirements of this standard; and
 - b. the products have been produced or prepared by an operator whose undertakings are subject to an inspection and certification system as detailed in Section 6.
2. Product labels must be authorised by the approved certifying organization, and must include the following on the label:
 - a. the name and address, or number of the certified operator, and
 - b. the approved certifying organisations name, address, and /or logo / trademark; and
 - c. other labelling requirements as required by Commonwealth, State / Territory law.
3. In addition to points 1 and 2 above, the following conditions apply:
 - a. The same ingredient may not be derived from an organic/bio-dynamic source, and a source not complying with this Standard.
 - b. Organically or Bio-Dynamically derived ingredients must be used if available. Any ingredients not satisfying the production/processing or handling requirements of this Standard must be clearly indicated as such in the ingredients list.
 - c. The wording of the ingredients that comply with this Standard must appear in the same colour and with an identical style and size of lettering as the other ingredients listed in the ingredients list.
 - d. The ingredients and their relative levels appear in descending order (m/m) in the list of ingredients.
 - e. Only those substances listed in the Appendix III can be used as food additives or processing aids.
 - f. The final product, or any of its ingredients, must not have been subject to treatments involving the use of ionising radiation (excluding X-rays used for detection of foreign matter), or products subject to genetic manipulation, or nanotechnology.

7.1 Calculating the percentage of Organic or Bio-Dynamic Ingredient in the Final Product

- 7.1.1 To calculate the percentage of product that may be labelled or represented as organic or bio-dynamic in a composite product, the following calculations should be used.
- a. By weight:
Dividing the total net weight (excluding water and salt) of the organic/bio-dynamic ingredients by the total weight (excluding water and salt) of the finished product.
 - b. If the product and ingredients are liquid:
Dividing the fluid volume of all organic/bio-dynamic ingredients (excluding salt and water) by the fluid volume of the finished product (excluding salt and water).
 - c. For products containing ingredients in both solid and liquid form:
Dividing the combined weight of the solid organic/bio-dynamic ingredients and the weight of the liquid organic/bio-dynamic ingredients (excluding salt and water) by the total weight (excluding salt and water) of the finished product.
 - d. Special conditions apply where 70% or more water has been added to a product (see 7.7 below).

NOTE: If any ingredient is a concentrate, or reconstituted from concentrates, the calculation should be made on the basis of single-strength concentrations of the ingredients and finished product.

7.2 Produce Labelled 100% Organic or Bio-Dynamic

- 7.2.1 Products sold, labelled, or represented as 100% Organic or Bio-Dynamic must contain, by weight or by fluid volume, 100% raw or processed agricultural product that fulfils the production and handling/processing requirements of this Standard.

7.3 Produce Labelled as Organic or Bio-Dynamic

- 7.3.1 A product may be sold, labelled or represented as organic or bio-dynamic provided the conditions indicated in 7 and the following are met:
- a. At least 95% of the ingredients are from organic or bio-dynamic production, and
 - b. The remaining ingredients are:
 - i. of agricultural origin, and cannot be sourced in sufficient quantities in accordance with the requirements of this Standard, and/or
 - ii. substances listed in the Appendix III

7.4 Produce Labelled as Made with Organic or Bio-Dynamic Ingredients

- 7.4.1 A product may be labelled with the statement made with organic or bio-dynamic (specified ingredient/s) provided the conditions indicated in 7.0 and the following are met:
- a. The specified ingredients are from organic or bio-dynamic production, and
 - b. At least 70% of the ingredients are from organic or bio-dynamic production, and
 - c. The remaining ingredients are:
 - i of agricultural origin, and cannot be sourced in sufficient quantities in accordance with the requirements of this Standard, and/or
 - ii substances listed in the Appendix III

7.5 Produce Containing less than 70% Organic or Bio-Dynamic Ingredients

- 7.5.1 Reference to organic or bio-dynamic production methods can only be included in the ingredient list, in conjunction with the name of the ingredient(s) that satisfy this Standard; and
- a. the ingredients and their relative levels appear in descending order (m/m) in the list of ingredients; and
 - b. the wording of the ingredients that comply with this Standard must appear in the same colour and with an identical style and size of lettering as the other ingredients listed in the ingredients list; and
 - c. the certifying organisations logo or trademark or other identifying marks may only be used in reference to those ingredients which satisfy this Standard.

7.6 Produce labelled as in-conversion

- 7.6.1 The conditions indicated above apply for any products that are to be sold, labelled or represented as in-conversion, with the exception that the ingredients used are sourced from farms in-conversion to organic or bio-dynamic production.
- 7.6.2 The indications referring to in-conversion product must not mislead the purchaser that the product is other than in-conversion product. Therefore any in-conversion indications must be adjacent to and in the same colour, shade and size as the word organic or bio-dynamic.

7.7 Labelling where water is in excess of 70% by volume of a product

- 7.7.1 For other than reconstituted products, where water is added in concentrations greater than 70% of the product volume the organic ingredient percentage shall be listed per total product volume.

8 IMPORTED PRODUCTS

General Principles

- i. Imported organic and bio-dynamic products are to be produced prepared and labelled in ways that are equivalent to this Standard.*

Standards

8.1 Organic or bio-dynamic produce which is imported into Australia can be labelled as meeting this Standard provided the produce satisfies the following requirements:

- a. a competent authority and/or government approved certification organisation has issued export documentation; stating the consignment has been produced under a system that is equivalent to this Standard; or
- b. the certification organisation is recognised by the importing country competent authority; and
- c. was subject to a regular system of inspection by a competent authority approved certification organisation; and
- d. does not contain any substances not permitted by this Standard.

8.2 Imported organic or bio-dynamic produce can be labelled as meeting this Standard provided that the operator (importer) is certified and the imported products comply with 8.1.

8.3 An original export certificate issued by a competent authority or government approved certification body is required for each consignment.

8.4 The export certificate referred to in 8.3 must accompany the organic or bio-dynamic consignment into Australia.

8.5 Imported organic or bio-dynamic produce not recognised as being equivalent to this Standard will not be labelled, or exported, or combined with any produce, which suggests it is organic or bio-dynamic and of Australian origin.

8.6 Following any pre or post entry quarantine chemical or ionising radiation treatments an operator must not label imported organic or bio-dynamic produce as meeting this Standard. In these situations all organic or bio-dynamic trade descriptions must be either de-faced or stencilled-over or destroyed.

9 RETAIL, WHOLESALE, EXPORT

General Principles

- i. Wholesalers and retailers should source Australian certified organic or bio-dynamic produce to ensure a consumer has confidence that the purchased product complies with this nationally recognised Standard.*
- ii. To maintain consumer confidence, Australian retailers and wholesalers should be certified in accordance with this Standard.*
- iii. Wholesalers, retailers, and exporters of certified products ensure the ongoing integrity of products through segregation, protection from contamination, truth in labelling, and documentation.*

Standards

- 9.1** The operator will ensure that all in-conversion, organic and/or bio-dynamic produce is:
 - a. clearly labelled in accordance with the requirements of this Standard; and
 - b. sourced and transported in such a manner so as to maintain the in-conversion, or organic, or bio-dynamic integrity.
- 9.2** An operator who re-packs and/or labels in-conversion, organic or bio-dynamic produce must be certified in accordance with this Standard.
- 9.3** Where conventional and in-conversion, organic or bio-dynamic produce is contained or displayed within the same area/building, products must be separately stored or displayed and clearly labelled.
- 9.4** An operator will not display any advertising material or products that are misleading or confusing to consumers.
- 9.5** For the cleaning and sanitising of equipment and areas used within the retail, wholesale or export operation, the operator will only use those inputs listed in the Appendix II Annex A.
- 9.6** Only products produced in accordance with this Standard are eligible for an organic produce (export) certificate, which can be issued by an approved certifying organisation or competent authority.

**APPENDIX I
ANNEX A**

FARMING INPUTS - Introduction and requirements for use

General principles

- i. Where inputs are required they should be used with care and with the knowledge that even permitted inputs can be subject to misuse and may alter the soil and/or water ecosystems or farming environment.*
- ii. Use of any product has the potential to introduce unwanted residues and contaminants.*

Standards

1. A developed organic or bio-dynamic farm must operate within a closed input system to the maximum extent possible.
2. External farming inputs must be kept to a minimum and applied only on an "as needs" basis.
3. Inputs must not be used as a permanent measure to support a poorly designed or badly managed system. Non-essential use of inputs is counter to organic and bio-dynamic farming principles. The approved certifying organisation must give approval for their on-going use.
4. The following lists are subject to review, and inclusion of a material does not imply that it is safe in all circumstances. Any additions or changes to the lists will be made where it can be demonstrated that they satisfy the requirements of this Standard.
5. Liquid preparations, including products of the sea must be used with care as some preparations can be easily applied in concentrated forms and in high quantities.
6. The use of trace elements must be on the basis of a demonstrated deficiency.
7. Use of any input must be based on an assessment of need and with knowledge of the origin and/or analyses of the material for contaminants.
8. The use of any materials/inputs will be recorded in the farm diary or logbook and repeated use must be justifiable.
9. Federal, State/Territory and Local laws must be adhered to at all times for products listed in the Annexes.

ANNEX B

Permitted materials for soil fertilising and conditioning

Substances	Specific conditions/restrictions
Animal manures	Application must be composted or followed by at least two green manure crops in cropping system.
Blood and bone, fish-meal, hoof and horn meal, or other waste products from livestock processing	Following application, uptake of such products by livestock does not form part of the animals diet.
Compost	Should be produced in accordance with Australian Standard 4454-1999 or recognised equivalent system.
Minerals and trace elements from natural sources, including: <ul style="list-style-type: none"> - calcium (dolomite, gypsum, lime); - clay (bentonite, Kaolin, Attapulgitite); - magnesium; - phosphate (rock phosphate, phosphatic guano); - potash (rock & sulphate potash); - elemental sulphur. 	Must not be chemically treated to promote water solubility
Epson salt (magnesium sulphate)	None
Microbiological, biological and botanical preparations	Products derived from genetic modification technology are prohibited
Mined carbon-based products	Peat to be used for plant propagation only
Naturally occurring biological organisms (e.g. worms) and their by-products	None
Plant by-products	From chemically untreated sources only
Perlite	For potting/seedling mixes only
Sawdust, bark and wood waste	From chemically untreated sources only
Seaweed or algae preparations	None
Straw	From chemically untreated sources only
Trace elements & natural chelates, e.g. ligno sulphonates & those using the natural chelating agents e.g. citric, maleic & other di-/tri-acids	Not synthetically chelated elements
Vermiculite	For use in potting/seedling mixes only
Wood ash	From chemically untreated sources only
Zeolites	None

ANNEX C

Permitted Materials for Plant Pest and Disease Control

Where wetting agents are required, caution needs to be exercised with commercial formulations as these may contain substances prohibited under this Standard. Acceptable wetting agents include some seaweed products, plant products (including oils) and natural soaps.

Plant pest control

Substances	Specific conditions/restrictions
Ayurvedic preparations	None
Baits for fruit fly	Substances as required by regulation. Baits must be fully enclosed within traps.
Boric acid	None
Biological controls	Naturally occurring cultured organisms e.g. <i>Bacillus thuringiensis</i> .
Diatomaceous earth and naturally occurring chitin products	None
Essential oils, plant oils and extracts	None
Homeopathic preparations	None
Hydrogen Peroxide	None
Iron (III) phosphate	None
Light mineral oils, such as paraffin	None
Lime	None
Natural acids (e.g. vinegar)	None
Natural plant extracts excluding tobacco/	Obtained by infusion and made by the farmer without additional concentration
Pheromones	None
Potassium permanganate	None
Pyrethrum	Extracted from <i>Chrysanthemum cinerariaefolium</i>
Quassia	Extracted from <i>Quassia armara</i>
Rotenone	Extracted from <i>Derris elliptica</i>
Ryania	Extracted from <i>Ryania speciosa</i>
Seaweed, seaweed meal, seaweed extracts	None
Sea salts and salty water	None
Sodium bicarbonate	None
Sterilised insect males	Need recognised by certification organisation where other controls are not available.
Stone meal	None
Vegetable oils	None

Plant disease control

Substances	Specific conditions/restrictions
Ayurvedic preparations	None
Biological controls	Naturally occurring cultured organisms only
Copper e.g. Bordeaux and Burgundy mixture	Hydroxide is the preferred form, Bordeaux only on dormant tissue. Annual copper application must be less than 8Kg/Ha.
Essential oils, plant oils and extracts	None
Granulose virus preparations	Need recognised by certification organisation.
Homeopathic preparations	None
Light mineral oils (such as paraffin)	None
Lime	None
Lime-sulphur	None
Natural plant extracts excluding tobacco	Obtained by infusion and/or made by the farmer without additional concentration
Potassium permanganate	None
Potassium soap (soft soap)	None
Propolis	None
Seaweed, seaweed meal, seaweed extracts	None
Sea salts and salty water	None
Skim milk or skim milk powder	None
Sodium bicarbonate	None
Sodium silicate (water-glass)	None
Sulphur	In wettable or dry form only
Vegetable oils	None
Vinegar	None

ANNEX D

Permitted materials for livestock pest and disease control

Where wetting agents are required, caution needs to be exercised with commercial formulations as these may contain substances prohibited under this Standard. Acceptable wetting agents include some seaweed products, plant products (including oils) and natural soaps.

Livestock pest control

Substances	Specific conditions/restrictions
Ayurvedic preparations	None
Biological controls	Naturally occurring organisms and cultured organisms
Boric Acid	None
Clay	None
Diatomaceous earth	None
Essential oils, plant oils and extracts	None
Garlic oil, garlic extract or crushed garlic	None
Homeopathic preparations	None
Hydrogen Peroxide	None
Natural plant extracts obtained by infusion	Excluding tobacco
Magnesium Sulphate (Epsom salts)	None
Methylated spirits	None
Monosodium fluorosilicate	None
Potassium permanganate	None
Pyrethrum	Extracted from <i>Chrysanthemum cinerariaefolium</i>
Quassia	Extracted from <i>Quassia armara</i>
Rotenone	Extracted from <i>Derris elliptica</i>
Sea salts and salty water	None
Seaweed, seaweed meal, seaweed extracts	None
Sodium Bicarbonate	None
Sulphur	None
Vinegar (e.g. cider)	None

Livestock disease control

Substances	Specific conditions/restrictions
Ayurvedic preparations	None
Calcium salts	None
Charcoal	None
Clay	None
Copper sulphate	None
Diatomaceous earth and naturally occurring chitin products	None
Essential oils, plant oils and extracts	None
Homeopathic preparations	None
Hydrogen Peroxide	None
Natural plant extracts obtained by infusion	Excluding tobacco
Magnesium Sulphate (Epsom Salts)	None
Methylated spirits	None
Potassium permanganate	None
Sea salts and salty water	None
Seaweed, seaweed meal, seaweed extracts	None
Sodium Bicarbonate	None
Trace elements	To correct identified deficiencies only
Vaccines	May be used only for a specific disease, which is known to exist on the organic farm or neighbouring farms and which threatens livestock health and which cannot be effectively controlled by other management practices. Vaccines must not contain genetically modified ingredients or by-products.
Vitamins	Naturally sources only
Vinegar (e.g. cider)	None
Zinc sulphate	None

SUBSTANCES PERMITTED FOR SANITATION, STORAGE AND HANDLINGStandards

1. Operators will select cleaners, sanitisers, and disinfectants based on avoidance of residual contamination, rapid biodegradability, low toxicity, worker safety, and a life-cycle impact of their manufacture, use, and disposal.
2. Endocrine disrupting, ozone depleting, and trihalomethane-forming compounds used in sanitation chemicals are prohibited.
3. Substances Permitted as Sanitation treatments include:
 - Alkali carbonates
 - Bleach (not to exceed 10% solution)
 - Biodegradable detergents (e.g. low in phosphate and rapidly degradable)
 - Caustic potash and caustic soda
 - Ethyl alcohol
 - Hydrogen peroxide
 - Iodine (non-elemental, not to exceed 5% solution e.g. iodophors)
 - Lime
 - Lye
 - Natural acids (e.g. vinegar, lactic, phosphoric)
 - Potassium permanganate (not to exceed 1% solution)
 - Soaps
 - Sodium bicarbonate
 - Sodium borate
 - Isopropyl alcohol
4. The use of any of the above substances will be followed by a thorough rinse of the area/equipment using potable water.
5. Cleaning and sanitising chemicals will be used and stored in such a manner so as to avoid cross-contamination to organic and bio-dynamic produce.

ANNEX B

Substances permitted as post harvest/storage treatment

Treatments	Substances/conditions
Controlled atmosphere	<ul style="list-style-type: none"> - carbon dioxide - oxygen - nitrogen - argon - ozone
Ethylene gas	<ul style="list-style-type: none"> - ripening of bananas
Pest control	<ul style="list-style-type: none"> - physical barriers - temperature control (hot or cold) - diatomaceous earth - rodenticides (only in semi – enclosed containers)¹ - sticky boards - biological controls (need recognised by approved certifying organisation) - electric barriers or grids - sound - light - air curtains
Waxing of citrus fruit	<ul style="list-style-type: none"> - only where the importing country requires such an operation.

¹ Must be located outside the processing area and only used where other methods have proved ineffective. Containers must be positioned so that there is no potential for contamination with products complying with this Standard. Containers must be inspected regularly and dead rodents removed. The operator must maintain records on volume and use of rodenticides.

PROCESSING INPUTS

Definitions and requirements for use

1. Food additives (Annex B) including carriers are substances added to a product that affects its inherent quality.
2. Processing aids (Annex C) are substances intentionally used in the processing of materials and fulfil an essential technological purpose.
3. Use of processing aids is permitted where their presence in a final product is not in their original form.
4. Micro-organisms and enzymes used as aids in food processing are permitted provided they are not genetically engineered/modified organisms.
5. Natural flavourings can be added to food.
6. The use of any of the following substances must be restricted to the requirements outlined in this Standard.

ANNEX B

Substances permitted as food additives, including carriers for all products

Substances	Specific conditions/restrictions
Potable water	Potable water must be used where the water comes into contact with a food product and be of an acceptable health standard.
Salts	Sodium chloride or potassium chloride as the basic component.
Minerals including trace elements and vitamins	Only approved in so far as their use is legally required in the food products in which they are incorporated. Such products are derived from a natural source, i.e. synthetic "nature identical" substances are not allowed
Flavourings	Substances and products labelled as natural flavouring substances or natural flavouring preparations as defined in the Food Standards Australian New Zealand publication.

ANNEX B

Food additives for plant products

INS	Substance	Conditions/restrictions
170	Calcium carbonate	None
220	Sulphur dioxide	wine only
224	Potassium metabisulphite	wine only
270	Lactic acid	Fermented vegetable products
290	Carbon dioxide	None
296	Malic acid	None
300	Ascorbic acid	If not available in natural form
306	Tocopherols	Antioxidant only
322	Lecithin	Obtained without bleaching or organic solvents
330	Citric acid	Fruit and Vegetable products
335	Sodium tartrate	Cakes/confectionary
336	Potassium tartrate	Cereals/cakes/confectionary
341	Monocalcium phosphate	Raising flour only
400	Alginate acid	None
401	Sodium alginate	None
402	Potassium alginate	None
406	Agar	None
410	Locust bean gum	None
412	Guar gum	None
413	Tragacanth gum	None
414	Arabic gum	Milk, fat and confectionary products
415	Xanthum gum	Fat products, fruit and vegetables, cakes and biscuits, salads.
416	Kataga gum	None
440	Pectins	None
500	Sodium carbonate	Cakes and biscuits/confectionary
501	Potassium carbonates	Cereals/cakes and biscuits/confectionary
503	Ammonium carbonate	None
504	Magnesium carbonate	None
508	Potassium chloride	Frozen fruit, vegetables/canned fruit and vegetables, vegetable sauces/ketchup and mustard
509	Calcium chloride	Milk products/fat products/fruit and vegetables/soy bean products
511	Magnesium chloride	Soy bean products
516	Calcium sulphate	Cakes and biscuits/soy bean products/bakers yeast. Carrier

Food additives for plant products (cont...)

524	Sodium hydroxide	Cereal products
938	Argon	None
941	Nitrogen	None
948	Oxygen	None

ANNEX B

Food additives for livestock products

INS	Substance	Conditions/restrictions
153	Wood ash	Traditional cheeses
170	Calcium carbonates	Milk products. Not as a colouring agent
270	Lactic acid	Sausage casings
290	Carbon dioxide	None
300	Ascorbic acid	none
322	Lecithin	Obtained without bleaching or organic solvents. Milk products/milk based infant food/fat products/mayonnaise
331	Sodium citrate	Sausages/pasteurisation of egg whites/milk products
332	Potassium citrate	None
333	Calcium citrate	Acidity regulatory, firming agent, sequestrant
334	Tartaric acid	None
342	Ammonium phosphate	Yeast improver
406	Agar	None
407	Carrageenan	Milk products
410	Locust bean gum	Milk products/meat products
412	Guar gum	Milk products/canned meat/egg products
413	Traganth gum	None
414	Arabic gum	Milk products/fat/confectionary
440	Pectin (unmodified)	Milk products
509	Calcium chloride	Milk products/meat products
517	Ammonium sulphate	Flour treatment stabiliser
938	Argon	None
941	Nitrogen	None
948	Oxygen	None

ANNEX C

Permitted processing aids for plant products

Substances	Specific conditions/restrictions
Activated carbon	None
Bees wax	Releasing agent
Bentonite	None
Calcium carbonate	None
Calcium chloride	Coagulation agent
Calcium hydroxide	None
Calcium sulphate	Coagulation agent
Carbon dioxide	None
Carnauba wax	Releasing agent
Casein	None
Citric acid	pH adjustment
Diatomaceous earth	None
Egg white albumin	None
Ethanol	Solvent
Food grade phosphoric acid	For initial sugar cane processing
Gelatine	None
Hazelnut shells	None
Isinglass	None
Kaolin	None
Magnesium chloride (or Nigari)	Coagulation agent
Nitrogen	None
Oak chips	From untreated sources wine
Perlite	None
Potable water	None
Potassium carbonate	Drying agent for raisins, use must be indicated on the labelling
Potassium hydroxide	pH adjustment for sugar processing, traditional saponification
Silicon dioxide	as gel or colloidal solution
Sodium carbonate	Sugar production
Sodium hydroxide	pH adjustment in sugar production, traditional saponification
Sulphuric acid	pH adjustment of extraction water in sugar production
Talc	None
Tannic acid	Filtration aid
Tartaric acid/salt	Stabiliser, sequestrant
Vegetable oils	Greasing or releasing agent

ANNEX C

Permitted processing aids for livestock products

Substances	Specific conditions/restrictions
Calcium carbonates	None
Calcium chloride	Firming, coagulation agent in cheese making
Kaolin	Extraction of propolis
Lactic acid	Milk products: coagulation agent, pH regulation of salt bath for cheese
Sodium carbonate	Milk products: neutralising substance

**APPENDIX IV
ANNEX A**

CRITERIA TO EVALUATE INPUT SUBSTANCES FOR INCLUSION IN THIS STANDARD.

Evaluation criteria

- i. *The lists of substances in the Annexes include products of established use in organic and biodynamic agriculture.*

Standards

For any products to be included in this Standard the following must be provided to allow product assessment.

1. Inputs must satisfy the principles of organic production as outlined in this Standard.
2. The input is considered necessary/essential when evaluated in the context in which the product will be used.
 - a. This decision will be based on arguments/evidence to prove the necessity of an input and will be based on environmental safety, ecological protection, landscape and, human and animal welfare; and
 - b. Such an evaluation will consider the product in the context of available alternatives already in use in organic production, including management and husbandry practices; and
 - c. The use of an input may be restricted to specific conditions, specific regions or specific commodities.
3. Substances should be of plant, animal, microbial or mineral origin and may undergo the following processes, including but not limited to:
 - a. Mechanical/physical, such as extraction, precipitation, thermal, and/or
 - b. Biological/Enzymatic/Microbial, such as fermentation, composting, digestion and such substances as are found in nature.
4. Ecological criteria are to be considered when assessing allowance of chemically synthesised nature-identical inputs. For example, nature identical products such as pheromones that are chemically produced may be considered only where the products are not available in sufficient quantities in their natural form. Collection and treatment must not affect the stability of the natural environment or affect the maintenance of species within the collection area.
5. Inputs shall not contain synthetic chemicals (xenobiotic products) and chemical products are only acceptable if nature identical.
6. Their use does not result in, or contribute to unacceptable effects on or contamination of, the environment.

- a. Inputs showing acute toxicity to non-target organisms;
 - i. should have a maximum half life of 5 days; and
 - ii. require restrictions for their use, in an attempt to ensure survival of non-target organisms. Where it is not possible for such restrictions to ensure survival of non-target organisms, the use of the input must not be allowed.
 - b. Inputs showing chronic toxicity to non-target organisms and/or which:
 - i. accumulate in the environment are prohibited.
 - ii. are suspected of having mutagenic or carcinogenic properties are prohibited.
 - c. Inputs should contain none or only low levels of heavy metals. Due to the lack of any satisfactory alternative, and due to long-standing, traditional use in organic agriculture, copper and copper salts are an exception for the time being. The use of copper in any form in organic agriculture is seen as a temporary measure and therefore its use is limited to a maximum of 8kg/ha/annum with a staged reduction strategy in place.
7. Their use has no unacceptable effect on the quality and safety of the final product; and
- a. inputs use shall have no negative effects on the quality of the product in terms of taste, keeping quality, visual quality; and
 - b. the application of inputs should be timed so that there is no residue of the input by the time of product sales.

ANNEX B**CRITERIA TO EVALUATE ADDITIVES AND PROCESSING AIDS FOR INCLUSION IN THIS STANDARD.**Standards

1. When assessing any substance for inclusion in the Standard, the following conditions will apply:
 - their use satisfies the principles of organic processing as outlined in this Standard; and
 - the input is considered necessary/essential when evaluated in the context in which the product will be used.

2. Necessity

Additives and processing aids can only be allowed in organic and bio-dynamic food products if each additive or processing aid is essential to the production; and

- the authenticity of the product is respected; and
- the product cannot be produced or preserved without them.

3. Criteria for the Approval of Additives and Processing Aids

- a. There are no other acceptable technologies available to process or preserve the product.
- b. The use of additives or processing aids minimise physical or mechanical damage to the foodstuff that might result from the use of other technologies.
- c. The safety of the product cannot be guaranteed as effectively by other methods such as a reduction in distribution time or improvement of storage facilities.
- d. There are no natural food sources available of acceptable quality and quantity which can replace the use of additives or processing aids.
- e. Additives or processing aids do not compromise the authenticity of the product.
- f. The additives or processing aids do not confuse the customer by giving 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. Additives and processing aids should not detract from the overall quality of the product.

4. Step-by-Step procedure for the use of Additives and Processing Aids

- a. Instead of using additives or processing aids, the preferred choice is:
 - Foods grown under organic conditions which are used as a whole product or are processed in accordance with relevant Standards or legislation e.g. flour used as a thickening agent or vegetable oil as a releasing agent.

- Foods or raw materials of plant and animal origin that are produced only by mechanical or simple physical procedures - e.g. salt.

b. The second choice is:

- Isolated food substance produced physically or by enzymes - e.g. starch, tartrates, pectin.
- Purified products of raw materials of non-agricultural origin and microorganisms e.g. acerola fruit extract, enzymes and microorganism preparations such as starter cultures.

5. In organic or bio-dynamic food products the following categories of additives and processing aids are prohibited:

- a. "Nature identical" synthetic substances.
- b. Synthetic substances primarily considered as being unnatural or as a "new construction" of food compounds such as acetylated cross-linked starches.
- c. Additives or processing aids produced using genetic engineering techniques.
- d. Synthetic colouring and synthetic preservatives.

6. Evaluation

Products for use as either additives or processing aids must take into account the expectations of consumers that processed products from organic production systems should be composed essentially of ingredients as they occur in nature.

APPENDIX V

APPLICATION TO ALTER THE NATIONAL STANDARD FOR ORGANIC AND BIO-DYNAMIC PRODUCE

Please address your application to:

Attention: Julie Crockett
National Standard Sub Committee
c/o Australian Quarantine and Inspection Service
GPO Box 858
CANBERRA ACT 2601
or fax: +61 2 6272 3238, email: organic@aqis.gov.au

Applicant Details

DATE:

NAME:

ADDRESS:

TELEPHONE:

FACSIMILE:

E: MAIL:

REQUEST TO (please tick):

ALTER EXISTING POINT(S)

INCLUDE NEW POINT(S)

INCLUDE / REMOVE SUBSTANCES LISTED IN ANNEXES

- 1) Indicate section and point to be amended.
- 2) Indicate section/area to receive new point.
- 3) Please provide the wording request for inclusion/amendment.
- 4) Provide the reason for amendment.
- 5) Requests to include a substance(s) in the Appendices or their Annexes, will need to be supported by material demonstrating that the substance(s) meets the criteria as outlined in Appendix IV.
A matrix, as provided by the NSSC, must be attached in support of such a request to "include new substances" in the Annexes.
- 6) Requests to remove a substance listed in the Annex, will need to be supported by material that demonstrates that the substance does not meet the criteria as outlined in Appendix IV.

IMPORTANT INFORMATION

6. Applicant is notified of final decision.