GUIDELINES FOR SETTING UP ORGANIC PRODUCTION AND PROCESSING STANDARDS IN SRI LANKA

Based on the basic standards of the International Federation of Organic Agricultural Movements (IFOAM)

Environmental Economics & Global Affairs Division

Ministry of Environment and Natural Resources

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Guide Lines
For
Production and processing of Organic Products in Sri Lanka

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GUIDELINES FOR SETTING UP ORGANIC PRODUCTION AND PROCESSING STANDARDS IN SRI LANKA.

Based on the basic standards of the international Federation of Organic agricultural Movements (IFOAM)

Prepared by
Lanka Organic Agricultural Movement (LOAM)

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FOREWORD

Organic agriculture promotes an environmentally, socially and economically sound production process. It helps in the prevention of degradation of agricultural land, reduces pollution of water, eliminates health problems associated with the improper and careless use of agro chemicals. Organic agriculture also helps farmers to reach self sufficiency.

In Sri Lanka, organic farming has been practiced for a very long time. The Kandyan forest garden bears ample testimony to this. The adverse effects farming with synthetic fertilizers and agro chemicals can have on the health of human beings has been recognized by the people in the western world as well as in our own country. This has created a new market for ORGANIC products.

The price of Organic products in the international market is generally higher than the conventional produce. In the western world the organic market is well regulated and the benefits of a higher price also reach farmers. The regulations and laws also prevent the fraudulent high pricing of agricultural produce originating from conventional production methods.

Although several plantations in Sri Lanka have been practicing organic farming for a considerable length of time the produce originating from it has been for the international market. The local organic farmers who produce vegetables and other crops on a small scale have still not realized the true market potential or realized maximum monetary benefits due to them. We, in LOAM, have recognized this shortcoming and decided that it is high time to bring in some order and recognition to the local market for organic produce.

This document also has a chapter on certification as organic wild harvested products. The standards committee of LOAM felt it is important that any organization seeking to establish certification programs in Sri Lanka must recognize the existence of man - made and natural forests in Sri Lanka. We urge the authorities concerned to give due recognition to this area of agriculture too.

We also urge the policy makers to use this as a tool to promote and encourage organic farming and regulate the marketing of produce originating from it.

This document is a result of LOAM's genuine concern for the organic farmers of Sri Lanka especially those at grass root level.

INTRODUCTION

The guidelines laid in this document are based on the IFOAM basic standards for organic production and processing. It reflects the current state of organic production and processing worldwide and in Sri Lanka. It should not be viewed as a final document but as an initial step to the development of organic farming and market oriented production and processing in Sri Lanka. These guidelines should not, on its own, be used as standards for certification of organic production and processing. It provides the framework for any organisations willing to operate organic certification systems in Sri Lanka. Any certification body or system operating in Sri Lanka, regional or national, should formulate standards, which are equivalent to or higher than these basic guidelines.

If products are to be sold labelled as "organic" in the domestic market in Sri Lanka the producers and processors are required to meet the standards of the certification body, whose standards shall be equivalent to or higher than the guidelines laid down in this document. For the time being "Organic" products meant for export shall conform to standards of the target market.

In preparing these basic guidelines viticulture has been excluded, as it is not practised in Sri Lanka neither is there any wine production. Certification bodies are encouraged to, as far as possible, include locally available materials and practices in their list of permitted products for fertilisation and pest control.

Standards formulated by certification bodies should not include conditions and substances that are not in compliance with the laws of Sri Lanka. They are also not required to adopt these guidelines as standards. However they are encouraged to refer to these guidelines when formulating their own certification standards.

1.0 Definitions

Accreditation

Procedure by which an authoritative body gives a formal recognition that a body or person is competent to carry out specific tasks

Ayurvedic

Traditional system of medicine.

Biodiversity

The variety of life forms and ecosystem types on Earth. At any given point in time. Includes genetic diversity (i.e. diversity within species), species diversity (i.e. the number and variety of species) and ecosystem diversity (total number of ecosystem types).

Breeding

Selection of plants or animals to reproduce and /or to further develop desired characteristics in succeeding generations.

Buffer zone

A clearly defined and identifiable boundary area bordering an organic production site that is established to limit application of, or contact with, prohibited substances from an adjacent area.

Certification

The procedure by which a third party gives written assurance that a clearly identified process has been methodically assessed, such that adequate confidence is provided that specified products conform to specified requirements.

Certification body

The body that conducts certification, as distinct from standard setting and inspection.

Certification mark

A certification body 's sign, symbol or logo that identifies product(s)as being certified according to the rules of a program operated by that certification body.

Certification program

System operated by a certification body with its own rules, procedures and management for carrying out certification of conformity.

Contamination

Pollution of organic product or land; or contact with any material that would render the product unsuitable for organic certification.

Conventional

Conventional means any material, production or processing practice that is not certified organic or organic "in-conversion ".

Conversion period

The time between the start of the organic management and the certification of crops and animal husbandry as organic.

Crop rotation

The practice of alternating the species or families of annual and/or biennial crops grown on a specific field in a planned pattern or sequence so as to break weed, pest and disease cycles and to maintain or improve soil fertility and organic matter content.

Culture

A microorganism, tissue, or organ, growing on or in a medium.

Direct source organism
The specific plant, animal, or microbe that produces a given input or ingredient, or that gives rise to a secondary or indirect organism that produces an input or ingredient.
Disinfect
To reduce, by physical or chemical means, the number of potentially harmful microorganisms in the environment, to a level that does not compromise food safety or suitability.
Exception
Permission granted to an operator by a certification body to be excluded from the need to comply with normal requirements of the standards. Exceptions are granted on the basis of clear criteria, with clear justification and for a limited time period only.
Farm unit
The total area of land under control of one farmer or collective of farmers, and including all the farming activities or enterprises .
Food additive
An enrichment, supplement or other substance which can be added to a foodstuff to affect its keeping quality, consistency, color, taste, smell or other technical property (For full definition, see Codex Alimentarius).
Genetic diversity
Genetic diversity means the variability among living organisms from agricultural and forest (natural and man made) ecosystems; this includes diversity within species and between species.
Genetic engineering
Genetic engineering is a set of techniques from molecular biology (such as recombinant DNA) by which the genetic material of plants, animals, micro-organisms, cells and other biological units are altered in ways or with results that could not be obtained by methods of natural mating and reproduction or natural recombination. Techniques of genetic modification include, but are not limited to: recombinant DNA, cell fusion, micro and macro injection, encapsulation, gene deletion and doubling. Genetically engineered organisms do not include organisms resulting from techniques such as conjugation, transduction and natural hybridization.
Genetically Modified Organism (GMO)
A plant, animal, or microbe that is transformed by genetic engineering.
Genetic resources
Genetic resources mean genetic material of actual or potential value.
Green manure
A crop that is incorporated into the soil for the purpose of soil improvement may include spontaneous crops, plants or weeds.
Habitat
The area over which a plant or animal species may exist; the area where a species occurs. Also used to indicate types of habitat, e.g. seashore, riverbank, woodland, grassland.
HACCP
Hazard Analysis and Critical Control Point A specific food safety program to identify contamination risks and actions to prevent exposure to such risks .

Homeopathic treatment
Treatment of disease based on administration of remedies prepared through successive dilutions of a substance that in larger amounts produces symptoms in healthy subjects similar to those of the disease itself.
Ingredient
Any substance, including a food additive, used in the manufacture or preparation of a food or present in the final product although possibly in a modified form.
Irradiation (ionizing radiation)
High energy emissions from radio-nucleotides, 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 .
Labelling
Any written, printed or graphic representation that is present on the label of a product, accompanies the product, or is displayed near the product.
Media (plural)or medium (singular)
The substance in which an organism, tissue, or organ exists.
Multiplication
The growing on of seed stock or plant material to increase supply for future planting.
Natural fiber
A non-synthetic filament of plant or animal origin.
Operator
An individual or business enterprise, responsible for ensuring that products meet the certification requirements.
Organic
"Organic " refers to the farming system and products described in these **guidelines** and not to" organic chemistry ".
Organic product
A product, which has been produced, processed, and/or handled in compliance with organic standards.
Organic seed and plant material
Seed and planting material that is produced under certified organic management
Parallel production
Any production where the same unit is growing, breeding, handling or processing the same products in both a certified organic system and a non-certified or non-organic system. A situation with "organic "and "in conversion "production of the same product is also parallel production. Parallel production is a special
instance of split production.
Processing aid
Any substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients, to fulfill a certain technical purpose during treatment or processing and which may result in the non-intentional, but unavoidable presence of residues or derivatives in the final product .
Propagation
The reproduction of plants by sexual (i.e. seed) or asexual **(vegetative propagation)** means.

Sanitize
To adequately treat produce or food-contact surfaces by a process that is effective in destroying or substantially reducing the numbers of vegetative cells of microorganisms of public health concern, and other undesirable microorganisms, but without adversely affecting the product or its safety for the consumer.
Split product on
Where only part of the farm or processing unit is certified as organic. The remainder of the property can be (a) non-organic, (b) in conversion or (c) organic but not certified. Also see parallel production.
Synthetic
Manufactured by chemical and industrial processes. May include products not found in nature, or simulation of products from natural sources (but not extracted from natural raw materials).

2.0 PRINCIPLES AND AIMS OF ORGANIC PRODUCTION AND PROCESSING

Organic Production and Processing is based on a number of principles and ideas. All are important and this list does not seek to establish any priority of importance. The principles include:

* To produce sufficient quantities of high quality food, fiber and other products.

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

* To recognize the wider social and ecological impact within the organic production and processing system.

To maintain and increase long-term fertility and biological activity of soils using locally adapted cultural, biological and mechanical methods as opposed to reliance on off farm inputs.

To maintain and encourage agricultural and natural biodiversity on the farm and surrounds through the use of sustainable production systems and the conservation of plant and wildlife habitats.

To increase, maintain and conserve crop diversity to enhance on-farm biodiversity.

To promote the responsible use and conservation of water and all life therein.

To use, as far as possible, renewable resources in production and processing systems and avoid pollution and waste.

To foster local and regional production and distribution.

To create a harmonious balance between crop production and animal husbandry.
To provide living conditions that allow livestock to express the basic aspects of their innate behavior.

To utilize biodegradable, recyclable and recycled packaging materials.

To provide everyone involved in organic farming and processing with a quality of life that satisfies his or her basic needs, within a safe, secure and healthy working environment.

To support the establishment of an entire production, processing and distribution chain, which is both socially just and ecologically responsible.

To recognize the importance of, and protect and learn from, indigenous knowledge and traditional farming systems.

3.0 ORGANIC ECOSYSTEMS

Operators should set aside an area to facilitate biodiversity. The area to be set aside shall be expressed in the standards as a percentage of the total land area under the control of the operator. This shall not include any adjacent state forestland. In the case of small farmers the set aside area shall be under the possession of the small farmers holding.
The areas that may be included are:
Extensive grassland such as marsh lands, patana and damana.
In general all areas which are not under rotation and are not heavily manured, extensive pastures, meadows, extensive grassland, extensive orchards, hedges, hedgerows, hedges between agriculture and forest land, groups of trees and/or bushes, and forest and woodland
Ecologically rich fallow land or arable land
Ecologically diversified (extensive) field margins including riverine vegetation.
Waterways, pools, springs, ditches, floodplains, wetlands, swamps and other water rich areas which are not used for intensive agriculture or aquaculture production.
Areas with forest corridors.

Clearing of *natural* forests for organic agriculture shall be strictly prohibited.

4.0 SOIL AND WATER CONSERVATION

Organic farming methods conserve soil, maintain water quality and promote the use of water in a sustainable manner.

Recycling and re-use of crop residues is highly encouraged. Burning as a method of crop residue disposal shall be prohibited except as a means to control the spread of disease.

All operators shall be required to take necessary measures to minimise soil erosion.

All operators shall be required to take adequate steps to minimise the contamination of surface and ground water.
Sanitation facilities like toilets and cesspits should be established according to public health regulations.

Indiscriminate use of animal excrements that could cause contamination of soil and water should also be addressed.

All operators shall be required to take measures to prevent salination.

Organic processing facilities shall be required to conform to national laws for the prevention of pollution of waterways with effluents originating from their facilities.

Organic processing facilities shall be required to explore the possibility of recycling water without contamination.

5.0 GENETIC ENGINEERING

The use of genetically modified organisms and products thereof shall be prohibited in organic production and processing.
In processed organic products the use of genetically modified approved inputs and processing aids too shall be prohibited

6.0 WILD HARVESTED PRODUCTS

Wild harvested products shall only be certified organic if they are derived from a stable and sustainable growing environment that could include both natural forests and man made modified environments.
People who harvest, gather shall not take any product at a rate that exceeds the sustainable yield of the ecosystem, nor shall it threaten its existence.

The area from which wild products are harvested must be clearly defined and no prohibited substances are applied, or garbage dumped. The collection must be under the control of the applicant seeking certification.

The collection or harvest area shall be at an appropriate distance from conventional farming, pollution and contamination.

7.0 GENERAL REQUIREMENTS FOR CROP PRODUCTION

General

Organic farming is a holistic system where the proponent seeks to understand and work in harmony with natural biological systems.
Organic farming is management intensive and based on cultural and biological means of crop nutrition and production that is balanced and sustainable. Reliance on inputs from outside the farm is minimised. Synthetically produced fertilisers, pesticides and other materials are prohibited for use in organic farming, with some exceptions.
However an organic production system is not one that is merely chemical free and managed by neglect but a process in which a viable and sustainable agro-eco system is developed and maintained through careful management.

Organic farming requires long term soil management with the aim of creating a fertile, biologically active soil with optimum levels of organic matter.

7.1 Conversion to organic agriculture

Conversion to organic agriculture must be done in accordance with techniques permitted in these standards.

Farmers who wish to convert to organic production should have a conversion plan

The conversion plan must include:

a. Soil fertility building measures, soil structure and supply of nutrients.
b. Crop rotation plan to maintain soil fertility, control weeds, pests and diseases. The introduction of leguminous crop in the plan is encouraged.
c. Operators should explore the possibility of including tree crops in the Conversion plan.

7.2 Conversion period

1. For annual crops a period of 24 months must lapse between the last application of a prohibited substance till the first "Organic" sowing.
2. For perennial crops a period of 36 months must lapse between the last application of a prohibited substance till first "organic" harvest.

The certification body may reduce or extend the conversion period after considering the previous use of land.

Farmers who wish to have a reduction in the conversion period must do so in writing with documentation of land use and material application history. The certification body shall consider a reduction only after verification.

Where environmental contamination and residues from previous agricultural practices is suspected the certification committee shall require analysis of soil, water or tissue before arriving at a decision.

7.3 Split and Parallel production

An operator shall not be permitted to run units producing the same crop, in the same area, in organic and conventional production except when:

The crop is a perennial crop and the operator hands in a conversion plan to convert the entire operation to organic status within the shortest possible period. The conversion period shall not in any case exceed five years.

Steps are taken to ensure a permanent separation of the harvest of each unit until such time the whole operation reaches organic status.

Records are maintained separately for the organic and in conversion fields.

Both units are subject to at least an annual inspection.

Approved organic inputs are not stored in the conventional unit and prohibited substances are not stored in the organic unit.

The certification body must approve the conversion plan.

8.0 CROP PRODUCTION

8.1 Basic principles of crop production

Rotations and diversification are the key concepts in an organic farming system. Crop rotations should include legumes, green manures and crops with varying root systems such as trees.

In an annual cropping system leguminous cover crops should be included in the crop rotation to improve soil fertility.

In a perennial cropping system cover crops should be used to hold soil in place, improve fertility and provide habitats for beneficial insects.

In farms without animal husbandry specific rotations including legumes should be employed.

A diversity of plant crops, hedgerows, wind breaks and multi purpose species should be grown to ensure that no single pest, disease or weed can throw the system off balance.

8.2 Soil management

Farmers are required to develop and implement a long-term soil management program. The plan must rely primarily on the use of composted organic material, animal and green manures to enhance soil fertility and biological activity, maintain humus content and correct nutrient deficiencies. Farm units must strive towards on farm production of organic materials Nitrogen self-sufficiency.

Farmers are encouraged to test soils for organic matter, pH, N,P,K and to maintain optimum levels for the soil and crop type. In certain cases testing for secondary nutrient levels and micronutrients may be necessary. Soil pH levels that are appropriate to the soil type and crops should be maintained, if necessary with calcareous amendments.

In the event there is a need to use off farm inputs it must be approved in writing by the certification committee. Request for use off farm inputs must also be made in writing.

The Certification body shall have the right to request for a report on soil and tissue analysis prior to the use of off farm inputs.

8.3 Seeds, seedlings and propagation material.

The use of seeds and other propagation material (open pollinated varieties) that have not been treated with prohibited substances is recommended. Seeds dressed with prohibited substances shall not be permitted. **As far as possible farmers should be encouraged to be self sufficient in seed and they must source propagate material from other organic farms.** If organic propagation material is not available the certification body shall permit the applicant to use untreated conventional seed for a limited period of time and in any case not more than two growing seasons for annual crops and three years for perennial crops. Permission to use conventional untreated seeds must be obtained in writing from the certification body for those species like that of the family Brassicae, carrots, leeks and beetroots for example.

Records must be maintained for seeds or propagation material. If off farm, it must include the name and address of the seller of propagation material, quantity purchased and if treated or not.

The use of genetically modified seeds/propagation material shall be strictly prohibited. The applicant shall sign a declaration to this effect at the time of inspection.

8.4 Soil Fertility and fertilisation

Only Biodegradable material of microbial, plant or animal origin produced as far as possible on the farm itself should be used to enhance and maintain soil fertility.
Nutrient resources should be used in a sustainable and responsible manner.
Care should be taken to minimise the loss of nutrients due to leaching.

Accumulation of heavy metals and other pollutants should be prevented.
Naturally occurring mineral fertilizers and brought-in fertilizers of biological origin permitted under these standards should be regarded as only one component of the nutrient system, and as a supplement to, and not a replacement for, nutrient recycling.

Operators are encouraged to compost farm yard manure before application.
Manures containing human feces and urine are prohibited.
Use of composted urban waste is not permitted.
Only substances listed in **Annex 1** shall be permitted for use on land or crops.

8.5 Pest, disease and weed management

The use of botanicals and other allowed sprays for pest and disease control is seen not as long-term strategy but as an aid to solve a specific problem until the farm can be brought back into balance.

Careful farm management and landscape design, monitoring of pests, maintenance of soil health, the use of resistant varieties, cultural practices that favour the crop and predator and biological controls are preferred methods for control.

8.6 Insect management

Cultural practices
Encouragement of predators through habitat enhancement, timing to avoid cycles of pest emergence, inter cropping, rotations and maintaining balanced plant nutrition.

Biological practices
Introduction of predators or sterilised insect males, parasites of insect pests, viral, fungal and bacterial preparations.

Physical practices
Traps, barriers, light, sound and pheromone traps

Plant extracts and minerals
Botanical extracts are allowed to supplement a pest management program. Herbal sprays, rock powders, plant and animal oils are permitted **(see Annex 2)**

8.7 Disease management

Disease management should be through the use of resistant varieties, sanitation, water management, cultural practices that favour the crop and hinder the pathogen and biological controls. Only as a last resort could materials listed in **Annex 2** should be used.

8.8 Weed management

Weeds should be managed by rotation with competitive cover crops, timely cultivation or mowing, mulching with organic materials, and manual means.

9.0 PROCESSING AND HANDLING

Handlers and processors should handle and process organic products separately in both time and if possible, area from non-organic products. Handlers and processors should identify and avoid pollution and potential contamination sources.

a) Mechanical or biological methods, including but not limited to cooking, baking, curing, heating, drying, mixing, grinding, churning, separating, distilling, extracting, slaughtering, cutting, fermenting, eviscerating, preserving, dehydrating, freezing, chilling, or otherwise manufacturing, and the packaging, canning, jarring, or otherwise enclosing food in a container may be used to process an organically produced agricultural product for the purpose of retarding spoilage or otherwise preparing the agricultural product for market.

Only non agricultural ingredients, ingredients of agricultural origin and processing aids and other products listed in **annex 3 and 4** may be used in the processing of organic agricultural products.

The total weight of organic products, in the case of solids in a multi ingredient product, excluding water and salt, shall not be less than 95% of the weight of the product.

In the case of liquids the volume of organically produced liquids in a multi ingredient product, other than salt and water, shall not be less than 95% of the total volume of the product.
The remaining 5% in weight can be in the form of ingredients of those products listed in **Annex 3.**

Potable water conforming to WHO standards and sea salt shall be permitted for use in processing of organic agricultural products.

Irradiation and fumigation of organic products with chemical fumigants shall not be permitted.

Carbon di oxide and Nitrogen may be used as fumigants

Extraction shall only take place with water, ethanol, plant and animal oils, vinegar, carbon dioxide and nitrogen.

Preparations of microorganisms and enzymes normally used in food processing may be used provided they are not genetically modified.

Smoking permits preparation of products by smoking.

10.0 POST HARVEST PEST MANAGEMENT

The operator of an organic processing facility should endeavour to control pests through sound management practices including but not limited to

(1) Removal of pest habitat, food sources, and breeding areas;

(2) Prevention of access to handling facilities; and

(3) Management of environmental factors, such as temperature, light, humidity, atmosphere and air circulation, to prevent pest reproduction.

Pests may be controlled through:

(a) Mechanical or physical controls including but not limited to traps, light, or sound;

or

(b) Lures and repellents using non-synthetic or synthetic substances consistent with **Annex 2**

(c) If the practices provided for in paragraphs and allowed in (b) of this section are not effective to prevent or control pests, a non-synthetic or synthetic substance consistent with **Annex 2** may be applied.

(d) If the practices provided for in the above paragraphs (a) and (b) are not effective to prevent or control facility pests, a synthetic substance not on Annex 2 may be applied, provided, That, the processor and certifying body agree on the substance, method of application, and measures to be taken to prevent contact of the organically produced products or ingredients with the substance used.

(e) The handler of an organic handling operation who applies a non-synthetic or synthetic substance to prevent or control pests must update the operation's organic handling plan to reflect the use of such substances and methods of application. The updated organic plan must include a list of all measures taken to prevent contact of the organically produced products or ingredients with the substance used.

(f) Not withstanding the practices provided for in paragraphs (a), (b), (c), and (d) of this section, a handler may otherwise use substances to prevent or control pests as required by State, or local government laws and regulations, provided, that, measures are taken to prevent contact of the organically produced products or ingredients with the substance used.

11.0 PACKAGING

Packaging material used shall not contaminate organic food.
The use of packing material containing PVC is prohibited.
if wooden containers are used to pack organic products it must not be treated.

Packaging materials and storage containers or bins that contain a synthetic fungicide, preservative or fumigant are prohibited.

Processors should avoid unnecessary packaging materials.

Organic food shall be packaged as far as possible in reusable, recycled, recyclable and/or biodegradable material.

12.0 LABELLING

Only products that have been certified as conforming to the standards of a certification body may be labeled as **"ORGANIC"** or a similar description.

All labels shall indicate the company or person legally responsible for the production and or processing of the product. The name address telephone number and if available the e-mail address of the company or person placing the product shall appear on the packaging.
Label must indicate the batch number of the product sold.
Labels should indicate all ingredients, the processing methods and additives, if any, used in the product.
In the case of wild picked, collected or harvested products, it shall be so declared.

For a product to be labeled as organic or words that convey a similar meaning in Sinhala or Tamil the following conditions must be fulfilled.

Mixed products where not all ingredients, including additives, are of organic origin and products that are entirely in compliance with these standards, shall be
labelled in the following way (percentages in this section refer to raw material weight):
Where a minimum of 95%of the ingredients are of certified organic origin, products may be labeled "certified organic" or equivalent and should carry the certification mark of the certification body.
Where less than 95%but not less than 70%of the ingredients are of certified organic origin, products may not be called "organic". The word "organic" may be used on the principal display in statements like "made with organic ingredients" provided there is a clear statement of the proportion of the organic ingredients. An indication that the certification body covers the product may be used, close to the indication of proportion of organic ingredients.

Where less than 70%of the ingredients are of certified organic origin, the product may not be called "organic ".

All ingredients of a multi ingredient product must be listed in the descending order of weight percentages. The weight percentage shall be indicated against the ingredient. Where ingredients of agricultural origin, not organically produced are used it must be so declared on the labels.
If herbs and spices are used and they constitute less than 1% of the product they be listed as "herbs and spices less than 1%".

13. Animal Husbandary

Management techniques in animal husbandry should be governed by the physiological and basic ethological needs of the farm animals in question. This includes :

the animals should be allowed to conduct their basic behavioural needs,

- all management techniques, especially where production levels and speed of growth are concerned, should be directed at good health and welfare of the animals.

- To have different types of livestock as much as possible since they to efficient utilization of resources.

Nomadic mode of livestock management is allowed.

13.1 General

Management of the environment of the animals shall take into account the behavioural needs of the animals and provide for:

- Sufficient free movement,
- Sufficient fresh air and natural daylight according to the needs of the animals.
- Protection against excessive sunlight, temperatures, rain and wind and excessive noise according to the needs of the animals.
- Enough lying and/or resting area according to the needs of the animal. For all large farm animals (md/ Sheep, goats and pigs) natural bedding material shall be provided when housed,
- An ample access to fresh water and feed according to the needs of the animals.
- Housing should be in the reach of the owner/caretaker.

All animals shall have access to open air, proper drainage and grazing when this applies to the type of animal and season, to be specified by the certification programme.

The certification programme may allow exceptions in individual cases where:

- more permanent housing is the traditional practice,
- the specific farm structure prevents such access.

A time limit shall be set for each individual exception.

When the natural day length is prolonged by artificial lighting this shall not lead to a total day length which is longer than 16 hours and shall be ended by a dimming period.

	13.4. Synthetic and toxic materials should not be used for constructions. 13.5. For welfare reasons, the herd or flock size shall not adversely affect the beharioural patterns of the animals. **Breeds and Breeding**
It is necessary to choose reeds which are adapted to local conditions. Breeding goals should interfere with animal behaviour as little as possible. They should not include methods which make the farming system dependent on high technological and capital intensive methods. Reproduction techniques should be natural	Certifying programmes shall ensure the breeding goals are such that livestock diversity is maintained: Indigenous breeds should be preserved and promoted. • a reasonable production level on a low input level, • adaptation to local circumstances, • longevity, • good health • quality of animal products, • to have breeds which have given birth naturally. Embryo transfer techniques are not allowed. Artificial insemination is not allowed except in case of endangered indigenous breeds. The use of genetically engineered species or breeds is not allowed. Dry cow therapy is not allowed. **Mutilations**
The distinctive characteristics of animals should be respected.	Tail cuttings, castration, teeth cutting, debeaking, wing burning, ringing and other mutilations are not allowed. Cetification programmes may however allow the following exceptions: • castrations • tail cutting of lambs to prevent myiasis. • Dehorning • Ringing • Horse shoes for draft animals / noses These practices shall not cause suffering.

The livestock should be fed with 100% organically grown feed of good quality.	Animal Nutrition The diet shall be balanced according to the nutritional needs of the animals, like reasonable production level and/or normal growth rate and good health.

14. Indigenous Knowledge on Agriculture Practices

The practices followed in field:

Development and implementation of conscientious soil building programmes, so designed to enhance organic matter and encourage optimum soil health.

Rotation of non-perennial crops in accordance with accepted regional agricultural practices

Careful management, of resistant varieties, inter cropping and maintenance of soil health as the first line of defence against weeds, pests and diseases.

Maintenance of machinery and equipment in good enough condition to avoid contamination of soil or crops, fluids, oil, fuel etc.

Inputs from outside kept to on obsolete minimum and used on the basis of need only.

The inputs listed below are therefore not continuously used. They are used in emergency situations.

Soil and plants:

Organic matter and minerals.

(a) Butter milk as growth promoter
(b) Manure from food and forestry by-products free from contaminants
(c) Manure from organic house hold refuse
(d) Manure from plant residues, spent mushrooms and vermi Culture substrate
(e) Dead animals buried around roots of fruits trees
(f) Green manure
(g) Gypsum from natural sources
(h) Heat composted manure produced on the farm free from contaminants
(i) Neem, castor cake or any other botanicals.

Others

a) Assorted plants and /or animal preparations, bio dynamic preparation

Pest Control

Diseases:
(a) See + (plus) symbols in **Annex 2.**
(b) Diseased parts or plants which are collected mechanically and burned periodically
(c) Fermented cow urine diluted 6 fold
(d) Mixed or inter cropping
(e) Use of resistant varieties
(f) Vinegar
(g) Wood Ash

Insect and similar pest:
(b) See + (plus symbols) in **Annex 2**
(c) Crow scare for birds
(d) Fermented cow urine or without neem and suitable hedge plant diluted 6 fold
(e) Use of resistant varieties
(f) Visual or physical traps

Weed Control:
(c) Mechanical weeding
(d) Use of mulch like straw, grass etc.
(e) Weeds are controlled through a combination of cultural practices which limit weed development (rotation, green manure, fallow etc.)
(f) Flame weeding

Storage
(a) Dried leaves of Neem mixed with seeds
(b) Wall nut bark Ash
(c) Cow urine

Processing

a) Raw fruits are kept in heap of straw
b) Raw fruits are kept under ground and then mud is heated for ripening of fruits.
c) Common salt, NaCl
d) Mustard oil
e) Sugar
f) Turmeric

ANNEX 1 PRODUCTS AUTHORIZED FOR USE IN SOIL CONDITIONING AND FERTILIZATION

1. PLANT AND ANIMAL ORIGIN

Description of substance Compositional requirement	**Conditions for use**
Farmyard manure, slurry and urine. Preferably from within the farm.	
Dried farm yard manure and poultry manure	Chicken manure from factory farming origin prohibited.
Guano	
Vermicastings	
Blood meal, meat meal, bone, bone meal Hoof and horn meal, feather meal, fish and fish products, wool, Fur, hair, dairy products	
Biodegradable processing by-products, Plant or animal origin, e.g. by-products of food, feed oilseed, brewery or distillery	
Crop and vegetable residues, mulch, green manure, straw, wood, bark, sawdust, wood shavings, wood ash, wood charcoal and coir pith.	Wood and bark must be untreated, Saw dust wood shavings, wood ash, wood charcoal and coir pith must be from untreated sources.
Seaweed and seaweed products Plant preparations and extracts	Without preservatives, Obtained by a physical process. Collection of material only with the approval of the relevant national authority.
Compost made from ingredients listed in this annex.	Use of chicken manure from factory farming sources for compost making prohibited.
Spent Mushroom waste, humus from worms and insects.	The initial composition of the substrate shall not contain products not on this annex

ANNEX 1 (CONTINUED) PRODUCTS OF MINERAL ORIGIN

Description of substance Composition requirement	**Conditions for use**
Basic slag	
Calcareous and magnesium amendments.	
Limestone, gypsum, marl, chalk, Calcium chloride.	From natural sources only. Use of Epsom salt supplied as a by-product prohibited.
Magnesium rock, kieserite and Epsom salt (magnesium sulfate)	Shall be obtained by physical procedures but not enriched by chemical processes.
Mineral potassium (e.g. sulfate of potash, kainite, sylvanite, patentkali)	
Natural phosphates	Should not be fortified or processed with synthetic chemicals. Cadmium content to be less than 90 mg/kg of P2O5.
Pulvarized rock, stone meal Clay (e.g. bentonite, perlite, vermiculite, zeolite)	
Sodium chloride	Sea salt only
Trace elements	Only in cases of proven deficiency.
Sulfur	For foliar use as a fertilizer.
MICROBIOLOGICAL	
Biodegradable processing by-products of microbial origin, e.g. by-products Of brewery or distillery processing. Microbiological preparations based on naturally occurring organisms.	
OTHERS	
Biodynamic preparations	

ANNEX 2 PRODUCTS FOR PLANT PEST AND DISEASE CONTROL

PLANT AND ANIMAL ORIGIN

Description of substance **Composition requirement**	**Conditions for use**
Algal preparations Animal preparations and oils Beeswax Chitin nematicides (natural origin) Coffee grounds Corn gluten mean (weed control) Dairy products (e.g. milk, casein) Gelatine Lecithin Natural acids (e.g. vinegar) Kohomba (Azadirachta indica) Plant oils Plant preparations Plant based repellents Propolis Pyrethrum (Chrysanthemum cinerariaefolium) Quassia (Quassia amara) Rotenone (Derrus ekkuotuca, Lonchocarpus spp. Thephrosia spp.) Ryania (Ryania speciosa) Sabadilla	

ANNEX 2 PRODUCTS FOR PLANT PEST AND DISEASE CONTROL

MINERAL ORIGIN

Description of substance	
Composition requirement	**Conditions for use**
Chloride of lime Clay (e.g. bentonite, perilite, vermiculite, zeolite) Copper salts (e.g. sulfate, hydroxide, oxychloride, octanoate) Diatomaceous earth Light mineral oils (paraffin) Lime sulfur (Calcium polysulfide) Potassium bicarbonate Potassium permanganate Quicklime Silicates (e.g. sodium silicates, quartz) Sodium bicarbonate Sulfur	Max 8 Mg. ha per year Permitted for foliar use only as an insecticide and fungicide. Direct application to soils discouraged. Post harvest treatment with Sulphur prohibited.
Microorganisms	
Fungal preparations Bacterial preparations (e.g. Bacillus thuringiensis) Release of parasites, predators and sterilized insects Viral preparations (e.g. granulosis virus)	

ANNEX 2 (CONTINUED) PRODUCTS FOR PLANT PEST AND DISEASE CONTROL TRAPS, LURES, BARRIERS, REPELLENTS AND OTHERS

Description of substance	
Composition requirement	**Conditions for use**
Physical Methods (e.g. chromatic traps, mechanical traps,) Mulches, nets Pheromones in traps and dispensers only Biodynamic preparations Calcium hydroxide Carbon dioxide Ethyl alcohol Homeopathic and Ayurvedic preparations Sea salt and salty water Soda Soft soap Sulfur dioxide	

ANNEX 3 LIST OF APPROVED ADDITIVES OF NON-AGRICULTURAL ORIGIN

Intl Numbering System	**Permitted Products**	**Conditions for use**
INS 170	Calcium Carbonates	
INS 181	Tannin	
INS 184	Tannic acid	
INS 270	Lactic acid	
INS 290	Carbon dioxide	Food grade only
INS 300	Ascorbic acid	
INS 306	Tocopherols, mixed natural concentrates	
INS 322	Lecithin	
INS 330	Citric acid	
INS 331	Sodium Citrate	
INS 332	Potassium Citrate	
INS 333	Calcium Citrate	
INS 335	Sodium tartrate	
INS 336	Potassium Tartrate	
INS 341	Mono Calcium Phosphate	Only as flour raising agent
INS 400	Alginic Acid	
INS 401	Sodium Alginate	
INS 402	Potassium Alginate	
INS 406	Algar	
INS 407	Carrageenan	
INS 410	Locust Bean Gum	
INS 412	Guar Gum	
INS 413	Targacanth Gum	
INS 414	Arabic Gum	
INS 415	Xanthan Gum	
INS 440	Pectin	
INS 500	Sodium Carbonates	
INS 501	Potassium Carbonates	
INS 503	Ammonium Carbonates	
INS 504	Magnesium Carbonates	
INS 508	Potassium Chloride	
INS 509	Calcium Chloride	
INS 938	Argon	
INS 941	Nitrogen	
INS 948	Oxygen	

ANNEX 4 APPROVED PROCESSING AIDS AND OTHER PRODUCTS THAT MAY BE USED FOR PROCESSING OF PRODUCTS AND INGREDIENTS FROM ORGANIC PRODUCTION METHOD

Name of approved product	**Conditions for use**
Water	Coagulation agent
Calcium chloride	
Calcium carbonate	
Calcium hydroxide	Coagulation agent
Calcium sulphate	Coagulation agent
Magnesium chloride (or nigari)	Sugar production
Sodium carbonate	Oil production and hydrolysis of starch
Citric acid	Sugar production
Sodium hydroxide	pH adjustment of water, Sugar processing
Sulphuric acid	
Isopropanol (propan-2-ol)	Crystallization of Sugar during production
Carbon dioxide	
Nitrogen	
Ethanol	
Tannic acid	Solvent
Egg white albumen	Filtration aid
Casein	
Geletin	
Isinglass	
Vegetable oils	
Silicon dioxide gel or colloidal solution	Only as greasing, releasing or anti-foaming agent
Activated carbon	
Talc	
Bentonite	
Kaolin	
Diatomaceous earth	
Perlite	
Hazelnut shells	
Rice meal	
Beeswax	
Carnauba wax	

Flavoring Agents

Organic flavoring extracts (including volatile oils)

Volatile (essential) oils produced by means of solvents such as oil, water, ethanol and carbon dioxide and mechanical and physical processes

Natural smoke flavor

Natural flavoring preparations approved by the inspection body

Preparation of Micro-organisms and Enzymes for use in food processing

The following may be used with the approval of the certification body

Organic certified microorganisms

Preparation of microorganisms

Enzymes and enzyme preparations

ANNEX 5 UNRESTRICTED AND RESTRICTED VETERINARY MEDICINES

Restricted medicines mean use involves a withholding period before products can be sold as "produce of organic agriculture" and that record keeping is imposed

Unrestricted Medicines

Medications not included in this appendix always require the approval of the certification programme.

Herbs are generally permitted, save for narcotic herbs

Homeopathic and anthroposophic medications from natural sources are also permitted as in acupuncture. Salves, tinctures and coloured antiseptics from natural sources are permitted.

Mineral Preparations

- Calcium borogluconate
- Calcium gluconate
- Calcium chloride
- Calcium phosphate
- Magnesium phosphate
- Ca Mg. mixes
- Natural iron preparations, such as nettle

Purgatives

- Herbs such as mustard leaves
- Castor oil
- Forage additives
- Linseed

Vitamins

- All non-synthetic

Anti-diarrhoea medications

- Medical charcoal
- Oak bark and/or chalk

Electrolytes

- All such as Ringer's solution, physiological NaCl(0.9% saline solution) etc.

Antibiotics

- None save bearberries for urinary tract disorders

Restricted medicines

Where a synthetic drug is used, the withholding period shall be at least double the legal period.

Vaccines shall only be used when the source of the disease are known to exist in the farm however are allowed.

The use of all growth promoters, substances for production stimulation and suppression of natural growth of synthetic origin, as well as hormones for heat induction and heat synchronization are forbidden.

Antibiotics and chemotherapeutics

Cortisone

Oxytocin

Local anaesthetics

Parasiticides

- Substances to control intestinal parasites
- Substances to control parasites in the skin and fur/hair

Analgesics and substances which affect the central nervous system
Synthetic vitamins and minerals

- Water soluble
- Fat soluble

Serum treatments