



The  
**IFOAM BASIC  
STANDARDS** for  
**ORGANIC PRODUCTION  
and PROCESSING**  
VERSION 2005



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PRODUCTION**

and

**PROCESSING**

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# I. INTRODUCTION



## **1 THE IFOAM NORMS AND ORGANIC GUARANTEE SYSTEM**

### *The IFOAM Basic Standards and the IFOAM Norms*

The IFOAM Basic Standards for Organic Production and Processing, along with the IFOAM Accreditation Criteria for Bodies Certifying Organic Production and Processing, are called the IFOAM Norms. The Norms are the basis for IFOAM's Organic Guarantee System, which is described below. The IFOAM Basic Standards fulfill additional purposes, including serving as guidelines for private and governmental agencies that set their own regional or other specialized standards for direct use in certification.

This publication provides the IFOAM Basic Standards for Organic Production and Processing and related appendices in an electronic book form.

Electronic copies of the Norms (including both the IBS and IAC), or the IFOAM Basic Standards and the IFOAM Accreditation Criteria as self standing documents are also available for a small service fee in the "bookstore" on IFOAM's website, [www.ifoam.org/bookstore](http://www.ifoam.org/bookstore). IFOAM Members can download the Norms free of cost in the members' section of the website.

### *IFOAM's Organic Guarantee System*

Supporting the worldwide adoption of environmentally, socially, and economically sound systems based on the principles of organic agriculture.

### *The IFOAM Organic Guarantee System Enables Trade, Upholds Organic Integrity and Assures Consumers Internationally*

In the rapidly growing environment of marketing and trade of products claiming to be "organic," IFOAM provides a market guarantee of the integrity of organic claims. The Organic Guarantee System (OGS) unites the organic world by providing a common set of standards for organic production and processing, and a common system for verification and market identity. It fosters equivalence of participating certifiers and thereby facilitates the trade of organic products between operators certified by different participating certification bodies.

The IFOAM Organic Guarantee System enables organic certifiers to become "IFOAM Accredited" and for certified operators to label their products with the IFOAM Seal, next to the logo of their IFOAM accredited certifier. More than 30 certifiers worldwide participate in IFOAM accreditation.

### *The OGS Offers Conformity Assessment to Accepted International Norms*

IFOAM Accreditation guarantees to buyers, government authorities, other control agencies, and the public, that a product has been produced within a system that conforms to accepted international standards for organic production, processing, and certification.

The two pillars of the Organic Guarantee System are the IFOAM Basic Standards (IBS) and the IFOAM Accreditation Criteria (IAC). These two documents are international Norms to which certifiers must comply when conducting an IFOAM accredited organic certification.

The IFOAM Basic Standards address the specific principles, recommendations, and required baseline standards that guide operators in producing their organic crops and maintaining organic integrity in the further handling and processing of organic commodities. The IBS are rooted in IFOAM's Principles of Organic Agriculture. The Principles of Organic Agriculture are the basis for all of IFOAM's work, particularly its organic standards. For this reason, the Principles are presented in this Introduction to the IFOAM Basic Standards. The IFOAM Accreditation Criteria are based on the International ISO norms for the operation of certifying bodies, and they are additionally developed to reflect the particular circumstances of certifying organic production and processing. IFOAM owns and develops these documents.

IFOAM's Basic Standards (IBS) and Accreditation Criteria are generally respected as the international guidelines from which national standards and inspection systems may be built; and they have been used as a reference by standard-setters and legislators in national and international arenas. IFOAM Basic Standards have had a strong influence on the development of Codex Alimentarius Guidelines for the Production, Labeling, and Marketing of Organically Produced Foods. The development of the IBS conform to ISO/IEC Guide 59 Code of good practice for standardization, and the WTO Technical Barriers to Trade (TBT) Agreement Annex 3, Code of good practice for the preparation, adoption and application of standards.

### *The OGS is a Collaboration between IFOAM and Other Organizations*

IFOAM Accreditation is administered by an independent organization, the International Organic Accreditation Service (IOAS). The IOAS evaluates the compliance of certification programs with the IBS and the IAC through a system of document review and site evaluation, and execution of accreditation decisions by a committee with global representation and expertise. Supported by this system, these accredited certification bodies are developing more and more functional equivalence with one another to streamline trade for their clients.

### *The OGS is Governed by Policies and Procedures*

The policies and procedures provide the framework for revisions and interpretations of the Norms. They prescribe under which circumstances revisions of the IFOAM Basic Standards, the lists of approved inputs, and the IFOAM Accreditation Criteria can be initiated and how decisions on changes are taken. The policies and procedures also regulate the responsibilities of the committees that are engaged in the continuous development of the Norms. The policies related to the OGS can be found in the OGS section of the IFOAM website at [www.ifoam.org](http://www.ifoam.org).

## 2 THE PRINCIPLES OF ORGANIC AGRICULTURE

### *Preamble*

These Principles are the roots from which organic agriculture grows and develops. They express the contribution that organic agriculture can make to the world, and a vision to improve all agriculture in a global context.

Agriculture is one of humankind's most basic activities because all people need to nourish themselves daily. History, culture and community values are embedded in agriculture. The Principles apply to agriculture in the broadest sense, including the way people tend soils, water, plants and animals in order to produce, prepare and distribute food and other goods. They concern the way people interact with living landscapes, relate to one another and shape the legacy of future generations.

The Principles of Organic Agriculture serve to inspire the organic movement in its full diversity. They guide IFOAM's development of positions, programs and standards. Furthermore, they are presented with a vision of their world-wide adoption.

Organic agriculture is based on:

- The Principle of Health
- The Principle of Ecology
- The Principle of Fairness
- The Principle of Care

Each principle is articulated through a statement followed by an explanation. The principles are to be used as a whole. They are composed as ethical principles to inspire action.

### *The Principle of Health*

Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.

This principle points out that the health of individuals and communities cannot be separated from the health of ecosystems - healthy soils produce healthy crops that foster the health of animals and people.

Health is the wholeness and integrity of living systems. It is not simply the absence of illness, but the maintenance of physical, mental, social and ecological well-being. Immunity, resilience and regeneration are key characteristics of health.

The role of organic agriculture, whether in farming, processing, distribution, or consumption, is

to sustain and enhance the health of ecosystems and organisms from the smallest in the soil to human beings. In particular, organic agriculture is intended to produce high quality, nutritious food that contributes to preventive health care and well-being. In view of this it should avoid the use of fertilizers, pesticides, animal drugs and food additives that may have adverse health effects.

### *The Principle of Ecology*

Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.

This principle roots organic agriculture within living ecological systems. It states that production is to be based on ecological processes, and recycling. Nourishment and well-being are achieved through the ecology of the specific production environment. For example, in the case of crops this is the living soil; for animals it is the farm ecosystem; for fish and marine organisms, the aquatic environment.

Organic farming, pastoral and wild harvest systems should fit the cycles and ecological balances in nature. These cycles are universal but their operation is site-specific. Organic management must be adapted to local conditions, ecology, culture and scale. Inputs should be reduced by reuse, recycling and efficient management of materials and energy in order to maintain and improve environmental quality and conserve resources.

Organic agriculture should attain ecological balance through the design of farming systems, establishment of habitats and maintenance of genetic and agricultural diversity. Those who produce, process, trade, or consume organic products should protect and benefit the common environment including landscapes, climate, habitats, biodiversity, air and water.

### *The Principle of Fairness*

Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.

Fairness is characterized by equity, respect, justice and stewardship of the shared world; both among people and in their relations to other living beings.

This principle emphasizes that those involved in organic agriculture should conduct human relationships in a manner that ensures fairness at all levels and to all parties – farmers, workers, processors, distributors, traders and consumers. Organic agriculture should provide everyone involved with a good quality of life, and contribute to food sovereignty and reduction of poverty. It aims to produce a sufficient supply of good quality food and other products.

This principle insists that animals should be provided with the conditions and opportunities of life that accord with their physiology, natural behavior and well-being.

Natural and environmental resources that are used for production and consumption should be managed in a way that is socially and ecologically just and should be held in trust for future generations. Fairness requires systems of production, distribution and trade that are open and equitable and account for real environmental and social costs.

### *The Principle of Care*

Organic Agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

Organic agriculture is a living and dynamic system that responds to internal and external demands and conditions. Practitioners of organic agriculture can enhance efficiency and increase productivity, but this should not be at the risk of jeopardizing health and well-being. Consequently, new technologies need to be assessed and existing methods reviewed. Given the incomplete understanding of ecosystems and agriculture, care must be taken.

This principle states that precaution and responsibility are the key concerns in management, development and technology choices in organic agriculture. Science is necessary to ensure that organic agriculture is healthy, safe and ecologically sound. However, scientific knowledge alone is not sufficient. Practical experience, accumulated wisdom and traditional and indigenous knowledge offer valid solutions, tested by time. Organic agriculture should prevent significant risks by adopting appropriate technologies and rejecting unpredictable ones, such as genetic engineering. Decisions should reflect the values and needs of all who might be affected, through transparent and participatory processes.

## **II. IFOAM BASIC STANDARDS FOR ORGANIC PRODUCTION AND PROCESSING**

**Version 2005**

Ratified by the IFOAM General Assembly  
in Adelaide, 27th of September 2005

## **SECTION A – GENERAL**

### *Scope of the IFOAM Basic Standards*

Organic agriculture [also known as “Biological” or “Ecological” agriculture or protected equivalent forms of these words (in other languages)] is a whole system approach based upon a set of processes resulting in a sustainable ecosystem, safe food, good nutrition, animal welfare and social justice. Organic production therefore is more than a system of production that includes or excludes certain inputs.

The IFOAM Basic Standards (IBS) provide a framework for certification bodies and standard-setting organizations worldwide to develop their own certification standards and cannot be used for certification on their own. Certification standards should take into account specific local conditions and provide more specific requirements than the IFOAM Basic Standards.

Producers and processors that sell organic products are expected to be certified by certification bodies, using standards that meet or exceed the requirements of the IBS. This requires a system of regular inspection and certification designed to ensure the credibility of organically certified products and build consumer trust.

The IBS reflect the current state of organic production and processing methods. These Standards should not be seen as a final statement, but rather as a work in progress to contribute to the continued development and adoption of organic practices throughout the world.

### *Relevance to Accreditation and International Reference*

The IFOAM Basic Standards and the IFOAM Accreditation Criteria (IAC) are used by the International Organic Accreditation Service (IOAS) in the accreditation process for certification bodies and standards setting organizations. The IOAS compares the standards (used by the certifier) against the IFOAM Basic Standards and certification body performance against the IFOAM Accreditation Criteria.

All the requirements of the IBS relevant to the certified farming or processing operations, must be implemented by certification bodies in order to become IFOAM Accredited Certification Bodies (ACBs).

IFOAM Basic Standards are also used by non accredited certification and standard-setting organizations as a reference for setting their standards.

### *Structure*

The IFOAM Basic Standards are presented as General Principles, Recommendations, Basic Standards and Derogations.

- **General Principles** are the intended goals of organic production and processing. The principles are written as positive statements, using words such as “is” or “are”. For example “Organic livestock husbandry is based on the harmonious relationship between land, plants, and livestock; respect for the physiological and behavioral needs of livestock and feeding of good-quality organically grown feedstuffs”.
- **Recommendations** are practical suggestions for operators to implement in organic farm, food, and fiber systems. IFOAM promotes the recommendations as desirable practices, but does not require operators to use them. They are written with the word “should”. For example “Handlers and processors should identify and avoid pollution and potential contamination sources”.
- **Basic Standards** are the minimum requirements that an operation must meet to be certified organic. All of the standards applicable to the particular farm and enterprise must be met before the operation may be certified as organic. Basic Standards use “shall”. For example “All ruminants shall have daily access to roughage”.
- **Derogations** are the exceptions made to specific sections of the Basic Standards that may only be applied under clearly defined conditions. Derogations are presented in italic text.

Technical terms are explained in the section on definitions below.

**Note:** Certification bodies sometimes set their own standards, or they may adopt standards set by other organizations. For convenience throughout the text, we have written standard-setting organization, where we mean both the standard-setting organization and the certification body.



## SECTION B – DEFINITIONS, GENERAL PRINCIPLES, RECOMMENDATIONS AND STANDARDS

### 1 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 Indian system of medicine.

**Aquaculture:** The managed production of aquatic plants and/or animals in fresh, brackish or salt water in a circumscribed environment.

**Biodiversity:** The variety of life forms and ecosystem types on Earth. 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, forest and aquatic 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, microorganisms, 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 means 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 naturally exists; 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.

**Label:** Any written, printed or graphic representation that is present on 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 the IFOAM Basic Standards 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 (i.e. cuttings, root division) 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 Production:** 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 ORGANIC ECOSYSTEMS**

### **2.1 Ecosystem Management**

#### *General Principle*

Organic farming benefits the quality of ecosystems.

#### *Recommendations*

Operators should maintain a significant portion of their farms to facilitate biodiversity and nature conservation.

A farm should place appropriate areas under its management in wildlife refuge habitat. These include:

- a. extensive grassland such as moorlands, reed land or dry land;
- b. in general all areas which are not under rotation and are not heavily manured: extensive pastures, meadows, extensive grassland, extensive orchards, hedges, hedgerows, edges between agriculture and forest land, groups of trees and/or bushes, and forest and woodland;
- c. ecologically rich fallow land or arable land;
- d. ecologically diversified (extensive) field margins;
- e. waterways, pools, springs, ditches, floodplains, wetlands, swamps and other water rich areas which are not used for intensive agriculture or aquaculture production;
- f. areas with ruderal flora;
- g. wildlife corridors that provide linkages and connectivity to native habitat.

#### *Standards shall require that:*

- 2.1.1** Operators shall take measures to maintain and improve landscape and enhance biodiversity quality.
- 2.1.2** Clearing of primary ecosystems is prohibited.

### **2.2 Soil and Water Conservation**

#### *General Principle*

Organic farming methods conserve and grow soil, maintain water quality and use water efficiently and responsibly.

### *Recommendations*

Operators should minimize loss of topsoil through minimal tillage, contour plowing, crop selection, maintenance of soil plant cover and other management practices that conserve soil.

Operators should take measures to prevent erosion, compaction, salination, and other forms of soil degradation.

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 runoff to surface water or leaching into ground water.

Organic processors and handlers 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 the 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 fertilizers, and effluent from processing and handling facilities.

Operators should respect sustainable resource management and the common good.

### *Standards shall require that:*

- 2.2.1** All operators shall take defined and appropriate measures to prevent erosion.
- 2.2.2** Land preparation by burning vegetation shall be restricted to the minimum.
- 2.2.3** Crop production, processing and handling systems shall return nutrients, organic matter and other resources removed from the soil through harvesting by the recycling, regeneration and addition of organic materials and nutrients.
- 2.2.4** Grazing management shall not degrade land or pollute water resources.
- 2.2.5** Relevant measures shall be taken to prevent or remedy soil and water salinization.
- 2.2.6** Operators shall not deplete nor excessively exploit water resources, and shall seek to preserve water quality. They shall where possible recycle rainwater and monitor water extraction.

## **2.3 Genetic Engineering**

### *General Principle*

Genetic engineering is excluded from organic production and processing.

### *Recommendation*

Genetically Modified Organisms (GMOs) and their derivatives should be excluded from organic production processing and handling to the fullest extent possible.

### *Standards shall require that:*

- 2.3.1** The deliberate use or negligent introduction of genetically engineered organisms or their derivatives to organic farming systems or products is prohibited. This shall include animals, seed, propagation material, and farm inputs such as fertilizers, soil conditioners, vaccines or crop protection materials.
- 2.3.2** The use of genetically engineered organisms or their derivatives is prohibited. This shall include animals, seed and farm inputs such as fertilizers, soil conditioners, vaccines or crop protection materials.
- 2.3.3** The use of genetically engineered seeds, pollen, transgene plants or plant material is not allowed.
- 2.3.4** Organic processed products shall not use ingredients, additives or processing aids derived from GMOs.
- 2.3.5** Inputs, processing aids and ingredients shall be traced back one step in the biological chain to the direct source organism \*(see definition) from which they are produced to verify that they are not derived from GMOs.
- 2.3.6** Contamination of organic product by GMOs that results from circumstances beyond the control of the operator may alter the organic status of the operation and/or product.
- 2.3.7** On farms with split (including parallel) production, the use of genetically engineered organisms is not permitted in any production activity on the farm.

## **2.4 Wild Harvested Products and Common/Public Land Management**

### *General Principle*

Organic management sustains and prevents degradation of common biotic and abiotic resources, including areas used for rangeland, fisheries, forests, and forage for bees, as well as neighboring land, air, and water.

### *Recommendations*

The operator should provide for maintenance and sustainability of the ecosystem when harvesting or gathering the products.

The operator should positively contribute to the maintenance of natural areas.

### *Standards shall require that:*

- 2.4.1.** Wild harvested products shall only be certified organic if they are derived from a stable and sustainable growing environment. The people who harvest, gather, or wildcraft shall not take any products at a rate that exceeds the sustainable yield of the ecosystem, or threaten the existence of plant, fungal or animal species, including those not directly exploited.
- 2.4.2** Operators shall harvest products only from a clearly defined area where prohibited substances have not been applied.
- 2.4.3** The collection or harvest area shall be at an appropriate distance from conventional farming, pollution and contamination.
- 2.4.4** The operator who manages the harvesting or gathering of common resource products shall be familiar with the defined collecting or harvesting area.
- 2.4.5** Operators shall take measures to ensure that wild, sedentary aquatic species are collected only from areas where the water is not contaminated by substances prohibited in these standards.



### **3 GENERAL REQUIREMENTS FOR CROP PRODUCTION AND ANIMAL HUSBANDRY**

#### **3.1 Conversion Requirements**

##### *General Principle*

Organic agriculture develops a viable and sustainable agro-ecosystem, by working compatibly with natural living systems and cycles.

##### *Recommendations*

For optimum sustainability of an agro-ecosystem, all activities including crop production, animal husbandry and general environmental maintenance should be organized such that all the elements of the farm activities interact positively. Practical farming skills, based on knowledge, observation and experience are therefore important for organic growers. Careful practice based on skill and knowledge often avoids the requirement for synthetic inputs, and reduces reliance on inputs.

Conversion may be accomplished over a period of time. A farm may be converted by gradual introduction of organic practices over the whole farm, or by application of organic principles to only a portion of the operation at first.

There should be a clear plan of how to proceed with the conversion. This plan should be updated as necessary and cover all aspects relevant to these standards. The plan should indicate that the totality of crop production and animal production in the operation will be converted to organic management.

Standards should determine how organic and non-organic production and product can be clearly separated and distinguishable in production and documentation, to prevent unintentional mixing of inputs and products.

Independent sections of the operation unit should be converted in such a way that these standards are completely met on each section before it is certified as organic.

##### *Standards shall require that:*

- 3.1.1** There shall be a period of organic management, meeting all the requirements of these standards, before the resulting product may be considered as organic.
- 3.1.2** The start of the conversion period shall be calculated from the date of application to the certification body or, alternatively, from the date of the last application of unapproved inputs providing the operator can demonstrate that the full standards requirements have been met for at least the minimum period stated in sections 4.2 and 5.2. Calculation of

the conversion period may not start before the date of the last non-compliant input or practice.

For the length of conversion periods, refer to sections 4.2 and 5.2.

### **3.2 Split Production and Parallel Production**

#### *General Principle*

The whole farm, including livestock, is converted to organic management practices according to the standards over a period of time.

#### *Recommendation*

The operator should convert the whole farm, and the conversion plan should include the steps and approximate timeframe for whole farm conversion.

#### *Standards shall require that:*

- 3.2.1** If the whole farm is not converted (split production) the organic and conventional parts of the farm shall be clearly and continuously separated.
- 3.2.2** Simultaneous production of the same organic and non-organic crops or animal products (parallel production) is only permitted where such production is undertaken in a way that allows clear and continuous separation of all product claimed as certified or certifiable as organic.
- 3.2.3** Prohibited materials shall be stored in separate locations from those where organic products are handled.

### **3.3 Maintenance of Organic Management**

#### *General Principle*

Organic production systems require an ongoing commitment to organic production practices.

#### *Recommendation*

The operator should design an organic conversion management plan that includes programs and strategies that will allow the operation to be sustainably maintained as organic.

#### *Standards shall require that:*

- 3.3.1.** The operator shall demonstrate that a production system does not rely upon continuous switching between organic and conventional management.

## 4 CROP PRODUCTION

### 4.1 Choice of Crops and Varieties

#### *General Principle*

Species and varieties cultivated in organic agriculture systems are selected for adaptability to the local soil and climatic conditions and tolerance to pests and diseases.

All seeds and plant material are certified organic.

#### *Recommendations*

A wide range of crops and varieties should be grown to enhance the sustainability, self-reliance and biodiversity value of organic farms.

Plant varieties should be selected to maintain genetic diversity.

Varieties known to be suited to organic cultivation should be preferred.

Operators should use organically bred varieties.

#### *Standards shall require that:*

- 4.1.1 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.
- 4.1.2 Operators shall use organic seed 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 not otherwise permitted by these standards. To promote and establish the use of organic seed and plant material, standard-setting organizations shall set appropriate standards and/or time limits for the selected use of non-organic seed and plant material.*

*Where untreated conventional seeds and plant materials are not available, chemically treated seed and plant material may be used. The certification body shall establish time limits and conditions for exemptions that permit use of any chemically treated seeds and plant materials.*

## **4.2 Length of Conversion Period (Plant Production)**

### *General Principle*

A conversion period enables the establishment of an organic management system and builds soil fertility.

### *Recommendations*

The conversion period should be long enough to improve soil fertility significantly and to re-establish the balance of the ecosystem.

The length of the conversion period should be adapted to:

- a. the past use of the land;
- b. the ecological context and its implications;
- c. the experience of the operator.

The length of the conversion period should be defined to provide for a period of at least 36 months from the last date of application of any prohibited material or practice.

### *Standards shall require that:*

- 4.2.1** Plant products from annual production shall only be considered organic when a conversion period of at least 12 months has elapsed prior to the start of the production cycle. In the case of perennials (excluding pastures and meadows) a period of at least 18 months prior to harvest shall be required.
- 4.2.2** There shall be at least a 12-month conversion period prior to pastures, meadows and products harvested therefrom, being considered organic.
- 4.2.3** The conversion period may be extended by the standard-setting organization depending on conditions such as past use of the land, management capacity of the operator and environmental factors.
- 4.2.4** Where conversion periods exceeding those stated in 4.2.1 are required, and labeling of product as “produce of organic agriculture in the process of conversion” or a similar description is permitted, the standards requirements shall have been met for at least 12 months prior to such labeling.

### **4.3 Diversity in Crop Production**

#### *General Principle*

Soil and soil management is the foundation of organic production. Organic growing systems are soil based, care for the soil and surrounding ecosystems and provide support for a diversity of species, while encouraging nutrient cycling and mitigating soil and nutrient losses.

#### *Recommendations*

Diversity in crop production is achieved by a combination of:

- a. a diverse and versatile crop rotation that includes green manure, legumes and deep rooting plants;
- b. appropriate coverage of the soil with diverse plant species for as much of the year as possible.

#### *Standards shall require that:*

- 4.3.1** Diversity in plant production and activity shall be assured by minimum crop rotation requirements and/or variety of plantings. Minimum rotation practices for annual crops shall be established unless the operator demonstrates diversity in plant production by other means. Operators are required to manage pressure from insects, weeds, diseases and other pests, while maintaining or increasing soil organic matter, fertility, microbial activity and general soil health.
- 4.3.2** For perennial crops, the certifying body shall set minimum standards for orchard/plantation floor cover and/or diversity or refuge plantings in the orchard.

### **4.4 Soil Fertility and Fertilization**

#### *General Principle*

Organic farming returns microbial plant or animal material to the soil to increase or at least maintain its fertility and biological activity.

#### *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 minimized. Nutrients should be used in such a way and at appropriate times and places to optimize their effect.

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.

Manures containing human feces and urine should not be used unless free of human pathogens. Careful attention to hygiene is required and it is recommended that they are not applied directly to vegetation for human consumption or to soil that will be used to grow annual plants within the next six months.

*Standards shall require that:*

- 4.4.1** Material of microbial, plant or animal origin shall form the basis of the fertility program.
- 4.4.2** Nutrients and fertility products shall be applied in a way that protects soil, water, and biodiversity. Restrictions may be based on amounts, location, timing, treatments, methods or choice of inputs applied.
- 4.4.3** Material applied to the land or crop shall be in accordance with Appendix 2.
- 4.4.4** Manures containing human excrement (feces and urine) are prohibited for use on crops for human consumption.

*Exceptions may be made where detailed sanitation requirements are established by the standard-setting organization to prevent the transmission of pests, parasites and infectious agents and to ensure that manures are not mixed with other household or industrial wastes that may contain prohibited substances.*

- 4.4.5** Mineral fertilizers 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.
- 4.4.6** Mineral fertilizers 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.

*Under exceptional circumstances, and after consideration of all relevant information, and having regard to Appendix 1, the standard-setting organizations may grant exception to this requirement. These exceptions shall not apply to mineral fertilizers containing nitrogen.*

- 4.4.7** Chilean nitrate and all synthetic nitrogenous fertilizers, including urea, are prohibited.

## **4.5 Pest, Disease, Weed, and Growth Management**

### *General Principles*

Organic farming systems apply biological and cultural means to prevent unacceptable losses from pests, diseases and weeds. They use crops and varieties that are well-adapted to the environment and a balanced fertility program to maintain fertile soils with high biological activity, locally adapted rotations, companion planting, green manures, and other recognized organic practices as described in these standards.

Growth and development should take place in a natural manner.

### *Recommendations*

Pests, diseases and weeds should be managed by the knowledgeable application of one, or a combination, of the following measures:

- a. choice of appropriate species and varieties;
- b. appropriate rotation programs;
- c. mechanical cultivation;
- d. protection of natural enemies of pests through provision of favorable habitat, such as hedges, nesting sites and ecological buffer zones that maintain the original vegetation to house pest predators;
- e. diversified ecosystems. These will vary between geographical locations. For example, buffer zones to counteract erosion, agro-forestry, rotating crops, intercropping, etc.;
- f. thermal weeding;
- g. seed bed preparation;
- h. natural enemies including release of predators and parasites;
- i. acceptable biodynamic preparations from stone meal, farmyard manure or plants;
- j. mulching and mowing;
- k. grazing of animals;
- l. mechanical controls such as traps, barriers, light and sound.

### *Standards shall require that:*

- 4.5.1** 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.
- 4.5.2** Pest, disease and weed management products that are prepared at the farm from local plants, animals and micro-organisms, are permitted when the measures in 4.5.1 are not sufficient. If the ecosystem or the quality of organic products might be jeopardized, the criteria in Appendix 1 and other relevant criteria shall be used to establish whether the product is acceptable.

**4.5.3** Physical methods for pest, disease and weed management are permitted, including the application of heat. Thermal sterilization of soils to combat pests and diseases is restricted.

The standard-setting organization shall establish standards or criteria for all soil sterilization methods that are considered consistent with Appendices 1 and 3.

**4.5.4** Any input applied for plant pest, disease, weed, or growth management shall appear in Appendix 3 subject to the limitations of that appendix.

**4.5.5** Any formulated input shall have only active ingredients listed in Appendix 3. All other ingredients shall not be carcinogens, teratogens, mutagens, or neurotoxins.

## **4.6    *Avoiding Contamination***

### *General Principle*

All relevant measures are taken to ensure that organic soil and food is protected from contamination.

### *Recommendations*

Operators should take reasonable measures to identify and avoid potential contamination.

In case of risk, or reasonable suspicion of risk that contamination may occur, the standard-setting organization should set limits for the maximum application levels of heavy metals and other pollutants.

The standards should place emphasis on detection of contamination sources, improvement of the production system taking into account the procedures developed for HACCP, and the assessment of background contamination levels.

Accumulation of heavy metals and other pollutants should be limited and the appropriate remedial measures implemented where possible.

The standards should establish parameters for the acceptance/rejection of organic products based on analysis.

The standards should establish a procedure on how to evaluate organic products in case of reasonable suspicion of pollution based on due expert consideration and the precautionary principle.

Contamination that results from circumstances beyond the control of the operation does not necessarily alter the organic status of the operation.



*Standards shall require that:*

- 4.6.1** The operator shall employ measures including barriers and buffer zones to avoid potential contamination and limit contaminants in organic products.
- 4.6.2** In case of a reasonable suspicion of contamination, the certification body shall ensure that an analysis of the relevant products and possible sources of pollution (soil, water, air and inputs) is undertaken to determine the level of contamination and shall make the appropriate responses, such as detection of contamination sources, considering background contamination and other relevant factors.
- 4.6.3** For synthetic structure coverings, mulches, fleeces, insect netting and silage wrapping, only products based on polyethylene and polypropylene or other polycarbonates are permitted. These shall be removed from the soil after use and shall not be burned on the farmland.
- 4.6.4** All equipment from conventional farming systems shall be thoroughly cleaned of potentially contaminating materials before being used on organically managed areas.

## 5 ANIMAL HUSBANDRY

### 5.1 *Animal Management*

#### *General Principle*

Organic livestock husbandry is based on the harmonious relationship between land, plants and livestock, respect for the physiological and behavioral needs of livestock and the feeding of good-quality organically grown feedstuffs.

#### *Recommendations*

The operator should:

- a. provide adequate good quality organically grown feedstuffs;
- b. maintain appropriate stocking rates, flock or herd sizes, and rotations to allow for natural behavior patterns and to maintain natural resources and environmental quality;
- c. practice methods of animal management that reduce stress, promote animal health and welfare, prevent disease and parasitism, and avoid the use of chemical allopathic veterinary drugs;
- d. apply management practices that promote sustainable land and water use.

#### *Standards shall require that:*

- 5.1.1 The operator shall ensure that the environment, the facilities, stocking density and flock/herd size provides for the behavioral needs of the animals and provides for:
  - a. sufficient free movement and opportunity to express normal patterns of behavior;
  - b. sufficient fresh air, water, feed and natural daylight to satisfy the needs of the animals;
  - c. access to resting areas, shelter and protection from sunlight, temperature, rain, mud and wind adequate to reduce animal stress;
  - d. the maintenance of social structures by ensuring that herd animals are not kept in isolation from other animals of the same species;
  - e. construction materials and production equipment that do not significantly harm human or animal health.

*This provision does not apply to small herds for mostly self-sufficient production. Operators may isolate male animals, sick animals and those about to give birth.*

- 5.1.2 Housing conditions shall ensure:
  - a. ample access to fresh water and feed according to the needs of the animals;
  - b. animals have sufficient space to stand naturally, lie down easily, turn around, groom themselves and assume all natural postures and movements such as stretching, and wing flapping;

- c. where animals require bedding, adequate natural materials are provided;
- d. that construction provides for insulation, heating, cooling and ventilation of the building, that permits air circulation, dust levels, temperature, relative air humidity, and gas concentrations to within levels that are not harmful to the livestock;
- e. that poultry, rabbits and pigs shall not be kept in cages;
- f. that animals are protected from predation by wild and feral animals.

**5.1.3** Landless animal husbandry systems are prohibited.

**5.1.4** All animals shall have access to pasture or an open-air exercise area or run, whenever the physiological condition of the animal, the weather and the state of the ground permit. Such areas may be partially covered.

*Animals may be temporarily confined because of inclement weather or absences of pasture due to temporary or seasonal conditions. Such animals shall still have access to an outdoor run. Animals may be fed with carried fresh fodder where this is a more sustainable way to use land resources than grazing. Animal welfare shall not be compromised.*

**5.1.5** The maximum hours of artificial light used to prolong natural day length shall not exceed a maximum that respects the natural behavior, geographical conditions and general health of the animals.

## **5.2 Length of Conversion Period**

### *General Principle*

The establishment of organic animal husbandry requires an interim period, the conversion period. Animal husbandry systems that change from conventional to organic production require a conversion period to develop natural behavior, immunity and metabolic functions.

### *Recommendations*

All livestock on an organic farm should be converted to organic production. Conversion should be accomplished over a period of time.

Replacement poultry should be brought onto the holding at the start of the production cycle.

### *Standards shall require that:*

- 5.2.1** Animal products may be sold as “product of organic agriculture” only after the land and animals have all met the appropriate established conversion requirements.
- 5.2.2** Land and animals may be converted simultaneously subject to the requirements for all other land and animal conversion periods.

**5.2.3** Where existing animals on a farm are converted to organic they shall undergo a one-time minimum conversion period at least according to the following schedule:

<b>PRODUCTION</b>	<b>CONVERSION PERIOD</b>
• meat:	12 months
• dairy:	90 days
• eggs:	42 days

**5.3 Animals Sources/Origin**

*General Principle*

Organic animals are born and raised on organic holdings.

*Recommendations*

Organic animal husbandry should not be dependent on conventional raising systems.

Livestock obtained from off the farm should be from organic farms or as part of an established co-operative program between specific farms to improve herd health and fitness.

*Standards shall require that:*

**5.3.1** Animals shall be raised organically from birth.

*When organic livestock is not available conventional animals may be brought in according to the following age limits:*

- a. 2 day old chickens for meat production;*
- b. 18 week old hens for egg production;*
- c. 2 weeks for any other poultry;*
- d. piglets up to 6 weeks and after weaning;*
- e. dairy calves up to 4 weeks old that have received colostrum and are fed a diet consisting mainly of full milk.*

**5.3.2** Breeding stock may be brought in from conventional farms to a yearly maximum of 10% of the adult animals of the same species on the farm.

*Where standards allow for exceptions of more than 10% these shall be limited to:*

- a. unforeseen severe natural or man-made events;*
- b. considerable enlargement of the farm;*
- c. establishment of a new type of animal production on the farm;*
- d. holdings with less than 10 animals.*

## **5.4 Breeds and Breeding**

### *General Principle*

Breeds are adapted to local conditions.

### *Recommendations*

Breeding goals should encourage and maintain the good health and welfare of the animals consistent with their natural behavior.

Breeding practices should include methods that do not depend on high technologies invasive to natural behavior and capital intensive methods.

Animals should be bred by natural reproduction techniques.

### *Standards shall require that:*

- 5.4.1** Breeding systems shall be based on breeds that can reproduce successfully under natural conditions without human involvement.
- 5.4.2** Artificial insemination is permitted.
- 5.4.3** Embryo transfer techniques and cloning are prohibited.
- 5.4.4** Hormones are prohibited to induce ovulation and birth unless applied to individual animals for medical reasons and under veterinary supervision.

## **5.5 Mutilations**

### *General Principle*

Organic farming respects the animal's distinctive characteristics.

### *Recommendations*

Operators should select species and breeds that do not require mutilation.

Exceptions for mutilations should only be made when suffering can be kept to the minimum.

Surgical treatments should only be used for reasons of safety, mitigation of suffering and the health and welfare of the livestock.

*Standards shall require that:*

**5.5.1** Mutilations are prohibited.

*The following exceptions may be used only if animal suffering is minimized and anesthetics are used where appropriate:*

- a. castrations;*
- b. tail docking of lambs;*
- c. dehorning;*
- d. ringing;*
- e. mulesing only for breeds that require mulesing.*

**5.6 Animal Nutrition**

*General Principle*

Organic animals receive their nutritional needs from organic forage and feed of good quality.

*Recommendations*

Operators should offer a balanced diet that provides all of the nutritional needs of the animals in a form allowing them to exhibit their natural feeding and digestive behavior.

Organic animals should be fed by-products from the organic food processing industry not suitable for human use.

Ruminants should receive a balanced diet according to their specific nutritional needs and should not be fed a diet that consists entirely of silage and concentrates.

All feed should come from the farm itself or be produced within the region.

Coloring agents in feed should not be used in organic livestock production.

All animals should have daily access to roughage.

*Standards shall require that:*

**5.6.1** Animals shall be fed organic feed.

*Operators may feed a limited percentage of non-organic feed under specific conditions for a limited time in the following cases:*

- a. organic feed is of inadequate quantity or quality;*
- b. areas where organic agriculture is in early stages of development.*

*In no case may the percentage of non-organic feed exceed 10% dry matter per ruminant and 15% dry matter per non-ruminant calculated on an annual basis.*

*Operators may feed a limited percentage of non-organic feed under specific conditions for a limited time in the following cases:*

- a. unforeseen severe natural or man-made events;*
- b. extreme climatic or weather conditions.*

- 5.6.2** The prevailing part (at least more than 50%) of the feed shall come from the farm unit itself or be produced in co-operation with other organic farms in the region.

*The standard-setting organization may allow exceptions with regard to local and regional conditions, and shall set a time limit.*

- 5.6.3** For the calculation of feeding allowances only, feed produced on the farm unit during the first year of organic management may be classed as organic. This refers only to feed for animals that are being produced within the farm unit. Such feed may not be sold or otherwise marketed as organic.

- 5.6.4** The following substances are prohibited in the diet:

- a.** farm animal by-products (e.g. abattoir waste) to ruminants;
- b.** slaughter products of the same species;
- c.** all types of excrements including droppings, dung or other manure;
- d.** feed subjected to solvent extraction (e.g. hexane) or the addition of other chemical agents;
- e.** amino-acid isolates;
- f.** urea and other synthetic nitrogen compounds;
- g.** synthetic growth promoters or stimulants;
- h.** synthetic appetizers;
- i.** preservatives, except when used as a processing aid;
- j.** artificial coloring agents.

- 5.6.5** Animals may be fed vitamins, trace elements and supplements from natural sources.

*Synthetic vitamins, minerals and supplements may be used when natural sources are not available in sufficient quantity and quality.*

- 5.6.6** All ruminants shall have daily access to roughage.

- 5.6.7** Fodder preservatives such as the following may be used:

- a.** bacteria, fungi and enzymes;
- b.** by-products of food industry (e.g. molasses);
- c.** plant based products.

*Synthetic chemical fodder preservatives such as acetic, formic and propionic acid and vitamins and mineral are permitted in severe weather conditions.*

- 5.6.8** Young stock from mammals shall be provided maternal milk or organic milk from their own species and shall be weaned only after a minimum time that takes into account the natural behavior of the relevant animal species.

*Operators may provide non-organic milk when organic milk is not available.*

*Operators may provide milk replacers or other substitutes only in emergencies provided that they do not contain antibiotics, synthetic additives or slaughter products.*

## **5.7 Veterinary Medicine**

### *General Principle*

Organic management practices promote and maintain the health and well-being of animals through balanced organic nutrition, stress-free living conditions and breed selection for resistance to diseases, parasites and infections.

### *Recommendations*

Operators should maintain animal health and practice disease prevention through the following techniques:

- a.** selection of appropriate breeds or strains of animals;
- b.** adoption of animal husbandry practices appropriate to the requirements of each species, such as regular exercise and access to pasture and/or open-air runs, to encourage the natural immunological defense of animal to stimulate natural immunity and tolerance to diseases;
- c.** provision of good quality organic feed;
- d.** appropriate stocking densities;
- e.** grazing rotation and management.

Operators should use natural medicines and treatments, including homeopathy, Ayurvedic medicine and acupuncture whenever appropriate.

When illness does occur, an operator should determine the cause and prevent future outbreaks by adopting appropriate management practices.

### *Standards shall require that:*

- 5.7.1** The operator shall take all practical measures to ensure the health and well being of the animals through preventative animal husbandry practices.



- 5.7.2** If an animal becomes sick or injured despite preventative measures that animal shall be treated promptly and adequately, if necessary in isolation and in suitable housing. Producers shall not withhold medication where it will result in unnecessary suffering of the livestock, even if the use of such medication will cause the animal to lose its organic status.

*An operator may use chemical allopathic veterinary drugs or antibiotics only if:*

- a. preventive and alternative practices are unlikely to be effective to cure sickness or injury;*
- b. they are used under the supervision of a veterinarian, and*
- c. withholding periods shall be not less than double of that required by legislation, or a minimum of 48 hours, whichever is longer.*

- 5.7.3** Substances of synthetic origin used to stimulate production or suppress of natural growth are prohibited.

- 5.7.4** Vaccinations are allowed with the following limitations:

- a.** when an endemic disease is known or expected to be a problem in the region of the farm and where this disease cannot be controlled by other management techniques, or
- b.** when a vaccination is legally required, and
- c.** the vaccine is not genetically engineered.

## **5.8 Transport and Slaughter**

### *General Principle*

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

### *Recommendations*

Animals should be transported the minimum frequencies and distances possible.

Animals should be inspected regularly during transport.

The transportation medium should be appropriate for each animal.

Animals should be watered and fed during transport depending on weather and other conditions of transport.

Those responsible for transportation and slaughtering should employ stress-reducing measures, such as:

- a.** allowing sufficient rest time to reduce stress;
- b.** maintaining existing group and social ties;

- c. avoiding contact (sight, sound or smell) of each live animal with dead animals or animals in the killing process.

Each animal should be stunned before being bled to death. The equipment used for stunning should be in good working order. Exceptions can be made according to cultural practice. Where animals are bled without prior stunning this should take place in a calm environment.

Local and mobile slaughterhouses should be used when available.

*Standards shall require that:*

- 5.8.1 Animals be handled calmly and gently during transport and slaughter.
- 5.8.2 The use of electric prods and other such instruments is prohibited.
- 5.8.3 Organic animals be provided with conditions during transportation and slaughter that reduce and minimize the adverse effects of:
  - a. stress;
  - b. loading and unloading;
  - c. mixing different groups of animals or animals of different sex;
  - d. quality and suitability of mode of transport and handling equipment;
  - e. temperatures and relative humidity;
  - f. hunger and thirst, and
  - g. the specific needs of each animal.
- 5.8.4 Animals shall not be treated with synthetic tranquilizers or stimulants prior to or during transport.
- 5.8.5 Each animal or group of animals shall be identifiable at each step in the transport and slaughter process.
- 5.8.6 Slaughterhouse journey times shall not exceed eight hours.

*When there is no certified organic slaughterhouse within eight hours travel time, an animal may be transported for a period in excess.*

## **5.9 Bee Keeping**

### *General Principle*

Bee keeping is an important activity that contributes to enhancement of the agriculture and forestry production through the pollinating action of bees.

### *Recommendations*

The hives should consist of natural materials presenting no risk of contamination to the environment or the bee products.

The feeding of colonies may be undertaken with organic feed, to overcome temporary feed shortages due to climatic or other exceptional circumstances.

When bees are placed in wild areas, consideration should be given to the safety and integrity of the indigenous insect population and pollination requirements of native plants.

The treatment and management of hives should respect all the principles of organic animal husbandry contained elsewhere in these standards.

The capacity of bees to adapt to local conditions, their vitality and their resistance to disease should be taken into account.

Honey temperatures should be maintained as low as possible during the extraction and processing of products derived from bee keeping.

The collection areas should be large enough and as varied as possible to provide adequate and sufficient nutrition and access to water.

The health of bees should be based on prevention of disease, using techniques such as adequate selection of breeds, favorable environment, balanced diet and appropriate husbandry practices.

The sources of natural nectar, honeydew and pollen should consist essentially of organically produced plants and/or naturally occurring (wild) vegetation.

### *Standards shall require that:*

- 5.9.1** Hives shall be situated in organically managed fields and/or wild natural areas. Hives may be placed in an area that ensures access to sources of honeydew, nectar and pollen that meets organic crop production requirements sufficient to supply all of the bees' nutritional needs.
- 5.9.2** The operator shall not place hives within foraging distance of fields or other areas with a high contamination risk.
- 5.9.3** At the end of the production season, hives shall be left with reserves of honey and pollen sufficient for the colony to survive the dormancy period.

Any supplementary feeding shall be carried out only between the last honey harvest

and the start of the next nectar or honeydew flow period. In such cases, organic honey or sugar shall be used.

*Exceptions may be made, for a limited time, if organic sugar is not available.*

- 5.9.4** Bee colonies may be converted to organic production. Introduced bees shall come from organic production units when available.

Bee products may be sold as organically produced when the requirements of these Standards have been complied with for at least one year.

During the conversion period, the wax shall be replaced by organically produced wax. Where no prohibited products have been previously used in the hive and there is no risk of contamination of wax, replacement of wax is not necessary.

In cases where all the wax cannot be replaced during a one-year period, the conversion period may be extended with the approval of the standard-setting organization.

- 5.9.5** Each beehive shall primarily consist of natural materials. Use of construction materials with potentially toxic effects is prohibited.

- 5.9.6** For pest and disease control the following are permitted:
- a.** lactic, formic acid;
  - b.** oxalic, acetic acid;
  - c.** sulfur;
  - d.** natural essential oils (e.g. menthol, eucalyptol, camphor);
  - e.** *Bacillus thuringiensis*;
  - f.** steam, direct flame and caustic soda for hive disinfection.

- 5.9.7** Where preventative measures fail, veterinary medicinal products may be used provided that:
- a.** preference is given to phyto-therapeutic and homeopathic treatment, and
  - b.** if allopathic chemically synthesized medicinal products are used, the bee products shall not be sold as organic;
  - c.** treated hives shall be placed in isolation and undergo a conversion period of one year.

The practice of destroying the male brood is permitted only to contain infestation with *Varroa jacobsoni* (mites).

- 5.9.8** The health and welfare of the hive shall be primarily achieved by hygiene and hive management.

- 5.9.9** The destruction of bees in the combs as a method of harvesting of bee products is prohibited.

**5.9.10** Mutilations, such as clipping of the wings of queen bees, are prohibited.

**5.9.11** Artificial insemination of queen bees is permitted.

**5.9.12** The use of chemical synthetic bee repellents is prohibited during honey extraction operations.

**5.9.13** The use of smoke should be kept to a minimum. Acceptable smoking materials should be natural or from materials that meet the requirements of these standards.

## 6 PROCESSING AND HANDLING

### 6.1 *General*

#### *General Principle*

Organic processing and handling provides consumers with nutritious, high quality supplies of organic products and organic farmers with a market without compromise to the organic integrity of their products.

#### *Recommendations*

Handlers and processors should handle and process organic products separately in both time and place from non-organic products.

Handlers and processors should identify and avoid pollution and potential contamination sources.

#### *Standards shall require that:*

- 6.1.1 Handlers and processors shall not co-mingle organic products with non-organic products.
- 6.1.2 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.
- 6.1.3 The handler and processor shall take all necessary measures to prevent organic products from being contaminated by pollutants and contaminants, including the cleaning, decontamination, or if necessary disinfection of facilities and equipment.

### 6.2 *Ingredients*

#### *General Principle*

Organic processed products are only made from organic ingredients.

#### *Recommendations*

Processors should use organic ingredients whenever possible.

Enzymes, fermentation organisms, dairy cultures, and other microbiological products should be organically produced and multiplied from a medium composed of organic ingredients, and substances that appear in Appendix 4.

*Standards shall require that:*

**6.2.1** All ingredients used in an organic processed product shall be organically produced except for those additives and processing aids that appear in Appendix 4 and non-organically produced ingredients that are in compliance with the labeling provisions.

*In cases where an ingredient of organic origin is unavailable in sufficient quality or quantity, the standard-setting organization may authorize use of non-organic raw materials subject to periodic review and re-evaluation. These materials shall not be genetically engineered.*

**6.2.2** Water and salt may be used as ingredients in the production of organic products and are not included in the percentage calculations of organic ingredients.

**6.2.3** Minerals (including trace elements), vitamins and similar isolated ingredients shall not be used unless their use is legally required or where severe dietary or nutritional deficiency can be demonstrated.

**6.2.4** Preparations of micro-organisms and enzymes commonly used in food processing may be used, with the exception of genetically engineered micro-organisms and their products.

Processors shall use micro-organisms grown on substrates that consist entirely of organic ingredients and substances on Appendix 4, if available. This includes cultures that are prepared or multiplied in-house.

### **6.3 Processing Methods**

#### *General Principle*

Organic food is processed by biological, mechanical and physical methods in a way that maintains the vital quality of each ingredient and the finished product.

#### *Recommendations*

Organic products should be processed in a way that maintains nutritional value.

Processors should choose methods that limit the number and quantity of non-organic additives and processing aids.

The IFOAM Principles of Organic Agriculture should be considered when using materials, methods, and techniques that have a functional effect or that modify, add, or remove constituents, or otherwise chemically change the composition of food.

*Standards shall require that:*

- 6.3.1** Techniques used to process organic food shall be biological, physical, and mechanical in nature. Any additives, processing aids, or other material that chemically react with or modify organic food shall be restricted and must appear in Appendix 4.
- 6.3.2** Extraction shall only take place with water, ethanol, plant and animal oils, vinegar, carbon dioxide, and nitrogen. These shall be of a quality appropriate for their purpose.
- 6.3.3** Irradiation is not permitted.
- 6.3.4** Filtration equipment shall not contain asbestos, or utilize techniques or substances that may negatively affect the product.
- 6.3.5** The following conditions of storage are permitted (for allowed substances in these conditions, see Appendix 4):
  - a.** controlled atmosphere;
  - b.** temperature control;
  - c.** drying;
  - d.** humidity regulation.
- 6.3.6** Ethylene gas is permitted for ripening.

**6.4 Pest and Disease Control***General Principle*

Organic food is protected from pests and diseases by the use of good manufacturing practices that include proper cleaning, sanitation and hygiene, without the use of chemical treatment or irradiation.

*Recommendation*

Recommended treatments are physical barriers, sound, ultra-sound, light and UV-light, traps (including pheromone traps and static bait traps), temperature control, controlled atmosphere and diatomaceous earth.

*Standards shall require that:*

- 6.4.1** A handler or processor is required to manage pests and shall use the following methods according to these priorities:
  - a.** preventative methods such as disruption, elimination of habitat and access to facilities;
  - b.** mechanical, physical and biological methods;



- c. substances according to the Appendices of the IFOAM Basic Standards;
      - d. substances (other than pesticides) used in traps.
- 6.4.2** Prohibited pest control practices include, but are not limited to, the following substances and methods:
  - a. pesticides not contained in Appendix 3;
  - b. fumigation with ethylene oxide, methyl bromide, aluminum phosphide or other substance not contained in Appendix 4;
  - c. ionizing radiation.
- 6.4.3** The direct use or application of a prohibited method or material renders that product no longer organic. The operator shall take necessary precautions to prevent contamination, including the removal of organic product from the storage or processing facility, and measures to decontaminate the equipment or facilities. Application of prohibited substances to equipment or facilities shall not contaminate organic product handled or processed therein. Application of prohibited substances to equipment or facilities shall not compromise the organic integrity of product handled or processed therein.

## **6.5 Packaging**

### *General Principle*

Organic product packaging has minimal adverse impacts on the product or on the environment.

### *Recommendations*

Processors of organic food should avoid unnecessary packaging materials.

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

### *Standards shall require that:*

- 6.5.1** Packaging material shall not contaminate organic food.
- 6.5.2** Packaging materials, and storage containers, or bins that contain a synthetic fungicide, preservative, or fumigant are prohibited.
- 6.5.3** Organic 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.

## **6.6 *Cleaning, Disinfecting, and Sanitizing of Food Processing Facilities***

### *General Principle*

Organic food is safe, of high quality, and free of substances used to clean, disinfect, and sanitize food processing facilities.

### *Recommendations*

Handlers should clearly differentiate substances used to clean, disinfect and sanitize food handling equipment and food contact surfaces from those directly applied to food.

Operators should develop a management system for cleaning and disinfecting.

Operators should design facilities, plant layout, install equipment, and devise a cleaning, disinfecting and sanitizing system that prevents the contamination of food and food contact surfaces by prohibited substances, non-organic ingredients, pests, disease-causing organisms, and foreign material.

Handlers and processors should use physical and mechanical means such as dry heat, moist heat, exclusion, and other non-chemical methods, adequate water supplies and substances that appear on Appendix 4, Table 2 to prevent microbiological contamination.

Allowed substances in Appendix 4, Table 2 should be used with consideration to the environment.

The use of cleaning compounds should minimize the disposal of effluent and the use of disinfectants. Gray water recycling off-site, for uses other than handling or processing food, is preferred over either re-circulation or disposal.

Steam traps and filters should be used to remove non-volatile boiler water additives.

Operators should not use persistent cleansers and/or sanitizers that are not easily removed by an intervening event (e.g. quaternary ammonia) or have an adverse impact on the environment (e.g. halogenated compounds).

### *Standards shall require that:*

- 6.6.1** Operators shall take all necessary precautions to protect organic food against contamination by substances prohibited in organic farming and handling, pests, disease-causing organisms, and foreign substances.
- 6.6.2** Water and substances that appear in Appendix 4, Table 2, may be used as equipment cleansers and equipment disinfectants that may come into direct contact with food.

**6.6.3** Operations that use cleaners, sanitizers, and disinfectants on food contact surfaces shall use them in a way that maintains the food's organic integrity.

**6.6.4** The operator shall perform an intervening event between the use of any cleaner, sanitizer, or disinfectant and the contact of organic food with that surface sufficient to prevent residual contamination of that organic food.

## **6.7 Textile Fiber Processing**

### *General Principle*

Organic fiber is processed from organic raw materials in an environmentally sound way that considers the entire product life cycle.

### *Recommendations*

Organic fiber processing should use appropriate techniques that are least damaging to the environment.

Whenever possible, organic fiber products should be processed using only mechanical and/or physical methods.

The amounts of chemical substances used in organic fiber processing should be limited to the minimum quantity needed to achieve the desired product.

Operators should avoid the use of non-biodegradable, bio-accumulating input products and heavy metals.

Organic textiles should be used to the maximum extent possible and not blended with non-organic fibers.

Equipment should be constructed, maintained, and operated in a way that avoids contamination of fibers and fiber products.

Non-organic, natural or synthetic fibers blended with organic fibers should not contain toxic substances or fibers produced in a way that is hazardous to consumers, workers or the environment.

*Standards shall require that:*

- 6.7.1** Fiber processing shall comply with the requirements of sections 6.1 and 6.4.
- 6.7.2** Labeling of textiles shall comply with the requirements of chapter 7, “Labeling.”
- 6.7.3** Operators shall have a management system in place that ensures that any effluents released into the environment resulting from wet processing are properly treated.

## **7 LABELING**

### **7.1 General**

#### *General Principle*

Organic products are clearly and accurately labeled as organic.

#### *Recommendations*

When the full standards requirements have been fulfilled, products should be labeled as “produce of organic agriculture” or a similar description.

The name and address of the person or company legally responsible for the production or processing of the product should be on the label.

Product labels should identify all ingredients, processing methods, and all additives and processing aids.

Labels should contain advice on how to obtain all additional product information.

All components of additives and processing aids should be declared.

Wild ingredients or products should be declared as such, as well as organic.

#### *Standards shall require that:*

- 7.1.1** The person or company legally responsible for the production or processing of the product and the certification body shall be identifiable.
- 7.1.2** To be labeled as “produce of organic agriculture” or equivalent protected terms, a product shall comply with at least these standards.
- 7.1.3** Mixed products where not all ingredients, including additives, are of organic origin and products that are entirely in compliance with these standards, shall be labeled in the following way (percentages in this section refer to raw material weight):
  - a.** 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;
  - b.** 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 product is covered by the certification body may be used, close to the indication of proportion of organic ingredients;

- c. where less than 70% of the ingredients are of certified organic origin, the indication that an ingredient is organic may appear in the ingredient list. Such product may not be called “organic.”

- 7.1.4** All ingredients of a multi-ingredient product shall be listed on the product label in order of their weight percentage. It shall be apparent which ingredients are of organic certified origin and which are not. All additives shall be listed with their full name.

*If herbs and/or spices constitute less than 2% of the total weight of the product, they may be listed as “spices” or “herbs” without stating the percentage.*

- 7.1.5** Added water and salt shall not be included in the percentage calculations of organic ingredients.
- 7.1.6** The label for conversion products shall be clearly distinguishable from the label for organic products.
- 7.1.7** **(see also 2.3)** Organic products shall not be labeled as GMO-free in the context of these standards. Any reference to genetic engineering on product labels shall be limited to the production and processing methods themselves having not used GMOs.

## **7.2 Fiber, Textiles and Apparel**

### *General principle*

Organic fiber, textiles, and apparel are labeled in a way that accurately conveys the organic content of the product.

### *Recommendation*

Labels and tags attached to the products should declare materials in non-textile accessories.

### *Standards shall require that:*

- 7.2.1** Labeling of textiles follows all standards on labeling organic food with the exceptions in this section.
- 7.2.2** Only substances allowed by the certification body based upon the criteria for textile processing in Appendix 1 shall be used to process fiber products labeled as “organic.”

**7.2.3** Apparel and other textile products labeled as organic consist of at least 95% by weight organic fiber as described in section 6.7\*.

**7.2.4** Textiles may be labeled “made with (...%) organically produced fibers” only if at least 70% of the fibers are organic as described in section 6.7\*.

\* (Percentages in 7.2.3 and 7.2.4 refer to the total weight of the fibers, and do not include the weight of the non-textile accessories such as buttons and zippers.)

## 8 SOCIAL JUSTICE

### *General Principle*

Social justice and social rights are an integral part of organic agriculture and processing.

### *Recommendations*

Operators should comply with all ILO conventions relating to labor welfare and the UN Charter of Rights for Children.

All employees and their families should have access to potable water, food, housing, education, transportation and health services.

Operators should provide for the basic social security needs of the employees, including benefits such as maternity, sickness and retirement benefits.

All employees should have equal opportunity and adequate wages when performing the same level of work regardless of color, creed and gender.

Workers should have adequate protection from noise, dust, light and exposure to chemicals that should be within acceptable limits in all production and processing operations.

Operators should respect the rights of indigenous peoples, and should not use or exploit land whose inhabitants or farmers have been or are being impoverished, dispossessed, colonized, expelled, exiled or killed, or which is currently in dispute regarding legal or customary local rights to its use or ownership.

Contracts should be fair, open to negotiation, and honored in good faith.

### *Standards shall require that:*

**8.1.** Operators shall have a policy on social justice.

*Operators who hire fewer than ten (10) persons for labor and those who operate under a state system that enforces social laws may not be required to have such a policy.*

**8.2.** In cases where production is based on violation of basic human rights and clear cases of social injustice, that product cannot be declared as organic.

**8.3** Operators not use forced or involuntary labor.

**8.4** Employees and contractors of organic operations have the freedom to associate, the right to organize and the right to bargain collectively.



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

**8.6** Operators shall not hire child labor.

*Children are allowed to experience work on their family's farm or a neighboring farm provided that:*

- a. such work is not dangerous or hazardous to their health and safety;*
- b. it does not jeopardize the children's educational, moral, social, and physical development;*
- c. children are supervised by adults or have authorization from a legal guardian.*

## 9 AQUACULTURE PRODUCTION STANDARDS

### 9.1 Conversion to Organic Aquaculture

#### *General Principle*

Conversion in organic aquaculture production reflects the diversity of species and production methods.

#### *Recommendation*

Production units should have an appropriate distance from contamination sources and conventional aquaculture.

#### *Standards shall require that:*

- 9.1.1 Operators comply with all the relevant general requirements of chapters 3 and 5.
- 9.1.2 The conversion period of the production unit shall be at least one life cycle of the organism or one year, whichever is shorter.
- 9.1.3 Operators shall ensure that conversion to organic aquaculture addresses environmental factors, and past use of the site with respect to waste, sediments and water quality.

### 9.2 Aquatic Ecosystems

#### *General Principle*

Organic aquaculture management maintains the biodiversity of natural aquatic ecosystems, the health of the aquatic environment, and the quality of surrounding aquatic and terrestrial ecosystem.

#### *Recommendations*

Production should maintain the aquatic environment and surrounding aquatic and terrestrial ecosystem, by using a combination of production practices that:

- a. encourage and enhance biological cycles;
- b. utilize preventive, system based methods for disease control;
- c. provides for biodiversity through polyculture and maintenance of riparian buffers with adequate plant cover.

*Standards shall require that:*

- 9.2.1 Aquatic ecosystems shall be managed to comply with relevant requirements of chapter 2.
- 9.2.2 Operators shall take adequate measures to prevent escapes of introduced, or cultivated species and document any that are known to occur.
- 9.2.3 Operators shall take verifiable and effective measures to minimize the release of nutrients and waste into the aquatic ecosystem.
- 9.2.4 Fertilizers and pesticides are prohibited unless they appear in Appendices 2 and 3.

**9.3 Aquatic Plants**

*General Principle*

Organic aquatic plants are grown and harvested sustainably without adverse impacts on natural areas.

*Recommendation*

The act of collection should not negatively affect any natural areas.

*Standards shall require that:*

- 9.3.1 Aquatic plant production shall comply with the relevant requirements of chapters 2 and 4.
- 9.3.2 Harvest of aquatic plants shall not disrupt the ecosystem or degrade the collection area or the surrounding aquatic and terrestrial environment.

**9.4 Breeds and Breeding**

*General Principle*

Organic animals begin life on organic units.

*Recommendations*

Breeds should be locally adapted and regionally established.

Aquatic animal husbandry should not be dependent on conventional raising systems.

Aquatic animals should be reproduced and bred by natural methods.

*Standards shall require that:*

**9.4.1** Animals shall be raised organically from birth.

*If organic animals are not available, brought-in conventional animals shall spend not less than two thirds of their life span in the organic system.*

*When organic stock is not available, conventional sources may be used. To promote and establish the use of organic stock, standard-setting organizations shall set appropriate standards and/or time limits for the selected use of non-organic sources.*

**9.4.2** Operators shall not utilize artificially polyploid organisms.

## **9.5 Aquatic Animal Nutrition**

### *General Principle*

Organic aquatic animals receive their nutritional needs from good quality, organic and other sustainable sources.

### *Recommendations*

Operators should design feed rations to supply most of the nutritional needs of the animal from organic plants and animals appropriate for the digestive system and metabolism of the species.

Feed brought into the operation should be comprised of by-products from organic and wild sources not otherwise suitable for human consumption.

Operators should maintain the biological diversity of areas that are managed and maintain adequate representation of naturally-occurring organisms.

Operators should design good quality balanced diets according to the physiological needs of the organism.

Operators should feed animals according to their natural feeding behavior.

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

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

**Standards shall require that:**

**9.5.1** Animals shall be fed organic feed.

*Operators may feed a limited percentage of non-organic feed under specific conditions for a limited time in the following cases:*

- a. organic feed is of inadequate quantity or quality;*
- b. areas where organic aquaculture is in early stages of development.*

*In no case may the percentage of non-organic feed of agricultural origin exceed 15% dry matter calculated on an annual basis.*

*Operators may use non-organic aquatic animal protein and oil sources provided they:*

- a. are harvested from independently verified sustainable sources;*
- b. are verified to have contamination levels below limits established by the standard-setting body, and*
- c. do not constitute 100% of the diet.*

*The standard-setting or certification body shall set:*

- a. an appropriate percentage requirement of organic ingredient as diet;*
- b. an implementation date for requiring at least 50% of diet be of organic ingredients.*

**9.5.2** The dietary requirements for aquatic animals shall comply with the requirements of 5.6.4 and 5.6.5.

**9.6 Aquatic Animal Health and Welfare**

**General Principles**

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

**Recommendations**

Operators should identify the cause of outbreaks of disease or infection.

Operators should implement management practices, including criteria for choosing a site that can diminish causative events and future outbreaks of disease.

Operators should use natural methods and medicines, as the first choice, when treatment is necessary.

*Standards shall require that:*

- 9.6.1 Operators shall comply with relevant requirements of section 5.7.
- 9.6.2 Prophylactic use of veterinary drugs is prohibited.
- 9.6.3 Use of chemical allopathic veterinary drugs and antibiotics is prohibited for invertebrates.
- 9.6.4 Synthetic hormones and growth promoters are prohibited for use to artificially stimulate growth or reproduction.
- 9.6.5 Stocking densities do not compromise animal welfare.
- 9.6.6 Operators shall routinely monitor water quality, stocking densities, health, and behavior of each cohort (school) and manage the operation to maintain water quality, health, and natural behavior.

**9.7 Aquatic Animal Transport and Slaughter***General Principle*

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

*Recommendations*

A person specifically responsible for the well being of the animals should be present during transport.

To avoid unnecessary suffering, organisms should be in a state of unconsciousness before slaughter.

*Standards shall require that:*

- 9.7.1 Operators shall comply with relevant requirements of section 5.8.
- 9.7.2 The operator shall handle live organisms in ways that are compatible with their physiological requirements.
- 9.7.3 Operators shall implement defined measures to ensure that organic aquatic animals are provided with conditions during transportation and slaughter that meet animal specific needs and minimize the adverse effects of:
  - a. diminishing water quality;
  - b. time spent in transport;
  - c. stocking density;

- d. toxic substances;
- e. escape.

**9.7.4** Aquatic vertebrates shall be stunned before killing. Operators shall ensure that equipment used to stun animals is sufficient to remove sensate ability and/or kill the organism and is maintained and monitored.

**9.7.5** Animals shall be handled, transported and slaughtered in a way that minimizes stress and suffering, and respects species-specific needs.

## SECTION C – APPENDICES

### APPENDIX 1: CRITERIA FOR THE EVALUATION OF INPUTS, ADDITIVES, AND PROCESSING AIDS FOR ORGANIC PRODUCTION AND PROCESSING

#### *General Principles*

Organic production and processing systems are based on the use of natural, biological, renewable, and regenerative resources. Organic agriculture maintains soil fertility primarily through the recycling of organic matter. Nutrient availability is primarily dependent on the activity of soil organisms. Pests, diseases, and weeds are managed primarily through cultural practices. Organic livestock are nourished primarily through organically produced feed and forage, and are kept in living conditions that allow for natural behavior and avoidance of stress. Organic foods and other products are made from organically produced ingredients that are processed primarily by biological, mechanical, and physical means.

#### *Input Lists*

The following Appendices contain lists of the inputs, food additives, processing aids, and other substances that are allowed for use in organic production, handling, and processing. The following appendices are used to indicate to certification bodies or standard-setting organizations what is acceptable, and are not intended to be comprehensive. These lists include broad categories and are not comprehensive or detailed. Compliant standards can only contain additional inputs that appear in these categories. Standards may also restrict the use of certain inputs based on the consideration of factors such as contamination, risk of nutritional imbalances, importation of inputs from outside the farm, and depletion of natural resources.

The process for adding, deleting or otherwise changing the status of an input is located in IFOAM Policy 60, which is accessible on the IFOAM website, [www.ifoam.org](http://www.ifoam.org), or can be ordered from the IFOAM Head Office.

#### *Production Input Criteria*

Inputs used in organic production are consistent with the principles of organic farming outlined in the relevant chapters of the IFOAM Basic Standards (IBS) and are evaluated against criteria based upon the Precautionary Principle:

‘When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof.’

‘The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.’



*The criteria used to evaluate organic production inputs are based on the following principles:*

**Necessity and alternatives:** Any input used is necessary for sustainable production, is essential to maintain the quantity and quality of the product, and is the best available technology.

**Source and manufacturing process:** Organic production is based on the use of natural, biological, and renewable resources.

**Environment:** Organic production and processing is sustainable for the environment.

**Human health:** Organic techniques promote human health and food safety.

**Quality:** Organic methods improve or maintain product quality.

**Social, Economic, and Ethical:** Inputs used in organic production meet consumer perceptions and expectations without resistance or opposition. Organic production is socially just and economically sustainable, and organic methods respect cultural diversity and protect animal welfare.

Dossiers for a given substance must address these criteria based on the data requirements and decision rules stated in the criteria below, and meet the criteria to be added to the Appendices.

## **A) CROP AND LIVESTOCK CRITERIA**

The following criteria are applied to inputs that are used to evaluate dossiers submitted for crop production. The current IFOAM Basic Standards do not have a separate appendix for livestock inputs. Development of a procedure and application of the criteria to inputs used in livestock production is a work in progress. See chapter 5 for livestock standards and inputs that may be used in organic livestock production.

### **1 NECESSITY AND ALTERNATIVES**

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

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

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

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

## **2 SOURCE AND MANUFACTURING PROCESS**

All dossiers shall document sources and manufacturing processes.

- 2.1** Biological substances require a description of the source organism(s), a verifiable statement that they are not genetically engineered as defined by IFOAM, and the processes required to breed, culture, produce, multiply, extract, or otherwise prepare the substance for use. Naturally occurring plants, animals, fungi, bacteria and other organisms are generally allowed. Substances that undergo physical transformations, such as by mechanical processing, or biological methods, like composting, fermentation, and enzymatic digestion are also generally allowed. Limitations and prohibitions may be set based on consideration of the other criteria. Substances that are modified by chemical reaction are considered synthetic and therefore subject to protocol 2.3 below.
- 2.2** Natural non-renewable resources—such as mined minerals—require a description of the deposit or occurrence in nature. Non-renewable resources are generally restricted or limited in their use. They may be used as a supplement to renewable biological resources, provided they are extracted by physical and mechanical means, and are not rendered synthetic by chemical reaction. Inputs with high levels of natural environmental contaminants, such as heavy metals, radioactive isotopes, and salinity, may be prohibited or further restricted.
- 2.3** Synthetic substances from non-renewable resources are generally prohibited. Synthetic, nature-identical products that are not available in sufficient quantities and qualities in their natural form may be allowed, provided that all other criteria are satisfied.
- 2.4** Inputs that are extracted, recovered, or manufactured by means that are environmentally destructive may be restricted or prohibited.

## **3 ENVIRONMENT**

All dossiers shall document the substance's environmental impact.

- 3.1** The environmental impact of a substance includes, but is not limited to, the following parameters: Acute toxicity, persistence, degradability, areas of concentration; biological, chemical, and physical interactions with the environment, including known synergistic effects with other inputs used in organic production.
- 3.2** Effect of substance on the agro-ecosystem, including soil health; the effects of the substance on soil organisms; soil fertility and structure; crops and livestock.

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

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

#### **4 HUMAN HEALTH**

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

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

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

#### **5 QUALITY**

All dossiers shall document the substance's effect on product quality.

Quality includes, but is not limited to, nutrition, flavor, taste, storage, and appearance of the raw product.

#### **6 SOCIAL, ECONOMIC, AND ETHICAL CONSIDERATIONS**

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

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

**6.2** Consumer perceptions of the compatibility of inputs shall be taken into account. Inputs should not meet resistance or opposition of consumers of organic products. An input might be reasonably considered by consumers to be incompatible with organic production in situations where there is scientific uncertainty about the impact of the substance on the environment or human health. Inputs should respect the general opinion of consumers about what is natural and organic, e.g. genetic engineering is neither natural nor organic.

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

## ***B) PROCESSING AND HANDLING CRITERIA***

### ***Introduction***

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

### **1 NECESSITY AND ALTERNATIVES**

All dossiers shall document the necessity of the additive, processing aid, or carrier, its essential nature in organic processing and for the proposed application, and the availability of alternative methods, practices, and inputs.

Each substance shall be evaluated with respect to its specific uses and applications, and shall be added when it is demonstrated to be absolutely essential and necessary for the production of a specific food that is consistent with organic principles stated in the IFOAM Basic Standards (IBS).

- 1.1.** All dossiers shall take into consideration the technical feasibility of the following alternatives:
- a.** Whole foods that are organically produced according to the IBS.
  - b.** Foods that are organically produced and processed according to the IBS.
  - c.** Purified products of raw materials of non-agricultural origin, e.g. salt.
  - d.** Purified products of raw materials of an agricultural origin that have not been organically produced and processed according to the IBS but appear on Appendix 4.
- 1.2** If an ingredient is required to manufacture a processed food product to independently established minimum technical specifications recognized by consumers, and no organic substitute is available, then a non-organic ingredient can be deemed essential.

- 1.3 A given additive, processing aid, or carrier shall be evaluated with reference to other available ingredients or techniques that may be used as alternatives to the substance.
- 1.4 A substance is considered essential if a processed food product requires that substance in order to meet established standards of identity, governmental regulations, or widely accepted consumer expectations.

## 2 SOURCE AND MANUFACTURING PROCESS

All dossiers shall document the substance's sources and manufacturing processes.

- 2.1 Additives and processing aids from biological sources, such as fermentation cultures, enzymes, flavors, and gums must be derived from naturally occurring organisms by the use of biological, mechanical, and physical methods. Non-organic forms are allowed in organic products only if there are no organic sources.
- 2.2 Natural non-renewable resources — such as salt and mined minerals — must be obtained by physical and mechanical means, and are not rendered synthetic by chemical reaction. Dossiers must document and meet Food Chemical Codex specifications for natural contaminants, such as heavy metals, radioactive isotopes, and salinity, and may be prohibited or restricted based on unacceptable levels of contamination.
- 2.3 Synthetic nature-identical products that are not available in sufficient quantities and qualities in their natural form may be allowed provided all other criteria are satisfied.
- 2.4 Synthetic substances from non-renewable resources are generally prohibited as additives and processing aids.

## 3 ENVIRONMENT

All dossiers shall document the substance's environmental impact.

Documentation for environmental impact:

The release of any harmful waste stream or by-products from both manufacturing and use in processing. Food additives and processing aids that result in toxic by-products or polluting waste may be restricted or prohibited. This includes persistence, degradation, and areas of concentration.

## 4 HUMAN HEALTH

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

- 4.1 Documentation about human health includes, but is not limited to: acute and chronic

toxicity, allergenicity, half-lives, degradants, and metabolites. Substances reported to have adverse effects may be prohibited or restricted in their use to reduce potential risks to human health.

- 4.2 Dossiers shall document any human who might be exposed by all possible pathways: workers and farmers who manufacture, apply, or otherwise use the substance; neighbors who may be exposed through release into the environment; and consumers exposed by ingestion of food-borne residues.
- 4.3 IFOAM will consider only processing aids and additives evaluated by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) of the Codex Alimentarius.<sup>1</sup>
  - a. A food additive shall have an Acceptable Daily Intake (ADI) level that is either 'not specified' or 'not limited' to qualify for use without limitation.
  - b. A food additive with any other status shall either be prohibited or have specific use restrictions to limit dietary exposure.
  - c. Evaluation of food additives shall also take into account known allergenicity and immunological responses.
- 4.4 Information about the practical daily intake of the substance by several groups of human should be taken into account. It should be demonstrated that no group has a normal intake, which is higher than the accepted ADI.

## 5 QUALITY (IN PROCESSED PRODUCTS)

- 5.1 All dossiers shall document the substance's effect on overall product quality, including but not limited to, nutrition, flavor, taste, storage, and appearance.
- 5.2 Additives and processing aids shall not detract from the nutritional quality of the product.
- 5.3 A substance shall not be used solely or primarily as a preservative, to create, recreate or improve characteristics such as flavors, colors, or textures, or to restore or improve nutritive value lost during processing, except where the replacement of nutrients is required by law.
- 5.4 Non-organic ingredients, additives, or processing aids used to process organic products shall not compromise the authenticity or overall quality of the product or deceive the consumer of the product's value.
- 5.5 Each additive shall be evaluated with respect to its specific uses and applications without preference for any specific techniques or equipment, and shall be added to the list only when it is demonstrated to be absolutely essential and necessary for the formulation and production of a specific food that is consistent with organic principles stated in the IFOAM Basic Standards.

<sup>1</sup> [http://apps3.fao.org/jecfa/additive\\_specs/foodad-q.jsp](http://apps3.fao.org/jecfa/additive_specs/foodad-q.jsp)

## **6 SOCIAL, ECONOMIC, AND ETHICAL CONSIDERATIONS**

- 6.1** All dossiers shall document the substance's social, economic, and cultural, implications.
- 6.2** Social, economic, implications include, but are not limited to, adverse impacts on communities caused by the manufacture and use of the substance, whether certain economic structures or scales are favored by the use of the processing aid; and the historical use of the additive or processing aid in traditional foods.
- 6.3** Consumer perceptions of the compatibility of additives and processing aids shall be taken into account. Any additives and processing aids shall respect consumer preferences and be accepted by organic consumers. An input might be reasonably considered by consumers to be incompatible with organic production in situations where there is scientific uncertainty about the impact of the substance on the environment or human health. Inputs should respect the general opinion of consumers about what is natural and organic, e.g. genetic engineering is neither natural nor organic.

### ***C) EVALUATION CRITERIA FOR MATERIALS USED IN ORGANIC FIBER PROCESSING***

In addition to the above applicable criteria, the following additional considerations apply to substances used to process and handle fiber:

Substances may be allowed in organic textile processing only if they are biodegradable, generally recognized as safe and hypoallergenic.

Substances shall be prohibited in organic textile processing if they are carcinogenic, mutagenic, teratogenic, toxic, or produced by genetically modified organisms or ionizing radiation.

**APPENDIX 2: FERTILIZERS AND SOIL CONDITIONERS**

<b>SUBSTANCES DESCRIPTION, COMPOSITIONAL REQUIREMENTS</b>	<b>CONDITIONS FOR USE</b>
<b>I. PLANT AND ANIMAL ORIGIN</b>	
Farmyard manure, slurry and urine	
Guano	
Source separated human excrement from separated sources which are monitored for contamination	Not to be directly applied on edible parts
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, distillery or textile processing	
Crop and vegetable residues, mulch, green manure, straw	
Wood, bark, sawdust, wood shavings, wood ash, wood charcoal	
Seaweed and seaweed products	
Peat (prohibited for soil conditioning)	Excluding synthetic additives; permitted for inclusion in potting mixes
Plant preparations and extracts	
Compost made from ingredients listed in this appendix, spent mushroom waste, humus from worms and insects, urban composts from separated sources which are monitored for contamination	
<b>II. MINERAL ORIGIN</b>	
Basic slag	
Calcareous and magnesium amendments	
Limestone, gypsum, marl, maerl, chalk, sugar beet lime, calcium chloride,	
Magnesium rock, kieserite and Epsom salt (magnesium sulfate)	
Mineral potassium (e.g. sulfate of potash, muriate of potash, kainite, sylvanite, patentkali)	Shall be obtained by physical procedures but not enriched by chemical processes
Natural phosphates	
Pulverized rock, stone meal	



<b>SUBSTANCES DESCRIPTION, COMPOSITIONAL REQUIREMENTS</b>	<b>CONDITIONS FOR USE</b>
Clay (e.g. bentonite, perlite, vermiculite, zeolite)	
Sodium chloride	
Trace elements	
Sulfur	
<b>III. MICROBIOLOGICAL</b>	
Biodegradable processing by-products of microbial origin, e.g. by-products of brewery or distillery processing	
Microbiological preparations based on naturally occurring organisms	
<b>IV. OTHERS</b>	
Biodynamic preparations	
Calcium lignosulfonate	

**APPENDIX 3: CROP PROTECTANTS AND GROWTH REGULATORS**

<b>SUBSTANCES DESCRIPTION, COMPOSITIONAL REQUIREMENTS</b>	<b>CONDITIONS FOR USE</b>
<b>I. PLANT AND ANIMAL ORIGIN</b>	
Algal preparations	
Animal preparations and oils	
Beeswax	
Chitin nematicides (natural origin)	
Coffee grounds	
Corn gluten meal (weed control)	
Dairy products (e.g. milk, casein)	
Gelatine	
Lecithin	
Natural acids (e.g. vinegar)	
Neem ( <i>Azadirachta indica</i> )	
Plant oils	
Plant preparations	
Plant based repellents	
Propolis	
Pyrethrum ( <i>Chrysanthemum cinerariaefolium</i> )	The synergist Piperonyl butoxide is prohibited. Where certification bodies have previously permitted its use, it shall be prohibited after 2005)
Quassia ( <i>Quassia amara</i> )	
Rotenone ( <i>Derris elliptica</i> , <i>Lonchocarpus</i> spp. <i>Tephrosia</i> spp.)	
Ryania ( <i>Ryania speciosa</i> )	
Sabadilla	
Tobacco tea (pure nicotine is forbidden)	
<b>II. MINERAL ORIGIN</b>	
Chloride of lime	
Clay (e.g. bentonite, perlite, vermiculite, zeolite)	
Copper salts (e.g. sulfate, hydroxide, oxychloride, octanoate)	Max 8 kg/ha per year (on a rolling average basis)
Diatomaceous earth	
Light mineral oils (paraffin)	
Lime sulfur (Calcium polysulfide)	
Potassium bicarbonate	
Potassium permanganate	

SUBSTANCES DESCRIPTION, COMPOSITIONAL REQUIREMENTS	CONDITIONS FOR USE
Quicklime	
Silicates (e.g. sodium silicates, quartz)	
Sodium bicarbonate	
Sulfur	
<b>III. MICROORGANISMS</b>	
Fungal preparations	
Bacterial preparations (e.g. <i>Bacillus thuringiensis</i> )	
Release of parasites, predators and sterilized insects	
Viral preparations (e.g. granulosis virus)	
<b>IV. OTHERS</b>	
Biodynamic preparations	
Calcium hydroxide	
Carbon dioxide	
Ethyl alcohol	
Homeopathic and Ayurvedic preparations	
Iron phosphates (for use as molluscicide)	
Seasalt and salty water	
Soda	
Soft soap	
Sulfur dioxide	
<b>V. TRAPS, BARRIERS, REPELLENTS</b>	
Physical methods (e.g. chromatic traps, mechanical traps)	
Mulches, nets	
Pheromones – in traps and dispensers only	

**APPENDIX 4 - TABLE 1: LIST OF APPROVED ADDITIVES<sup>2</sup> AND PROCESSING AIDS**

Where the substances listed in this annex can be found in nature, natural sources are preferred. Substances of certified organic origin are preferred.

<b>INT'L NUMBERING SYSTEM</b>	<b>PRODUCT</b>	<b>ADDITIVE</b>	<b>PROC. AID</b>	<b>LIMITATION/NOTE</b>
INS 170	Calcium carbonate	X	X	
INS 181	Tannin		X	Only for wine
INS 184	Tannic acid		X	Filtration aid for wine
INS 220	Sulfur dioxide	X		Only for wine
INS 224	Potassium metabisulphite	X		Only for wine
INS 270	Lactic acid	X	X	
INS 290	Carbon dioxide	X	X	
INS 296	L-malic acid	X	X	
INS 300	Ascorbic acid	X		
INS 306	Tocopherols, mixed natural concentrates	X		
INS 322	Lecithin	X	X	
INS 330	Citric acid	X	X	
INS 331	Sodium citrates	X		
INS 332	Potassium citrates	X		
INS 333	Calcium citrates	X		
INS 334	Tartaric acid	X	X	Only for wine
INS 335	Sodium tartrate	X	X	
INS 336	Potassium tartrate	X	X	
INS 341	Mono calcium phosphate	X		Only for "raising flour"
INS 342	Ammonium phosphate	X		Restricted to 0.3 gm/l in wine
INS 400	Alginic acid	X		
INS 401	Sodium alginate	X		
INS 402	Potassium alginate	X		
INS 406	Agar	X		
INS 407	Carrageenan	X		
INS 410	Locust bean gum	X		
INS 412	Guar gum	X		
INS 413	Tragacanth gum	X		

<sup>2</sup> Food additives may contain carriers, which shall be evaluated.

<b>INT'L NUMBERING SYSTEM</b>	<b>PRODUCT</b>	<b>ADDITIVE</b>	<b>PROC. AID</b>	<b>LIMITATION/NOTE</b>
INS 414	Arabic gum	X		Only for milk products, fat products, confectionery, sweets, eggs
INS 415	Xanthan gum	X		Only fat, fruit and vegetable products and cakes and biscuits
INS 440	Pectin	X		Unmodified
INS 500	Sodium carbonates	X	X	
INS 501	Potassium carbonates	X	X	
INS 503	Ammonium carbonates	X		Only for cereal products, confectionery, cakes and biscuits
INS 504	Magnesium carbonates	X		
INS 508	Potassium chloride	X		
INS 509	Calcium chloride	X	X	
INS 511	Magnesium chloride	X	X	Only for soybean products
INS 513	Sulfuric acid		X	PH adjustment of water during sugar processing
INS 516	Calcium sulfate	X		For soybean products, confectionery and in bakers' yeast
INS 517	Ammonium sulfate	X		Only for wine, restricted to 0.3 mg/l
INS 524	Sodium hydroxide	X	X	For sugar processing and for the surface treatment of traditional bakery products
INS 526	Calcium hydroxide	X	X	<ul style="list-style-type: none"> <li>• Food additive for maize tortilla flour</li> <li>• Processing aid for sugar</li> </ul>
INS 551	Silicon dioxide (amorphous)		X	For wine, fruit and vegetable processing
INS 553	Talc		X	
INS 901	Beeswax		X	
INS 903	Carnauba wax		X	

<b>INT'L NUMBERING SYSTEM</b>	<b>PRODUCT</b>	<b>ADDITIVE</b>	<b>PROC. AID</b>	<b>LIMITATION/NOTE</b>
INS 938	Argon	X		
INS 941	Nitrogen	X	X	
INS 948	Oxygen	X	X	
	Activated carbon		X	
	Bentonite		X	Only for fruit and vegetable products
	Casein		X	Only for wine
	Diatomaceous earth		X	Only for sweeteners and wine
	Egg white albumen		X	Only for wine
	Ethanol		X	
	Gelatin		X	Only for wine, fruit and vegetable
	Isinglass		X	Only for wine
	Kaolin		X	
	Perlite		X	
	Preparations of bark		X	Only for sugar

### ***Flavoring Agents***

- Organic flavoring extracts (including volatile oils)
- Volatile (essential) oils produced by means of solvents such as oil, water, ethanol, carbon dioxide and mechanical and physical processes
- Natural smoke flavor
- Natural flavoring preparations are only to be approved based on the criteria in Appendix 1

### ***Preparations of Micro-organisms and Enzymes for use in food processing (see 6.2.4.)***

These may be used as ingredient or processing aids with approval based on the criteria in Appendix 1.

- Organic certified micro-organisms
- Preparations of micro-organisms
- Enzymes and enzyme preparations

**APPENDIX 4 - TABLE 2: INDICATIVE LIST OF EQUIPMENT CLEANSERS  
AND EQUIPMENT DISINFECTANTS THAT MAY COME INTO DIRECT  
CONTACT WITH FOOD**

<b>PRODUCT</b>	<b>LIMITATION/NOTE</b>
Acetic acid	
Alcohol, ethyl (ethanol)	
Alcohol, isopropyl (isopropanol)	
Calcium hydroxide (slaked lime)	
Calcium hypochlorite	
Calcium oxide (quicklime)	
Chloride of lime (calcium oxychloride, calcium chloride, and calcium hydroxide)	
Chlorine dioxide	
Citric acid	
Formic acid	
Hydrogen peroxide	
Lactic acid	
Natural essences of plants	
Oxalic acid	
Ozone	
Peracetic acid	
Phosphoric acid	Only for dairy equipment
Plant extracts	
Potassium soap	
Sodium carbonate	
Sodium hydroxide (caustic soda)	
Sodium hypochlorite	E.g. as liquid bleach
Sodium soap	

### **III. PLANT BREEDING DRAFT STANDARDS**



## **Introduction**

The IFOAM Basic Standards (IBS) are under continuous development. This often results in the development of standards on new areas that are not officially IFOAM Basic Standards. These Draft Standards are intended to be elevated to full standards. They are also intended to guide standard setting organizations in developing their own regionally adapted standards. However, even though encouraged to use them for standard setting purposes, IFOAM Accredited Certification Bodies (ACB's) are not obliged to follow Draft Standards. The revision of the Draft Standards follows the procedures applied for the revision of the IFOAM Basic Standards.

In the past, the Draft Standards were published along with the official IFOAM Basic Standards (IBS) in the IFOAM Book of Norms. Some Draft Standards lingered in the IBS for many years before their elevation to full standards was approved or denied by the membership. As a consequence, there have been frequent erroneous references to the Draft Standards as part of the official IBS, which created a host of other problems. Also, sometimes portions of the Draft Standards are integrated into other sections of the IBS, making it very difficult to manage a new area as a Draft Standard, especially when the development of Draft Standards and their adoption as official standards takes more than one IBS revision cycle.

IFOAM considered this in the course of the revision of the 2002 IFOAM Basic Standards and decided to change the formatting and placement of the Draft Standards. They will no longer be published together with the IBS. In general they are only published on the draft standards section of the IFOAM website at [www.ifoam.org](http://www.ifoam.org). As an example, you find below the current Plant Breeding Draft Standards.

### ***Background of the Development of Plant Breeding Draft Standards***

The plant breeding standards were part of the “Plant Breeding and Multiplication Draft Standards” section of the 2002 IBS. This section was amended in the course of the revision of the 2002 IBS.

The following plant breeding draft standards represent the last version as published in the Committee Final Draft that was circulated for stakeholder comment in October 2004.

## **D1 PLANT BREEDING DRAFT STANDARDS**

*Explanatory Note: This section refers to breeding of organic varieties, not simply use of organic seed.*

### ***General Principles***

Organic plant breeding and variety development is sustainable, enhances genetic diversity and relies on natural reproductive ability.

Organic plant breeding is a holistic approach that respects natural crossing barriers and is based on fertile plants that can establish a viable relationship with the living soil. Organic varieties are obtained by an organic plant breeding program.

The objectives of organic plant breeding are to maintain and further diversify organic production.

**Recommendations**

Plant breeders should use breeding methods that are suitable for organic farming. All multiplication practices should be under certified organic management.

Breeding methods and materials should minimize depletion of natural resources.

**Standards shall require that:**

**D1.1** To be an organic variety, only suitable methods of breeding shall be used as listed in appendix D1. All multiplication practices except meristem culture shall be under certified organic management.

**APPENDIX D1: DRAFT LIST OF PLANT BREEDING METHODS**

	VARIATION INDUCTION TECHNIQUES	SELECTION TECHNIQUES	MAINTENANCE AND MULTIPLICATION
<b>SUITABLE AND PERMITTED FOR ORGANIC PLANT BREEDING</b>	<ul style="list-style-type: none"> <li>• Combination breeding</li> <li>• Crossing varieties</li> <li>• Bridge crossing</li> <li>• Backcrossing</li> <li>• Hybrids with fertile F1</li> <li>• Temperature treating</li> <li>• Grafting style</li> <li>• Cutting style</li> <li>• Untreated mentor pollen</li> </ul>	<ul style="list-style-type: none"> <li>• Mass selection</li> <li>• Pedigree selection</li> <li>• Site-determined selection</li> <li>• Change in surroundings</li> <li>• Change in sowing time</li> <li>• Ear bed method</li> <li>• Test crossing</li> <li>• Indirect selections</li> <li>• DNA diagnostic methods</li> </ul>	<ul style="list-style-type: none"> <li>• Generative propagation</li> <li>• Vegetative propagation                             <ul style="list-style-type: none"> <li>- partitioned tubers</li> <li>- scales, husks,</li> <li>- partitioned bulbs, brood bulbs, bulbils, offset bulbs etc.</li> <li>- layer, cut and graft shoots</li> <li>- rhizomes</li> </ul> </li> <li>• Meristem culture</li> </ul>

## About IFOAM

IFOAM's mission is leading, uniting and assisting the organic movement in its full diversity. Our goal is the worldwide adoption of ecologically sound systems that are based on the Principles of Organic Agriculture.

Leading the organic movements worldwide, IFOAM implements the will of its broad based constituency - from farmers' organizations to multinational certification agencies, ensuring the credibility and longevity of organic agriculture as a means to ecological, economic and social sustainability.

Uniting the organic world, IFOAM provides platforms to stakeholders for a wide range of purposes. Through international conferences, committee meetings, and other forums, IFOAM facilitates the ongoing and constructive dialogue about the future and status of organic agriculture.

Assisting its membership, IFOAM implements specific projects that facilitate the adoption of organic agriculture, particularly in developing countries. IFOAM also represents the organic agriculture movements at United Nations and other intergovernmental agencies. IFOAM has observer status or is otherwise accredited by the following international institutions:

- *The Food and Agriculture Organization of the United Nations (FAO)*
- *United Nations Conference on Trade and Development (UNCTAD)*
- *Codex Alimentarius Commission (FAO & WHO)*
- *United Nations Environment Program (UNEP)*
- *The Organization for Economic Cooperation and Development (OECD)*

IFOAM's major aims and activities are:

- *To provide authoritative information about organic agriculture, and to promote its worldwide application.*
- *To exchange knowledge.*
- *To represent the organic movement at international policy making forums.*
- *To establish, maintain and regularly revise the international "IFOAM Basic Standards" as well as the "IFOAM Accreditation Criteria for Certifying Programs", published together as the*

*'IFOAM Norms.'*

- *To make an agreed international guarantee of organic quality a reality via the IFOAM Accreditation Program and Seal.*
- *To build a common agenda for all stakeholders in the organic sector, including producers, farm workers, consumers, the food industry, trade and society at large.*

The IFOAM General Assembly serves as the foundation of IFOAM. It elects the World Board for a three-year term. The World Board appoints members to official committees, working groups and task forces based upon the recommendation of the IFOAM membership. IFOAM member organizations also establish regional groups and sector specific interest groups. As of August 2005, IFOAM has 771 members - farmers groups and cooperatives, processors, trade firms, scientific organizations, consulting firms and certifiers - from 108 countries.

In order to achieve its mission and address the complexity of the various components of the organic agricultural movement worldwide, IFOAM has established official committees and groups with very specific purposes, from the development of standards to the facilitation of organic agriculture in developing countries.

In pursuing the mission, IFOAM acts in a fair, inclusive and participatory manner. IFOAM values the diversity of organic agriculture movements all over the world, and strives to be reliable and professional, open and accountable, and innovative towards challenges and opportunities, while demonstrating leadership and vision in its activities.

For further information, please visit [www.ifoam.org](http://www.ifoam.org) or contact the IFOAM Head Office:

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