

## Preamble

The Urban Growers pages will provide guidance for new and existing urban producers who want to use the EcoMart Northern Rivers Co-op Ltd distribution system. The manual has the potential to become an expanding learning tool for beginning urban farmers.

Please note that this manual must be read in conjunction with the general producer manual. A printable copy can be found here. [ProducerManualDocument4Version1.01.pdf](#) (172Kb)

This guide has been adopted in part from the NAASA Organic Standard Manual which can be downloaded here [http://nasaa.com.au/dta/pdfs/AAAA\\_NASAA\\_Organic\\_Standard\\_13\\_May\\_2008.pdf](http://nasaa.com.au/dta/pdfs/AAAA_NASAA_Organic_Standard_13_May_2008.pdf) (770Kb)

## Introduction

The aim of EcoMart is to promote healthy non-polluting urban food production by means of increasing local food security. This is in response to the future challenges of climate change and the effects of peak oil. These two combined will test community resilience. EcoMart aims to promote community resilience by means of increasing the supply of food grown locally in an ecologically sustainable way rather than on fossil fuel reliant production from far away. It is not only about food security and more efficient urban land use but also about social cohesion fostered by an increased sense of inter-dependence.

## What is urban food production

EcoMart's definition of urban food production is:

- where the growing of fresh produce occurs on a urban or rural residential property and the production area is less than 1000 m<sup>2</sup> and is complementary to your regular income or,
- where the production of processed food occurs in an urban or rural residential dwelling and is complementary to your regular income.

## Urban Agricultural standards and practices

The use of chemical fertilisers and insecticides or the use of any toxin, inside your home or in your garden, should be strongly discouraged, from a personal and public health point of view. Therefore, EcoMart will only accept products from an urban source which only use organic production methods.

You will find a list of acceptable organic soil fertility and crop protection resources in Appendix II and III. Reliance on reticulated water for growing crops should be discouraged. On site water storage for agricultural use together with water saving strategies should be routinely used by urban producers. See Appendix IV for a variety of water saving methods.

Crops should only be produced from seed and plant varieties not covered by the Plant Variety Act. Ideally only use non-hybrid plant varieties. See Appendix V Seed and plants

Energy use in producing crops should be as efficient as possible. See Appendix VI for energy reduction strategies.

Methods for recycling materials and on-site composting of agricultural and domestic organic waste would be part of your day-to-day practices. Appendix VI shows a number of recycling and composting methods.

## Prepared foods standards and practices

Much of what is mentioned under “Urban Agricultural standard and practices” applies to prepared foods as well.

In addition, preparation or production areas should adhere to relevant state and local government standards for commercial food preparation. If it is too difficult or costly to provide a licensed facility then you may be able to hire such a facility in your locality.

Regulatory requirements demand accurate labelling of your prepared products. Producer name and address, date of production and use by date together with a list of ingredients will be required.

## Preparation and packaging of produce prior to distribution

### FRESH FRUIT, VEGETABLES AND HERBS

The following post production practices are approved for all fresh fruit, vegetable and herb products:

- Short term storage in clean wooden bins, wicker/cane baskets or jute sacks that are new and dedicated or cleaned in accordance with this Standard
- Segregated long term cool storage in areas designated for organic produce only
- Washing in potable water
- Dry brushing
- Ozone treatment for approved anti-microbial wash solutions
- Artificial ethylene gas ripening

The following practices are prohibited in post production practices for fresh fruit, vegetable and herb production:

- Co-storage with conventional pomefruit especially apples
- Synthetically formulated fungicidal dips
- Fruit waxing

### DRIED FRUIT, VEGETABLES AND HERBS

The following post production practices are approved for all dried fruit, vegetable and herb products:

- Sun drying on dedicated racks not treated with termiticides or other insecticides
- Tunnel drying using mechanically produced heat which presents no contamination risk to the product (eg. residues from burning fuel)
- Calcium carbonate/vegetable and olive oil drying techniques
- Chemical free or other acceptable oil additions to prevent fruit compaction and solidification during packing (total oil to be less than 1% of final weight)

The following post production practices are prohibited for dried fruit, vegetables and herb products:

- Calcium stearate, anti-caking agents and colourings
- Sulphur dioxide preservative treatments

### PACKAGING

Processors of chemical free food should avoid unnecessary packaging materials.

Organic food should be packaged in reusable, recycled, recyclable, and biodegradable packaging whenever possible.

- Packaging materials must not be capable of transmitting contaminants to the food, nor must the adhesives or inks used on them.
- Chemical free produce shall not be packaged in reused bags or containers that have been in contact with any substance likely to compromise the organic integrity of product or ingredient placed in those containers.
- All final packaging materials used must be of food grade, clean, new or as new, and of suitable design to protect the organic integrity of the product during transport and display.

### RECOMMENDED

- Returnable outers and bulk containers
- A deposit scheme for cans and bottles
- Recycled outer packaging indicated as such

- Single layer, single substance recyclable packaging
- Bulk packaging at retail outlets for self selection
- Unbleached paper and cardboard

#### PERMITTED

- Glass
- Paper and cardboard
- Polyethylene and polypropylene films
- Plastic containers
- Modified atmosphere packaging films
- Plastic & hessian nets and sacks

#### RESTRICTED

- Wax coatings
- Wood

#### PROHIBITED

- Expanded polystyrene using Chloro-Fluoro Carbons (CFCs)
- PVC (Poly Vinyl Chloride)
- Lead
- Packaging materials, and storage containers, or bins that contain a synthetic fungicide, preservative, or fumigant.

Any reuse of outer containers or external packaging must follow a cleaning and quality assurance program which renders such packaging as new.

Vacuum packing of product and the use of food grade nitrogen and ozone are permissible.

#### HANDLING AND PACKING

Integrity of chemical free foods should be achieved through the handling and processing of chemical free foods separately from non chemical free foods in dedicated facilities.

#### STANDARDS

Handlers and processors shall not mix organic products with non-organic products.

Handlers and processors must handle and process organic foods either separately in time or space from non organic products.

All organic products shall be clearly identified as such, and stored and transported in a way that prevents contact with conventional product through the entire process.

The handler and processor shall take all necessary measures to prevent organic products from being contaminated by pollutants and contaminants, including the cleaning, decontamination, and if necessary disinfection of facilities and equipment.

Handling and packing must be carried out in ways that avoid contamination of chemical free food with

- Cleansers and sanitisers
- Residues from previous products
- Facility pesticide applications
- Prohibited processing aids or additives
- Packaging products or products used to modify the packaging environment

### **Preparation and packaging of prepared foods prior to distribution**

#### JAMS, CHUTNEYS, SAUCES & PICKLES

The following post production practices are approved for the production of jams, chutneys, sauces and pickles:

- Physical preparations (boiling, straining, evaporation to thicken etc)
- Natural pectins, gelatine, corn flour and approved vegetable gums for thickening provided they do not contain or are derived from GMOs

- The addition of sugar or vinegar

The following post production practices are prohibited for the production of jams, chutneys, sauces and pickles:

- Sulphur based preservatives
- Copper, Teflon-coated and aluminium cooking utensils

## Transportation

You may not have to deliver your products to a distribution centre yourself. Urban producers are encouraged to organise car-pooling to transport their products for delivery to a distribution centre near you thus reducing transportation costs and greenhouse gas emissions. You would be asked to share the cost with other producers on your route.

## HANDLING

Any handling of urban food products is done in ways that maintain integrity and quality, and minimise risk of contamination and development of pests and disease. Unpackaged organic products are transported in ways which separate them in time or space from conventional products.

## RECOMMENDATIONS

It is preferable that transport vehicles and shipping containers are dedicated to chemical free usage. The choice of transport should be based on accessibility for cleaning prior to handling chemical free products.

Wooden containers, if used, should be dedicated to chemical free products only and clearly labelled as such, or lined as indicated below.

## STANDARDS

Every precaution must be taken to avoid the possibility of contaminating chemical free produce with conventional goods, non-agricultural materials or pollution, including cleaning or disinfection products. Mixing or switching of chemical free with non- chemical free products is prohibited.

Transportation systems must be able to be cleaned with ease to ensure product integrity during transit. Vehicles which carry toxic and poisonous materials are prohibited for transporting unpackaged and bulk chemical free food transports.

Responsibility for cleaning of transport lies with the operator.

Organic and non-organic products may not be transported together unless they are packaged and sealed.

Non-dedicated containers must be cleaned or lined and covered with an approved protective material (e.g. polyethylene sheeting).

All vehicles carrying bulk goods must be suitably covered with sheeting or tarpaulins to prevent any external contamination.

Vehicles and containers used must be excluded from non-permissible pest control activities (i.e., fumigation and preventative spraying), both before shipment and during transit.

Operators shall develop a protocol for the transportation of organic bulk goods and that transport shall be carried out according to the requirements of this Standard.

Documentation associated with the picking up, transport and delivery of products shall be completed at each point in the pick up chain and kept by the transport company or operator responsible.

Labelling of packages or containers in transit must include EcoMart determined producer and customer delivery codes.

## Appendix I: Preamble

On-going rural residential development has created areas of conflicts between pre-existing rural land use and the new residents living adjacent to where these activities are being carried out. Noise pollution, increased road traffic and spray drift of toxic chemicals are the most common complaints.

The use of conventional horticultural methods are therefore not suitable in an urban setting.

Urban farmers' first obligation is to maintain a safe chemical free environment for themselves, their family

and their neighbours. Maintaining a cordial and productive relationship with immediate neighbours is essential for urban agriculture to thrive.

For that reason benign and efficient use of resources in the production of healthy urban food is mandatory. Only food produced in this way may be distributed through the EcoMart Co-op.

The following appendices are a guide what can and cannot be practiced in an urban setting.

This guide has been adopted in part from the NAASA Organic Standard Manual Which can be downloaded here [http://nasaa.com.au/data/pdfs/AAAA\\_NASAA Organic Standard 13 May 2008.pdf](http://nasaa.com.au/data/pdfs/AAAA_NASAA_Organic_Standard_13_May_2008.pdf)

## Appendix II: Fertilisers

### GENERAL PRINCIPLES

Healthy soil is the primary prerequisite for healthy plants, animals and products. With organic farming, the care of living soil and consequently the maintenance or improvement of soil fertility, particularly nutrient cycling, is fundamental to all measures adopted. Urban farming returns plant or animal material to the soil to increase or at least maintain its fertility and biological activity.

Nutrients exported from a farm are balanced by inputs to ensure long-term sustainability. Failure to replace nutrient exports will deplete soil fertility. Conversely, the over-use of fertilisers and input products will lead to a build up of nutrients in the soil which may eventually lead to ecological and environmental harm. Consequently a balance of outputs and inputs is needed. Organic food producers need to be aware that nutrients can be moved around farms through rotations, animal management and use of manures and organic effluent, resulting in areas of depletion and areas of accumulation.

To maintain nutrient balance, emphasis is given to crop rotations including legumes and the use of composts and manures to balance nutrient exports, together with judicious and justified use of approved mineral supplements.

Mineral inputs to the farm are intended to maintain a balanced soil chemical fertility and not as fertilisers for crops.

### RECOMMENDATIONS

Biodegradable material of microbial, plant or animal origin produced from organic practices should form the basis of the fertility program.

Nutrient resources should be used in a sustainable and responsible manner.

Nutrient losses from the farm to the natural environment should be minimised.

Nutrients should be used in such a way and at appropriate times and places to optimise their effect.

Naturally occurring mineral fertilisers and brought in fertilisers of biological origin should be regarded as only one component of the nutrient system, and as a supplement to, and not a replacement for, nutrient recycling.

Mineral inputs are regarded as supplements and not as fertilisers.

Fertility should be maintained through practical methods of approved supplements, cycling and biological activity.

The use of approved inputs should optimise soil biological functions for plant nutrition.

In heavy feeding crops, the use of inputs should be applied with reference to proper understanding of soil nutrient levels and crop requirements.

Cultivation practices are designed to minimise negative impact on soil structure and biological activity.

Physical, chemical and biological factors affecting soil fertility need to be well understood by Urban farmers and can be complimented by detailed soil testing at intervals to permit a holistic management of soils and fertility.

Accumulation of heavy metals and other pollutants should be prevented.

### STANDARDS

Material of microbial, plant or animal origin shall form the basis of the fertility program.

Nutrients and fertility enhancing products shall be applied in a way that protects soil, water quality and biodiversity.

Fertilisers and soil conditioners shall be limited to those described in Annex 1 “Products for Use as Fertilisers and Conditioners”.

### HUMAN FAECES

Manures containing human faeces and urine shall not be used on land used for the production of food or animal feeds.

#### ANIMAL MANURES RECOMMENDATIONS

Animal manures from another farm should be effectively composted to reduce the introduction of diseases, antibiotics and other pollutants to the soil. All animal manure slurry or shed manures should be composted in preference to direct application.

#### STANDARDS

Raw animal liquid waste must be from chemical free organic production systems and may only be applied to green manure crops or pastures and never be directly applied to edible crops for human consumption.

Dissolving imported raw manure in water and spreading the liquid or using it in fertigation is not permitted unless such material is composted first.

Fowl manure must be composted before application regardless of origin.

Other animal manures, slurry or shed manures must be composted prior to application except where derived from the Urban Farmer's own chemical free property.

When animal manures are anaerobically composted they must employ a fully effective process.

#### FISH PRODUCTS

Sea fish fertilisers manufactured from waste products for direct use or composting can be valuable sources of nutrients.

#### STANDARDS

Fish fertilisers derived from sea fish caught primarily for the purpose of fertiliser manufacture are prohibited.

The use of inland pest fish species for fertiliser is acceptable subject to contamination testing.

Sulfuric acid or formaldehyde shall not be used as a stabiliser in fish products.

#### SEAWEED

##### STANDARDS

The use of seaweed, ground seaweed and pure liquid seaweed is permissible under the following circumstances:

- the collected material is free of contamination
- collection is carried out under permit from state or regional authorities

#### SPENT MUSHROOM COMPOST

Spent mushroom products that have been composted may be used subject to verification that no prohibited products are present.

##### STANDARD

Spent mushroom compost containing prohibited products is not permitted.

#### MULCHING

##### GENERAL PRINCIPLES

Mulch can protect soil and plants from desiccation, suppress weeds and assist in adding organic matter. It can also moderate soil temperature.

##### RECOMMENDATIONS

Mulch material should be provided from chemical free organic sources. However, if unable to source chemical free mulch material, the producer should ensure and verify through documentation or testing that mulch materials from non-chemical free sources are free of contaminants and not treated with ammonium, straw shorteners or other chemical substances.

Growers should be aware of the potential negative impacts of mulch including reduced soil temperature and restriction of aerobic soil processes.

##### STANDARDS

Mulch materials not from chemical free agricultural sources shall not be placed in contact with the edible portion of the crop.

Glossy paper or coloured paper containing lead is not acceptable for use as a mulch material.

Any treated timber products are not permitted for use as mulch material.

## FERTILISERS OF MINERAL ORIGIN

### GENERAL PRINCIPLES

Mineral bearing rocks are important for addressing mineral imbalances in organic farming and are capable of supplying most mineral needs if supplied in correct combinations. It is intended that natural processes help utilise the mineral content, and rocks are not chemically treated in order to increase solubility.

### STANDARDS

Operators must ensure that rock-based materials are sourced from supplies that are low in potential contaminants such as cadmium. See Annex 6 “Maximum Levels of Pesticide and Heavy Metals”.

The use of gypsum produced as a manufacturing by-product is prohibited.

Reactive rock phosphates must have cadmium levels below 20 parts per million (ppm).

Wood ash from treated timbers is prohibited.

Mineral fertilisers shall only be used in a program addressing long-term fertility needs together with other techniques such as organic matter additions, green manures, rotations and nitrogen fixation by plants.

Mineral fertilisers shall be applied in the form in which they are naturally composed and extracted and shall not be rendered more soluble by chemical treatment, other than addition of water and mixing with other naturally occurring permitted inputs.

Mineral (elemental) sources for supplying trace elements are permitted where the producer can demonstrate the necessity, provided the material does not contain synthetic nitrogen compounds or products not listed in Annex 1 “Products for Use as Fertilisers and Conditioners”.

Potassium sulphate is permitted where there is evidence of a deficiency in the soil.

### THE USE OF ACTIVATORS

Activators can play a role in catalysing enhanced biological activity.

Activators free from prohibited substances or genetic modification are permitted.

Activators must be listed in Annex 1 “Products for Use as Fertilisers and Conditioners” or be suitable according to Annex 8 “Input Manufacturing Assessment”.

Biodynamic preparations are permitted.

### THE USE OF SLUDGES

Organic agriculture is not a dumping ground for modern wastes, even where recycling of nutrient may be a positive factor. The quality of waste, and the process which drives its production, can both preclude it from use in organic farming.

## Appendix III: Pest, disease and weed management

### GENERAL PRINCIPLES

Organic pest, disease and weed management is founded on an understanding of the ecology of crops, pests, diseases and weeds and their interactions with the environment.

Preventative rather than curative measures are the first line of defence for organic systems. In this context, the design and functional diversity of organic systems makes them robust and resilient, thereby minimising the need for pest, disease and weed control interventions.

Where intervention is required, crop losses are minimised through an integrated approach to pest, disease and weed management based upon biological and cultural control techniques. The reliance on substances rather than practices for the management of pests, diseases and weeds is not in accordance with the principal aims of organic agriculture.

### RECOMMENDATIONS

Integrated pest, disease and weed management strategies should be developed pro-actively and documented. Cultural techniques, including resistant plant varieties, crop management, quarantine and hygiene measures, should be used to minimise pest and disease risk.

Natural enemies of pest species should be protected and encouraged through appropriate habitat management. Livestock should play an integral role in pest and weed management wherever practical.

Monitoring of pest and beneficial species should be used to determine the need for, and timing of, pest, disease and weed management activities.

Operators should understand the ecology of weed populations. Attention to long term control of seed banks should be part of any weed management strategy. Such strategies should provide effective weed management whilst permitting soil development.

Feral animals and pest plants which are serious threats to natural and agricultural ecosystems should be managed. Prevention of invasion needs to be demonstrated as a first step. Operators should understand the ecology of the pest species and the changed conditions which make the natural ecosystem and farm more prone to invasion. The presence of pest plants and animals does not constitute a breach of these guidelines, but their impact on land, water and biological systems should not be detrimental.

The use of substances for pest, disease and weed control should be minimised.

#### STANDARDS

All organic production systems shall display a set of positive processes/mechanisms capable of accounting for management of significant pests, weeds and diseases under normal circumstances.

- The Urban Farmer's Organic Management Plan shall include management strategies for endemic pest, disease and weed problems of relevance to the organic enterprise.
- Approved pest, disease and weed management methods include:
  - quarantine and hygiene
  - use of appropriate crop varieties
  - biological control
  - crop rotations
  - mulching
  - mowing and grazing
  - companion planting
  - competitive or allopathic crops
  - heat, including steam, flame and hot water
  - soil solarisation (restricted)
  - mechanical means including cultivation
  - the use of substances listed as 'Approved' in "Products for Control of Plant Pest and Disease"

Thermal sterilisation of soils to combat pests, diseases and weeds is restricted to greenhouses and growing media used in landless production.

Cultivation shall be minimised. The need for cultivation must be demonstrated through a monitoring program. an updated farm map detailing the area(s) intended for treatment

- the Urban Farmer's reasons for withdrawing the area(s)
- a copy of official notification of any mandatory control requirements
- details of the treatment program including substances and application equipment to be used
- details regarding storage of the prohibited substances during the treatment program
- management strategies to avoid contamination of chemical free areas adjacent to the area(s) to be treated
- a long term management strategy aimed at replacing the proposed emergency

control measures with organic alternatives

Treatment with permitted substances shall only be used as a last resort after all other appropriate techniques have proven ineffective. The need for such treatment must be demonstrated through a monitoring program.

Treatment with permitted substances shall be well planned and safely implemented to protect beneficial species, the environment and workers applying the materials.

Permitted substances for pest, disease and weed management are listed below in "Products for Control of Plant Pest and Disease" and shall be subject to the conditions of use outlined therein .

Synthetic pesticides, including insecticides, fungicides, miticides and herbicides, are prohibited from use. Metaldehyde in traps for slugs and snails is prohibited.

Where the use of prohibited substances is required for pest, disease or weed control on existing chemical free areas, such as for mandatory control of declared weeds, the areas treated with prohibited substances shall be withdrawn from certification. The operator must notify NASAA prior to the use of any prohibited substances, and shall supply NASAA with the following information before the treated area can be considered for re- certification:



- an updated farm map detailing the area(s) intended for treatment
- the Urban Farmer's reasons for withdrawing the area(s)
- a copy of official notification of any mandatory control requirements
- details of the treatment program including substances and application equipment to be used
- details regarding storage of the prohibited substances during the treatment program
- management strategies to avoid contamination of chemical free areas adjacent to the area(s) to be treated
- a long term management strategy aimed at replacing the proposed emergency control measures with organic alternatives

### Products for Control of Plant Pest & Disease

**Prohibited:** All synthetic pesticides and weedicides and any product derived from genetically modified organisms .

The table below lists products permitted for the control of plant and pest disease, and any<sup>9</sup> restrictions on rates of application and sources where relevant. Operators are reminded that it is their responsibility to ensure that the use of permitted products does not contravene legislated requirements.

INPUT PRODUCT OR SOURCE MATERIAL	APPLICATION RATES AND PURPOSE OF USE	SOURCE AND SPECIFICATIONS
Bacillus Thuringiensis		Non GMO or GMO derived
Biodynamic Preparations		
Biological Control	Must have a history of release for 3 years, be indigenous, or be subject to NASAA approval based on EIS or equivalent	Non GMO or GMO derived, free of all unspecified organisms
Boric acid	Not to be used in direct contact with food, soil or plant tissue	
Bordeaux and Burgundy mixes. Hydroxide, oxide, sulphate forms	Monitor bio accumulation, strategy for reduction in soil, not in aquatic systems	No more than 8kg/ha
Copper, as above or ionised forms		Not oxychloride form
Clay (including Bentonite and Kaolin)		
Derris elliptica, Derris Dust, Rotenone CAUTION – MAY BE HEALTH RISK	Not near aquatic systems or on edible plant portions	Unfortified, natural extraction
Diatomaceous Earth		
Foliar Sprays	Must not contain any prohibited materials and must not substitute for soil building programs	
Fungal Preparations		Non GMO or GMO derived
Homoeopathic preparations		
Iron Phosphate	Molluscicide	
Lime Sulphur (calcium polysulphide)		

Mechanical traps		
Milk		Must not lead to soil contamination Non GMO or GMO derived
Mineral Oils (summer/winter/paraffin)	Light petroleum derivatives allowed as suffocating oils on foliage, dormant summer oils. Direct application to harvested crop prohibited	
Mineral Powders		
Natural Acids (including vinegar)		
Neem Oil and Extracts	As part of integrated, ecological pest management	Natural extraction, no prohibited inputs
Paraffin Oil	Refer to mineral oils	
Pheromones, in traps or twists	Not used directly on crops	Non GMO or GMO derived
Plant Extracts and Products	Includes animal fats, alcohols, marigolds, sesame, garlic, chilli	Provided no potential contamination of end product
Plant and Animal Oils (inc. pine oil)		Specified source, free of prohibited inputs. Natural extracts only
Plant Based Repellents		
Plastic Mulch		Need must be recognised by EcoMart following assessment of written submission
Potassium Bicarbonate		
Potassium Permanganate	Seed dressing only	
Potassium Soap		
Propolis		
Pyrethrum	As part of integrated pest management, not storage	Not synthetic origin. Piperonyl butoxide (PbO) prohibited.
Quassia		Extracted from Quassia armara
Releases of Predators	As for biological releases	As biological releases
Rotenone	See Derris	See Derris
Ryania	Ryania speciosa	
Salt (Sodium Chloride)	Not more than rainfall deposition and not if soil EC levels exceed 500ms	
Seaweed, seaweed meal and extracts	Non synthetic non fortified sources only	Extraction with sulphuric acid prohibited. Addition of formaldehyde prohibited Must fall within heavy metal limits
Silicates		
Sodium Bicarbonate		

Sodium Silicate	As part of ecological, pest management program	
Sterilised Insect Males	Within integrated program	Non GMO or GMO derived
Sticky Baits	Must not contain prohibited substances	
Sulphur		Unadulterated nature identical source
Viral, Fungal and Bacterial Preparations	As biological releases	As biological releases Non GMO or GMO derived
Wetting Agents	Minor ingredient only – not as a singular input	Natural origin, no synthetic additives

## Appendix IV: Water

### GENERAL PRINCIPLES

Organic farming methods aim to maintain water quality on and off the farm and to use water efficiently and responsibly, whether in irrigated or rain fed farming systems.

### RECOMMENDATIONS

Operators should use techniques that conserve water, such as increasing organic matter content of soil, timing of planting and the appropriate design, efficiency and scheduling of irrigation practices.

Operators should apply water and inputs in a way that does not pollute water by run-off to surface water or leaching into ground water.

Organic operators should install systems that permit the responsible use and recycling of water without pollution or contamination either by chemicals, or by animal or human pathogens.

Operators should plan and design systems that use water resources responsibly and in a manner appropriate to local climate and geography.

Organic Management Plans should anticipate, address, and mitigate impacts on water resources, including but not limited to the application of manure, stocking densities, application of soluble fertilisers, and effluent from processing and handling facilities.

Water should be recycled as far as possible within the farm by mechanical and/or biological means.

Water from off-farm sources (e.g. river, public or shared channels, bores or drainage water) should not carry substances not compatible with this Standard.

Catchment targets and community strategies should form part of the water management strategy on the organic farm.

Water use and quality must be carefully managed. Except where local salinity issues are outside the control of the individual farmer, chemical free organic operators must demonstrate that water, which exits the farm, is at least as high quality in terms of salts and turbidity as any surface water that enters.

## Appendix V: Seed and plants

### GENERAL PRINCIPLES

Processes of production and distribution of inputs such as seeds, seedlings and plant propagative material are subject to the same requirements of scrutiny and assessment as other inputs.

The production of seed, seedling and plant propagative material on defined land parcels will be subject to the conversion requirements outlined in section 2.1 - 2.3 of this Standard.

The production of seed, seedling and plant propagative material for use as an input product onto chemical free land does not have to go through a Pre-certification period if such product is managed through a landless system.

Rigorous and accountable cleaning of materials used in conventional containerised production prior to being eligible for organic status equates with the function of the conversion period for land based organic production.

The production of organic seed, seedling and propagative material shall be of equal or higher quality than the

equivalent conventional product.

Organic producers of seeds, seedlings and plant propagative material use input material that complies with this Standard.

#### RECOMMENDATIONS

Open pollinated varieties should be accessed where possible and if they are suitable for use as inputs into organic production systems.

Where seeds, seedling and plant propagative material production takes place in containers, the potting mix should be derived from compost leaf mould, worm casts and clean inert material of natural origin harvested to avoid environmental damage.

Plant propagative material should be grown as much as possible with nutrients contained within the potting medium. Where fertigation is used growers should observe the organic principle of soil fertility management and minimise leaching of nutrients into the environment.

Containers should be recyclable.

Where there is conventional and organic production of plant material then the risk of product confusion and contamination by prohibited substances should be managed through clear identification and visible separation of the areas.

Operators whose product is used by other growers should accept a 'duty of care' that their product is free from weeds, soil and seed borne disease and is true to description. There should be records of rationale used in selection, growing and protection of seed, seedlings and propagative material quality and type.

All waste materials from cleaning programs or renewal of the means of production, such as pots and spent fillings, should be disposed of without detriment to the environment.

#### STANDARDS

Seed and plant materials shall be propagated under organic management one generation, in the case of annuals, and for perennials, two growing periods, or 12 months, whichever is the longer, before being certified as organic seed and plant material.

Producers of organic seedlings shall manage the production organically and use organic parent material.

Operators shall use organic and plant material of appropriate varieties and quality. When organic seed and plant materials are not available, conventional materials may be used provided that they have not been treated with pesticides and/or fungicides not otherwise permitted by these standards

### **Appendix VI: Energy**

### **Appendix VII: Waste**

### **Appendix IIX: Useful links**