# The IFOAM STANDARD for ORGANIC PRODUCTION and PROCESSING

**Draft Version 1.1**

**Compilation of comments and responses from the Standard Committee to the comments from the public consultation 2013**

 ***October 2013***

**General comments:**

Comment **Bionetz, Switzerland:**

- Our view on the standard process is therefore always connected with the question: How can more and more guidelines be integrated and managed in the actual practice along the whole production and value chain?

- We strongly support the integration of sustainability criteria into the organic framework and the inclusion into standards and guidelines.

- May be even more important is the support and promotion of all the initiatives which go further (Best practice/ Best in class/ Awards…..) in order to give orientation for the whole organic movement « where to go ».

Standard Committee Response: Best practices are dealt with under another IFOAM program named the IFOAM Best Practice Program. We therefore do not like to include many “best practices” under this standard, although there are a few recommendations in the standard that we consider a bit beyond what can be required of all operators but hope to see more and more adopted until they can one day become a requirement in the standard.

Comment **Mahesh Chander, India:** It appears an excellent work has been done on the IFOAM standard for organic production and processing (draft version)-congratulations! It is appreciable that wherever necessary, "Regional or other exception' has been indicated which is very helpful in taking care of local necessity, thus, reflect democratic approach. The regional variations are bound to be there so well taken care of in this version of standard.

At some places in the draft, two separate words are appearing as same word, I am sure these would be corrected in the final version.

Standard Committee Response: thanks. We shall do a final proofreading and layout check before publication.

Comment from **FNAB, France:** I want to add that reading again these standards was a pleasure as they are well written, logical and clear. We are also convinced of the importance of this document as a reference for the organic stakeholders.

Comment **Verbund Ökohöfe, Germany**: Generally speaking we are pleased with the revision done.

Comment **Nature & Progrès, France**: The derogations open too often the door to un-desirable practices that risk becoming recurrent. This does not encourage producers to improve their practices because they don’t loose their organic certificate when they use conventional treated seeds or when they buy many conventional animals in order to double their herd, or when they use non-organic ingredients, etc. The risk is to see that the derogations will persist and become the new norm of organic production! By accepting derogations, the organic sector is abandoning its duty to pull all agricultural practices upwards and it discourages research to progress towards organic solutions because often it is allowed to use conventional techniques. Under the excuse to favor the development of organic production and processing, are we not misleading the consumers with regards to the true nature of the organic products that they can buy? Is it a good strategy to lower the technical requirements to please the organic market and the operators involved in the development of those markets? See in the details our comments on some regional exceptions.

Standard Committee Response: There is otherwise a high level of satisfaction about the regional or other exceptions and the way that they are phrased is precisely to avoid producers choosing conventional options when organic ones are available. There are huge disparities across the globe in the availability of organic seeds, animals and ingredients, and it would not be fair to apply the same standard (zero allowance of conventional seeds, animals or ingredients) to all producers around the globe. See more responses in the content of the document.

## SECTION A - GENERAL

**Scope of the IFOAM Standard**

Organic agriculture [also known as “Biological” or “Ecological” agriculture or protected equivalent terms (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. IFOAM defines organic agriculture as “a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved”.

Comment **Organic Unit of the Ministry of Agriculture, Animal Wealth and Irrigation of Sudan:** suggests to write “Therefore organic production is more …” instead of “Organic production therefore is more …”.

Standard Committee Response: agreed. We will change to “Therefore organic production is more…”

The IFOAM Standard (IS) is an internationally applicable organic standard developed by IFOAM. It is a good, practical interpretation of the IFOAM Standards Requirements (Common Objectives and Requirements of Organic Standards), hence belongs to the IFOAM Family of Standards. IFOAM recognizes the need to harmonize organic standards worldwide whenever possible, but also the need to have organic standards that are regionally adapted. The IFOAM Standard is an off-the-shelf standard that can be used by those wanting to outsource standard setting and maintenance and see the benefits of sharing the work with others and creating synergies on an international level. The IFOAM Standard is written in such a way that it may be used in the context of third party certification, Participatory Guarantee Systems (PGS), Community Supported Agriculture (CSA), or simply self-commitment by producers wishing to follow the standard. Hence the standard will not contain record keeping requirements or other requirements related to certification.

Comment **OFAI, India**: replace “outsource standard setting” by “leverage standards setting” since most standards are set in consultation with but not using them verbatim. Secondly modify the last sentence as follows: “Hence, record keeping requirements or other requirements related to certification are not within the scope of this standard.”

Standard Committee Response: agreed. We will replace the sentence “The IFOAM Standard is an off-the-shelf standard which that can be used by those wanting to outsource standard setting and maintenance and see the benefits of sharing the work with others and creating synergies on an international level.” By “The IFOAM Standard is ready to use directly by those who want to be certified to an internationally recognized and respected standard.”

We shall change the last sentence to “Hence, record keeping requirements or other requirements related to certification are not within the scope of this standard.”

The IFOAM standard contains provisions for regional variations, in the form of regional or other exceptions. They can be permission(s) granted to an operator to be excluded from the need to comply with normal requirements of the standard. These exceptions (or derogations) are to be understood as typically requiring approval from the control body (see definition of control body). Exceptions must be granted on the basis of clear criteria, with clear justification and for a limited time period only. In the context of third party certification, and especially under the IFOAM Accreditation Program, these exceptions are left to the decision of the certification body and require certification body approval before being implemented. Under a PGS scheme, they would also require a decision by the relevant decision making level within the scheme, usually the same level as makes/validates the certification decisions. Under a CSA or other consumer-driven schemes, it is proposed that the producer submits exception requests to the decision of his/her consumer base.

Comment **OFIA, India:** replace his/her by “their”.

Standard Committee Response: Agreed.

The IFOAM Standard covers the areas of general organic management, crop production (including plant breeding), animal production (including beekeeping), aquaculture, wild collection, processing and handling, labeling, and social justice.

The IFOAM Standard is complementary and additional to all other relevant statutory requirements.

**Relevance to the IFOAM Accreditation and to International Reference**

The IFOAM Standards and the IFOAM Accreditation Requirements (IAR) are used by the International Organic Accreditation Service (IOAS) in the IFOAM accreditation process for organic certification bodies. The IOAS evaluates the standards (used by the certifier) against the IFOAM Standard, as well as the certification body’s performance against the IFOAM Accreditation Requirements.

Certification bodies must implement all the requirements of the IFOAM Standard relevant to the certified farming or processing operations in order to become IFOAM Accredited Certification Bodies (ACBs). In other words, certification bodies wishing to be IFOAM accredited must use either the IFOAM Standard itself, or a standard compliant with the IFOAM Standard.

The IFOAM Standard may also be used (against payment) by non accredited certification and standard-setting organizations as way to outsource their standard-setting activity to IFOAM. In addition, governments and other standard setters may (and are recommended to) use freely the IFOAM Standard as a reference to develop their own regulation or standard.

Comment **OFIA, India:** replace to “… by non-accredited certification and standard-setting organizations as a way to …”

Standard Committee Response: agreed. Will change to “… by non-accredited certification and standard-setting organizations as a way to …”

**Structure**

Requirements in the IFOAM Standard are organized according to the following structure:

1. Definitions
2. Organic Ecosystems
3. General Requirements for Crop Production and Animal Husbandry
4. Crop Production
5. Animal Husbandry
6. Aquaculture Production Standards
7. Processing and Handling
8. Labeling
9. Social Justice

Each section contains subsections that are organized according to a similar structure, namely a statement of the general principle applicable to that section, followed by the requirements that have to be followed by the operators. The requirements 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.

Comment **OFIA, India:** merge and shorten the last two sentences: “The requirements are the minimum requirements that an operation, such as a farm or enterprise, must meet to be certified as organic.” The second sentence appears to be a redundant statement to the first one.

Standard Committee Response: agreed, and in fact the last sentence may be confusing as the standard allows split or parallel production. We will replace the last two sentences by: “The requirements are the minimum requirements that an operation, such as a farm or enterprise, must meet to be certified as organic.”

We will also improve the structure section by adding a paragraph as follows:

“Chapters 1,2 and 3 are applicable to all crop and animal production systems, including aquaculture. Chapter 9 is applicable to all systems, including processing.”

Technical terms are explained in the section on definitions below.

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

### 1. DEFINITIONS

**Additive:** An enrichment, supplement or other substance which can be added to a foodstuff or other product to affect its keeping quality, consistency, color, taste, smell or other technical property (For full definition, see Codex Alimentarius).

**Amino acid isolate:** amino acid substance (e.g. methionine, lysine, threonine) that has been isolated or extracted to a more pure form than occurs in the parent material (e.g. soy, corn, etc).

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

**Ayurvedic:** Traditional Indian system of medicine.

**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), as well as the dynamic effects they engender.

**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 Body:** The body that conducts (grants) certification, as distinct from standard setting and inspection.

**Compost:** Decayed organic material used as a fertility amendment in agricultural production, produced by a combination of actions over time by microbes, invertebrates, temperature, and other elemental factors (e.g., moisture content, aeration). Composted material shows practically no substantive indication as to the original substrate(s) from which it was made.

**Contamination:** Contact of organic product or land with a substance prohibited for organic production or handling.

**Control Body:** A third-party organization that has independent oversight of the organic status of an operation. A Control Body may be a certification body, a governmental competent authority, a participatory guarantee system, a cooperative, or a community supported agriculture program

**Conventional:** Conventional means any material, production or processing practice that is not organic or organic “in conversion”.

**Conversion Period:** The time between the start of the organic management and the acceptance 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 to break weed, pest and disease cycles and to maintain or improve soil fertility and organic matter content.

**Culture:** Microorganisms, tissue, or organ, growing on or in a medium and substrate.

**Direct Source Organism:** The specific plant, animal, or microbe that produces a given input or ingredient, or which gives rise to a secondary or indirect organism that produces an input or ingredient.

Comment **Organic Unit of the Ministry of Agriculture, Animal Wealth and Irrigation of Sudan:** delete the “or” that comes after the comma.

Standard Committee Response: We will change the definition to “The specific plant, animal, or microbe that produces a given input or ingredient”. The rest of the sentence was creating un-necessary confusion.

**Disinfect:** To reduce, by physical or chemical means, the number of potentially harmful microorganisms in the environment, to a level that does not compromise product safety or suitability.

**Farm Unit:** The total area of land under control of one farmer or a collective of farmers, including all the farming activities or enterprises.

**Genetic Diversity:** The variability among living organisms from agricultural, forest and aquatic ecosystems; this includes diversity within species and between species.

**Genetic Engineering:** 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 engineering include, but are not limited to: recombinant DNA, cell fusion, micro- and macro-injection, and encapsulation. 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 material of actual or potential value.

**Green Manure:** A crop that is incorporated into the soil for the purpose of soil improvement. This 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.

**High Conservation Value Area:** An area that has been identified as having outstanding and critical importance due to its environmental, socioeconomic, biodiversity or landscape values.

**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.

**Hydroponic Systems:** Crop production systems in inert media and/or water solutions using dissociated nutrients (in suspension or solution) as prime source of nutrient supply. Growing crops in water only is not considered a hydroponic system.

**Ingredient:** Any substance, including additives, used in the manufacture or preparation of a product 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 product’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, or for the purpose of inducing mutations for selection and breeding.

**Label:** Any written, printed or graphic representation that is present on a product, accompanies the product, or is displayed near the product.

**Landless animal husbandry systems**: systems by which the operator of the livestock does not manage agricultural land and/or has not established a long-term cooperation agreement with another operator organically managing agricultural land, whether it be for pasture, supply of feed or disposal of manure & effluent.

Comment **Gerhald Pelzer, Germany**: insert the word “nearby” as follows: “agreement with another operator nearby”. A first step to regionalize the required circular production flow is addressed by inserting „nearby“.

Standard Committee Response: We believe that “nearby” is too subjective. We shall leave the current definition unchanged, even though we agree that it is a complex topic and that it may not be currently ideally addressed.

**Manure:** All livestock excrement that may be mixed with litter material.

**Media (plural) or Medium (singular):** The substance in which an organism, tissue, or organ exists, which includes the substrate.

**Multiplication:** The growing on of seed stock or plant material to increase supply for future planting.

**Nanomaterials:** substances deliberately designed, engineered and produced by human activity to be in the nanoscale range (approx 1-300 nm) because of very specific properties or compositions (e.g. shape, surface properties, or chemistry) that result only in that nanoscale. Incidental particles in the nanoscale range created during traditional food processing such as homogenization, milling, churning, and freezing, and naturally occurring particles in the nanoscale range are not intended to be included in this definition.

**Operator:** An individual or business enterprise responsible for ensuring that products meet the requirements of an organic standard.

**Organic agriculture:** Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.

**Organic Product:** A product that 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.

Comment **OFAI, India**: add: “material that is used and produced”.

Standard Committee Response: no, a certified organic seed may be used by a conventional farm. It is not the use, but the production process that makes a seed or plant material “organic”. We will therefore keep our current language.

**Parallel Production:** Any production where the same unit is growing, breeding, handling or processing visually indistinguishable products in an organic system and in a 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.

Comment from the **IFOAM Accreditations Requirements Committee**: We, the ARC committee, have reviewed the IAR, including the definition section. We have, whenever possible, adopted the definition in the IFOAM Standard in order to ensure consistency in the IFOAM Norms. However, we notice that the definition in the current IFOAM Standard draft, of parallel production, contradicts the content of the IFOAM Accreditation Requirements:

Current definition of Parallel Production in the IS includes the words: " visually indistinguishable products"

The current version of the IAR contains a requirement that says:

**"6.8.3** If a farm is engaged in parallel production, the certification body shall require that in addition to the requirements for split production above:

a.      non-organic (or conversion) crops, livestock and produce and organic crops, livestock and produce are of different varieties and are visually distinguishable. Exceptions shall only be granted on a case-by-case basis in accordance with the requirements in 6.8.4;

b.      production data are recorded and shall be checked against sales records for both organic and conventional productions;

c.      the inspection includes visits to the non-organic fields and/or processing units.

**6.8.4** In cases where an exception has been granted to the requirements in 6.8.3a inspections shall occur more frequently than once a year and at critical times. This shall normally include inspections at the time of harvest or during processing."

We therefore changed the definition in the IAR, to the following:

**"Parallel Production**: Any production where the same unit is growing, breeding, handling or processing the same products in an organic system and in a 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."

We recommend that the SC changes the definition in the IFOAM Standard accordingly, and any related requirement in the IFOAM Standard.

Standard Committee Response: agreed. We shall change the definition to: “Any production where the same unit is growing, breeding, handling or processing the same products in an organic system and in a 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.” We shall also change 3.1.2 to read “Simultaneous production of the same products (parallel production)…”.

**Processing Aid:** Any substance or material, not including apparatus or utensils, and not consumed as a product ingredient by itself, intentionally used in the processing of raw materials, the product 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. This includes filtration auxiliaries.

**Propagation:** The reproduction of plants by sexual (i.e. seed) or asexual (i.e. cuttings, root division) means.

**Protected cropping:** the growing of crops under some form of constructed or man-made protection such as greenhouses, polytunnels, plastic roofs, nets, fleece, or cloches.

Comment **OFAI, India**: change to “The growing of crops under forms of …”

Standard Committee Response: agreed. We shall change accordingly.

**Ruderal:** (of a plant) growing in waste places, along roadsides or in rubbish.

**Sanitize:** To adequately treat produce or product-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.

**Soil:** Soil is the natural living ecosystem that develops on surface of the earth as a result of the influence of climate, topography, biological activity, time, and sometimes cultivation, on the mineral parent material. Soil is composed of air, water, minerals, organisms and organic matter connected to the pedosphere.

Comment **David Gould, USA**: “… develops on the surface of …”

Comment to the word “pedosphere”: Not sure what this means and I do not find it in a standard dictionary.

Comment **Bionext, Netherlands**: This is unclear: what is connected to the pedosphere in the current wording only the organic matter is.

Comment **Naturland, Germany**: Not sure if this definition is correct. How is the relation between pedosphere and soil?

Standard Committee Response: ok, we shall change the definition to “Soil is the natural living ecosystem that develops on the surface of the earth as a result of the influence of climate, topography, biological activity, time, and sometimes cultivation, on the mineral parent material. Soil is composed of air, water, minerals, organisms and organic matter and is connected to the outermost layer of the earth.”

**Soil fertility:** The potential capacity of the soil to supply nutrients required for plant growth.

Comment **OFAI, India**: replace “to supply” by “containing”.

Standard Committee Response: we do not agree with this change. Fertility is not just about the absolute presence of nutrients but their ability to be taken up by the plants as well. We will keep our current language.

**Soil health:** Soil health is the continued capacity of the soil to function as a vital living system, within ecosystem and land use boundaries, to sustain biological productivity, maintain the quality of air and water environments, and promote plant, animal and human health. Soil health is the ability of soil to perform according to its potential and changes over time due to human use and management or to unusual natural events.

Comment **OFAI, India**: replace “ability” by “efficacy” and delete the word “unusual”.

Side comment – there is an old belief in the orients, that there is no such thing as a good soil or bad soil – only the amount of human effort required on it. Just as a comment on judging soil health as its ability versus the indulgence of human effort with the soil to produce for our needs.

Standard Committee Response: We believe that soil health can be judged. It is not so much the “efficacy” which is relevant here, but rather the ability for the soil to perform its functions. Therefore, we will only delete the word “unusual” and otherwise leave the definition as it is.

**Soil quality:** Soil quality is the functional capacity of the soil, within ecosystem and land-use boundaries, to sustain biological productivity, maintain environmental quality and promote plant, animal and human health. Soil quality is a function of its physical and chemical properties, many of which are a function of soil organic matter content, which influence the capacity of soil to perform crop production and environmental functions, including the absence of contaminants.

Comment **OFAI, India**: add “(including soil microorganisms)” after animal.

Standard Committee Response: we shall change the definition to “…maintain environmental quality and promote plant, animal, microbial and human health. Soil quality is a function of its biological, physical and chemical properties,…”.

**Split Production:** Where only part of the farm or processing unit is organic. The remainder of the property can be (a) non-organic, and/or (b) in conversion. Also see parallel production.

**Substrate:** The substance that an organism grows in and lives upon.

**Synthetic:** A substance that is formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from a naturally occurring plant, animal or mineral source, except that such a term shall not apply to substances created by naturally occurring biological processes.

Comment **OFAI, India**: add: “or by a combination of naturally occurring biological substances.” By this definition – it may turn out that compounds such as Panchgavya which is formulated per Ayurveda is also synthetic

Standard Committee Response: We shall keep the definition as it is. For clarification, this definition does not prohibit blending, mixing or combining naturally occurring substances as long as there is no chemical change. Post-harvest and processing activities like cooking or fermenting are allowed as they belong to “naturally occurring biological processes” rather than a purely chemical reaction.

### 2. ORGANIC ECOSYSTEMS

#### 2.1 Ecosystem Management

**General Principle**

Organic farming benefits the quality of ecosystems.

**Requirements**

**2.1.1** Operators shall design and implement measures to maintain and improve landscape and enhance biodiversity quality, by maintaining on-farm wildlife refuge habitats or establishing them where none exist. Such habitats may include, but are not limited to:

1. extensive grassland such as moorlands, reed land or dry land;
2. 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;
3. ecologically rich fallow land or arable land;
4. ecologically diversified (extensive) field margins;
5. waterways, pools, springs, ditches, floodplains, wetlands, swamps and other water-rich areas which are not used for intensive agriculture or aquaculture production;
6. areas with ruderal flora;
7. wildlife corridors that provide linkages and connectivity to native habitat.

**2.1.2** Clearing or destruction of High Conservation Value Areas is prohibited. Farming areas installed on land that has been obtained by clearing of High Conservation Value Areas in the preceding 5 years shall not be considered compliant with this standard.

#### 2.2 Soil and Water Conservation

**General Principle**

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

**Requirements**

**2.2.1** Operators shall take defined and appropriate measures to prevent erosion and minimize loss of topsoil. Such measures may include, but are not limited to: minimal tillage, contour plowing, crop selection, maintenance of soil plant cover and other management practices that conserve soil.

Comment **OFAI, India**: add “and increase water holding capacity.” at the end of the last sentence.

Standard Committee Response: We do not agree with this change. Depending on the site, increase of water holding capacity is not favorable everywhere. Even though it is highly important in many regions it cannot be put as a global requirement. Moreover the goal of this requirement is water conservation and not field capacity.

**2.2.2** Land preparation by burning vegetation or crop residues is prohibited.

**Regional or other exception**

Exceptions may be granted in cases where burning is used to suppress the spread of disease, to stimulate seed germination, to remove intractable residues, or other such exceptional cases.

**2.2.3** Operators 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** Stocking densities and grazing shall not degrade land or pollute water resources. This applies also to all manure management and applications.

**2.2.5** Operators shall prevent or remedy soil and water salinization where these pose a problem.

**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 Inappropriate technologies

**General Principle**

Organic agriculture and aquaculture are based on the precautionary principle and should prevent significant risks by adopting appropriate technologies and rejecting unpredictable ones.

**Requirements**

* + 1. The deliberate use or negligent introduction of genetically engineered organisms or their derivatives is prohibited. This shall include animals, seed, propagation material, feed, and farm inputs such as fertilizers, soil conditioners, or crop protection materials, but shall exclude vaccines.

**2.3.2** Organic operators shall not use ingredients, additives or processing aids derived from GMOs.

* + 1. 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.

Comment **OFAI, India**: Which definition? GMO?

Comment Krav, Sweden: Can´t find any definition. Do not understand the meaning of “\*”.

Standard Committee Response: there is a definition of “direct source organism”. We shall actually delete “(see definition”) altogether.

* + 1. On farms with split (including parallel) production, the use of genetically engineered organisms is not permitted in any production activity on the farm.
		2. The use of nanomaterials is prohibited in organic production and processing, including in packaging and product contact surfaces. No substance allowed under this standard shall be allowed in nano form.

#### 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.

Comment **Organic Unit of the Ministry of Agriculture, Animal Wealth and Irrigation of Sudan:** suggests to change “forage for bees” to “crop nourished by bees”.

Standard Committee Response: no, the areas used for forage for bees are meant to refer to wild areas that the bees feed on. We shall keep the current language.

**Requirements:**

**2.4.1.** Wild harvested products shall only be derived from a sustainable growing environment. Products shall not be harvested at a rate that exceeds the sustainable yield of the ecosystem, or threatens 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 or other pollution sources in order to avoid 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, including the impacts of collectors not involved in the organic scheme.

**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 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.

**Requirements:**

**3.1.1** If the whole farm is not converted (split production) the organic and conventional parts of the farm shall be clearly and continuously separated.

**3.1.2** Simultaneous production of visually indistinguishable 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 and verifiable separation of all operations and products claimed as organic. Organic and non-organic units in parallel production must be physically, financially and operationally separated.

**3.1.3** Prohibited materials shall not be stored on the organic unit.

Comment **Naturland, Germany**: We think this is not reflecting the complexities of organic operations and standards, where not all materials are just “organic” or “prohibited”. Proposed: leave the old version.

Comment **OFAI, India:** suggests to change to “on the farm unit”.

Comment **FNAB, France**: The previous formulation seems clearer to us.

Comment Krav, Sweden: Previous writing is more clear. It is important that it is clear that the separate location are important.

Standard Committee Response: ok, we realize that our change is more confusing than helpful. We shall change to: “Prohibited materials shall not be stored where organic products are grown and handled”.

#### 3.2 Maintenance of Organic Management

**General Principle**

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

**Recommendations:**

In case of split or parallel production, the operator should demonstrate continuous efforts towards bringing the entire farm under organic management, such as increasing the size of the organic operation relative to the conventional or adopting organic practices in the conventional operation.

**Requirements:**

**3.2.1** The production system shall not rely upon continuous switching between organic and conventional management.

Comment **Naturland, Germany:** about old 3.3/3.3.1: Where did this go?

Standard Committee Response: This is now under 7.2.7.

### 4 . CROP PRODUCTION

#### 4.1 Choice of Crops and Varieties and propagation of planting materials

Comment **Organic Unit of the Ministry of Agriculture, Animal Wealth and Irrigation of Sudan:** tissue culture propagation is not mentioned.

Standard Committee Response: Tissue culture propagation is already addressed in 4.1.3 and 4.1.5. If the commenter would like more specific requirements for it, he is asked to submit a concrete proposal. In regards to substances to add to the appendix, please submit dossier.

**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 organic.

Comment **Verbund Ökohöfe, Germany**: add here that for seeds non-hybrid/open pollinated varieties should be used. Add further that the member organizations should create (until 2018) a list of hybrid seeds that are (still) allowed and to prohibit all hybrid seeds after 2025.

Standard Committee Response: The current IFOAM Position on the Use of Organic Seed and Plant Propagation Material in Organic Agriculture (approved in 2011) does not speak against the use of hybrid or for their restriction. There has not been any consensus so far in IFOAM on this issue. Also, the current section 4.8 of this standard actually allows producing organic hybrid varieties. It would be inconsistent for the standard to even recommend not using varieties that are certified as organic according to this very standard.

**Recommendation:**

Operators should give preference to organically bred varieties (varieties from organic breeding programs, see 4.7) when available.

**Requirements:**

**4.1.1** Operators shall use organically produced seed and planting material whenever available in appropriate varieties and quality. When organic seed and planting materials are not available in sufficient quantity or quality for the required variety or equivalent varieties, in-conversion materials may be used. When none of these are available, conventional materials may be used provided that they have not been treated with post-harvest pesticides not otherwise permitted by this standard.

Regional or other exception

*Where post-harvest chemical treatment is prescribed by law for phytosanitary purposes, treated seed and plant material may be used.*

Comment **Nature & Progrès, France**: An organic operator should loose its certificate if he uses treated seeds. If this exception exists, regulators don’t have any qualm in imposing compulsory treatments and the researchers don’t have any stimulation in searching for conservation methods that are compatible with organic agriculture.

Standard Committee Response: this would mean that in some countries, operators simply could not produce certain crops as organic, and would have to produce them conventionally, which goes against the goal of increasing adoption of organic agriculture. Moreover, we do not believe that the fate of a few organic farmers is necessarily going to change general agricultural regulations which are often made by officials who do not care about organic agriculture (at least in many countries of the world). Hence we do not wish to “sacrifice” organic farmers in an attempt to pressure regulators. There are other more efficient ways than standard requirements to encourage regulators and researchers to care about organic agriculture.

**4.1.2** Seeds and plant materials shall be propagated under organic management for one generation, in the case of annuals, and for perennials, two growing periods, or 18 months, which ever is the longer, before being certified as organic seed and plant material.

Comment **OFAI, India**: write “whichever” as one word.

Standard Committee Response: Agreed. We shall change it.

**4.1.3** Propagation may be based on generative propagation (seeds) as well as

vegetative propagation derived from various plant organs e.g.

* 1. partitioned tubers, scales, husks;
	2. partitioned bulbs, brood, bulbs, bulbils, offset bulbs etc.;
	3. layer, cut and graft shoots;
	4. rhizomes;
	5. meristem culture.

Comment **Nature & Progrès, France:** Does organic agriculture really need plants derived from in-vitro meristem culture?

Standard Committee Response: Although meristem culture is controversial in organic agriculture due to the common use of phytohormons and the fact that it breeds on artificial material, the current approach is to allow it due to the lack of alternatives. If it was prohibited, many varieties of fruits (e.g. berries) and vegetables would be ruled out and the main challenges would be in obtaining virus-free material for certain crops. Some regulations also require the technique to be used for phytosanitary reasons, making avoidance of the technic impossible.

**4.1.4** All multiplication practices on the farm, except meristem culture, shall be under organic management.

**4.1.5** Vegetal propagation materials, bedding materials and substrates shall only consist of substances listed in appendices 2 and 3.

#### 4.2 Conversion Period (Plant Production)

**General Principle**

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

**Requirements:**

* + 1. All the requirements of this standard shall be met for the duration of the conversion period.
		2. The start of the conversion period shall be calculated from the date that an application has been received and agreed to by the control body.

Regional or other exception

*The conversion period may be calculated retroactive to the application only on the basis of sound and incontrovertible evidence of full application of the standard for a period at least as long as 4.2.3.*

* + 1. The length of the conversion period shall be at least:

- 12 months before sowing or planting in the case of annual production

- 12 months before grazing or harvest for pastures and meadows

- 18 months before harvest for other perennials.

* + 1. Crops harvested less than 36 months after the application of a prohibited input to crop or soil shall not be used or sold as organic.

**4.2.5** Plant products may be used or sold as “in-conversion” provided that they have undergone a 12-month conversion period.

#### 4.3 Diversity in Crop Production

**General Principle**

The development of living soils is the foundation of organic production. Soil health and quality are the basis of soil management practices and are critical to successful pest, disease and weed management. Organic growing systems are soil based, care for the soil and surrounding ecosystems, provide support for a diversity of species, are based on nutrient recycling and mitigate soil and nutrient losses.

**Requirements:**

* + 1. Crop rotations for annual crops shall be established to manage pressure from pests, weeds and diseases and to maintain soil fertility, unless the operator ensures diversity in plant production by other means. Crop rotations shall be diverse and include soil-improving plants such as green manure, legumes or deep rooting plants.

**4.3.2** For orchards and plantations, there shall be managed floor cover and diversity or refuge plantings.

#### 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.

**Recommendation:**

The fertility program should be based on material of microbial, plant or animal origin, such as green manure, compost or mulch, obtained through the following sources in this order of priority:

a. organically produced on the farm;

b. of organic quality, obtained from the surrounding farms or natural environment;

c. other inputs allowed under Appendix 2.

Nutrients and fertility products should be applied in a way that does not harm soil, water, and biodiversity (requirement 4.4.3). This should be evaluated through the use of appropriate indicators, such as:

 **a.** no significant accumulation of heavy metals or phosphorus in the soil.

 **b.** no significant contribution to the eutrophication of water bodies.

 **c.** balanced nutrient supply as compared to the nutrient needs.

 **d.** maintenance or increase in soil carbon content over time.

Comment **Naturland, Germany**: Why “should” – proposed: leave “shall”.

Standard Committee Response: “should” is the appropriate wording for recommendations, while “shall” is used for firm requirements.

Comment **Krav, Sweden**: This addition is good. However there can be a problem with the verification.

**Requirements:**

**4.4.1** Soil organic matter, microbial activity and general soil health and fertility shall be improved if low and maintained or improved if satisfactory. The operator shall prevent over-accumulation of heavy metals and other pollutants in the soils.

**4.4.2** Material of microbial, plant or animal origin shall form the basis of the fertility program. Maintenance of fertility may not rely solely on off-farm inputs.

**4.4.3** Nutrients and fertility products shall be applied in a way that does not harm soil, water, and biodiversity.

**4.4.4** Material applied to the land or crop shall be in accordance with Appendix 2.

**4.4.5** Fertility amendments in Appendix 2 that are rapidly available to the plants are allowed only as a necessary complement when other fertility building techniques are insufficient.

Comment **David Gould, USA**: Combine this with 4.4.2. Making it a separate entry detracts from the higher principle.

Comment Krav, Sweden: This rule is not necessary. It is enough to specify what is allowed to use (4.4.4).

Standard Committee Response: We keep this requirement because it was mandated in a motion approved by the GA in 2011.

Comment **FNAB, France:** suggests editing: “… to the plants are exceptionally allowed only as a necessary complement when other fertility building techniques have been applied and are insufficient.”

Standard Committee Response: agreed. She shall change the sentence accordingly.

**4.4.6** Human excrement shall be handled in a way that reduces risk of pathogens and parasites and shall not be applied within six months of the harvest of annual crops for human consumption with edible portions in contact with the soil.

Comment **OFAI, India:** suggests to add: “ … pathogens, food additives, antibiotics, colors and chemicals excreted from the human digestive system and parasites …”

Standard Committee Response: we do not accept this suggestion. Compared to the other risks (pathogens, parasites, antibiotics in animal manure) these risks appear negligible. We are also not aware about practices enabling to reduce those risks. If you have information to support your concern, please submit and we will re-discuss.

Comment **FRUXOTIC IC and German DWA NASS sub-working group "AG KA-1.3 Landwirtschaftliche Verwertung", Germany**: Human excements are composed of urine and fecal material. Urine to compare with other excreta or mixed fractions have 10^5 lower contamination level based on the faecal contamination in toilets, i.e. if you use the WHO guidelines ([http://www.susana.org/lang-en/library?](http://www.susana.org/lang-en/library)view=ccbktypeitem&type=2&id=1004) this is enough in reduction if you incorporate the urine into the soil.

The only risk organisms are Salmonella typhi or paratyphi that is excreted in the urine; these are removed by 1 week storage. Tuberculosis can also be found in the urine (this is mainly a concern for the urine management to avoid aerosols) as 1/3 of people sick in tuberculosis (with symptoms – not only carriers) excrete bacteria in the urine. In tropical areas at temperatures >20’C  one month storage should be enough. And we would prefer that the urine is used concentrated.

For crop that is processed we are convinced that one week storage of urine before application should be ok, to avoid spreading of disease to the surrounding wild life. For crop harvested one metre above soil and less, fertilisation with well stored urine should stop at least one month prior to harvest.

In Sweden it is the Swedish Federation of Farmer and the municipalities that are pushing the agenda of use of source separated urine as fertilizer in conventional and in eco-agriculture forward. The farmers with the objective of getting access to safe fertilizer and protecting the nature for the municipalities in addition source separating systems with reuse allows for new construction where housing with conventional mixed flush toilet system would not be allowed due to the environmental sensitive area.  (<http://forum.susana.org/forum/categories/17-fertiliser--soil-conditioner/3272-certified->now-sanitized-blackwater-and-urine#3328)

More information is also available here: [www.jti.se/uploads/jti/Kvalitetssakring\_sma\_avlopp\_webb.pdf](http://www.jti.se/uploads/jti/Kvalitetssakring_sma_avlopp_webb.pdf). Consequently we are proposing the following amendments of the standards:

Change Article 4.4.6 to  "Only source separated human excrement (urine and fecal material) which is handled in a way that reduces risk of pathogens and parasites shall be applied as soil improver (fecal material containing stored digestate and compost) or fertilizer (urine, separately collected and stored for one month (tropical area) to three months (cold climate) for crops for human consumption. For crop harvested one metre above soil and crop with edible portions in contact with the soil application should stop at least one month prior to harvest."

Standard Committee Response: Even though not mentioned in the requirement, it is mentioned in the appendix that human excrements are required to be source-separated. However we shall include a definition what source-separated means, in the definition section, as follows: “Source separated: Human excrement collected separately from waste streams that contain prohibited substances.”

Regarding the shorting of the period from 6 to 1 month, we don’t see problem with the current period and we don’t have a scientific basis to shorten it, considering the different climates etc. Also what concerns the practices, we don’t want to regulate them too much and prefer the current phrasing.

**4.4.7** 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, crop rotations and nitrogen fixation by plants. Their use shall be justified by appropriate soil and leaf analysis or diagnosed by an independent expert.

**4.4.8** 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.

* + 1. Chilean nitrate and all synthetic fertilizers, including urea, are prohibited.
		2. The production of terrestrial plants shall be soil-based. The production of such crops in hydroponic systems is prohibited. “Soil-based” means that apart from the propagation stage, a plant must spend its life in the soil.

Comment **Bionext, Netherlands:** add the following:

Exception: in regions where growing in substrates has been allowed as organic due to unfavourable climatic circumstances, only these units are allowed to continue growing on substrates on the original locations.

Exception: for herbs, flowers and ornamentals that are sold directly to the customer including the pot, the CB can allow growing on substrates.

(In the reply on the topic of greenhouses I have taken the IFOAM EU position on greenhouses as a basis.)

Standard Committee Response: we do not like the idea that the standard would allow as an exception the continuation of a prohibited practice only by those operations which have been doing it. If there were a problem of transition, the normal approach would be to have a timeline by which the requirement becomes binding (or an exception based on climatic conditions only valid until a certain date). However, we do not believe that many operations in the countries concerned are currently certified against the IFOAM Standard as such and need a transition period. Concerning the production of herbs, flowers and ornamentals sold in pots, we shall change the last sentence of the requirement to the following: “Soil-based” means that apart from the propagation or seedling stages, a plant must spend its life in the soil. For herbs, flowers and ornamentals in pots that are sold directly to the final consumer, the CB can allow production on permitted growing media.”

Comment **FNAB, France**: Very good!

Comment Krav, Sweden: We think that production out of soil, in separated beds or pots, should be accepted in climate zones with low average soil temperature, with the addition that the quantities of growing media (that nourish the plant) is large enough and defined.

Standard Committee Response: We know that there is some controversy within the movement about this issue. We however decided to adopt the approach requested in the GA motion that said “Therefore, out-of-soil culture is to be refused in organic greenhouse production, apart from organic plants sold in pots or to be replanted in soil”.

* + 1. The removal of soil from the farm is prohibited.

Comment **David Gould, USA:** Too broad – soil still stuck to my potatoes? Please specify in what ways soil should or should not leave the farm.

Standard Committee Response: We shall add the following sentence “Incidental removal of soil when harvesting crops is permitted”.

Comment **Bionext, Netherlands**: This means that pots can never contain soil! Is that the intention?

Standard Committee Response: The purpose of this requirement is to prevent the removal of topsoil from the farm. It allows pots to contain some soil only if they are for internal use within the farm. Pots removed from the farm (e.g. sold) would have to contain a substrate made of 100% substances listed on Appendix 2. (Note: this was a majority opinion, but not a consensus opinion, within the Standard Committee).

Comment **Gerhald Pelzer, Germany:** suggest to remove this requirement: The rule is pointless. Intention and potential recipient are not adressed. The reason for the removal of soil from the farm is almost always contamination and maybe legally required.

To ban the sale of soil: „The soil of the farm is not a commodity. Contaminated soil can be removed and replaced.“

But, what about soil, which arises in the wash water from carrots, potatoes and sugar beets, see subtrates distributed by Ricoter S.A. (CH) substituting peat-products.

Standard Committee Response: See response above. We do not believe that it is necessary to add a sentence regarding contaminated soil.

Comment **FNAB, France**: Very good!

* + 1. For mushroom production, substrates shall be made of products of organic agriculture, or other non-chemically treated natural products such as peat, wood, mineral products or soil.

#### 4.5 Pest, Disease and Weed 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, functional biodiversity, habitat management, beneficial organisms and other recognized organic practices as described in this standard.

**Recommendation:**

In case operators need to use commercial formulated inputs, preference should be given to formulations approved for use in organic agriculture by a specialized organic material review organization/program.

**Requirements:**

**4.5.1** The organic production system shall include biological, cultural and mechanical mechanisms to manage pests, weeds and diseases. These include:

**a.** choice of appropriate species and varieties;

**b.** appropriate rotation programs, intercropping and companion planting;

**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.** natural enemies including release of predators and parasites;

**f.** mulching and mowing;

**g.** grazing by animals;

**h.** mechanical controls such as traps, barriers, light and sound.

**i.** on-farm preparations of local plants, animals and micro-organisms.

Comment **OFAI, India:** change to “i. on-farm preparations from local plants.”

Standard Committee Response: agreed. We will change accordingly.

**4.5.2** When the measures in 4.5.1 are not sufficient, pest, disease and weed management substances permitted under Appendix 3 may be used, provided that neither the ecosystem nor the quality of organic products are degraded.

Comment **David Gould, USA:** referring to the quality of organic products not being degraded: Difficult to prove; either give more definitive intention/means of verification or remove.

Comment **Bionext, Netherlands:** suggests to delete: “provided that neither the ecosystem nor the quality of organic products are degraded.” Comment: There is already a list of criteria for the inputs where the impact of a substance is tested.

Standard Committee Response: ok, we shall delete “provided that neither the ecosystem nor the quality of organic products are degraded”. We believe that this is anyway covered under other requirements of this standard.

Comment **FNAB, France**: Why is the “local and prepared on the farm” part removed ? is it a problem with pesticides regulations ?

Standard Committee Response: it is removed from this point 4.5.2 because we have added it to the point 4.5.1, and this point 4.5.2 talks about addition measures to those listed in 4.5.1.

**4.5.3** Substances that do not appear on Appendix 3 are prohibited for use in organic production.

**4.5.4** Physical methods for pest, disease and weed management are permitted, including the application of heat.

* + 1. Thermal sterilization of soils is prohibited.

Comment **OFAI, India**: Can we consider local application by methods such as solarization?

Standard Committee Response: Where solarization doesn’t sterilize the soil, it is allowed. We shall actually correct a typo in the exception box, changing “protect” to “protected”.

Regional or other exception

*Exceptions may be granted to protect cropping structures in instances of severe disease or pest infestation that cannot be otherwise remedied through measures in 4.5.1 to 4.5.3.*

Comment **FNAB, France**: “… measures in 4.5.1, 4.5.2 and 4.5.4.” Comment: Taking the numbering modification into account. As the new 4.5.3 is about prohibited substances, it should not be linked here.

Standard Committee Response: Thank you for noticing that. We shall change to “measures in 4.5.1, 4.5.2 and 4.5.4”.

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

Comment **Bionext, Netherlands**: This constitutes new criteria for the CB to judge, shouldn’t this be part of the list for input criteria?

Standard Committee Response: yes, the issue of inert ingredients is still not optimally resolved (in organic standards and regulations in general). It is not realistic for IFOAM to start compiling a list of substances allowed as inert ingredients, and therefore we do push the judgment back to CBs. However, there are a few institutions working on reviewing commercial product formulations, e.g. FiBL for BioSuisse, or OMRI for the NOP. There are also government lists of substances based on their toxicity, e.g. the US Environmental Protection Agency List 4—Inerts of Minimal Concern. The CB would need to investigate whether based on the current available knowledge, there are concerns that the inert substance in a commercial input could be of known toxicity as mentioned in the requirement.

#### 4.6 Avoiding Contamination

**General Principle**

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

**Requirements:**

**4.6.1** The operator shall monitor crop, soil, water, and inputs for risks of contamination by prohibited substances and environmental contaminants.

Comment **Organic Unit of the Ministry of Agriculture, Animal Wealth and Irrigation of Sudan:** The operator shall monitor crops, soil, water and inputs from risks of contamination …

Standard Committee Response: agreed with the first grammar correction “crops”, but not the second.

**4.6.2** The operator shall employ measures including barriers and buffer zones to avoid potential contamination and limit contaminants in organic products.

**4.6.3** All equipment from conventional farming systems shall be thoroughly cleaned of potentially contaminating materials before being used on organically managed areas.

**4.6.4** For synthetic structure coverings, mulches, fleeces, insect netting and silage wrapping, only products based on polyethylene and polypropylene or other polycarbonates, and biodegradable materials (e.g. starch based), are permitted. These shall be removed from the soil after use and shall not be burned on the farmland.

Comment **AFAS Certification Center, Japan:** It seemed like in this section, biodegradable materials are permitted, but it is not allowed to use under Japanese agricultural law. Biodegradable not signify the dismantlement, it is just invisible because biodegradable materials are consisting of fine particles. You might be meaning in this section, it is something about cornstarch. However, this cornstarch appeared to be a problem of chemical treatment and gene recombination (Genetically modified procedure). In addition to that, as you call it “Biodegradable materials/mulch ”, it is high possibility to source oil/petroleum ingredient overall. From the above reason, I have an objection in this biodegradable matters.

Standard Committee Response: We agree with those concerns, which is why we ask that those biodegradable materials be removed from the soil before degradation.

Comment **OFAI, India**: suggest to add “(e.g. starch based from non GMO sources)” Comment: We have seen examples of biodegradable corn starch based packing material sourced from countries which are using GM corn as source. The effects of such biodegradation are currently not known.

Standard Committee Response: Section 2.3.1. prohibits introduction of GMOs, including farm inputs such as biodegradable mulches, so it is already addressed.

**4.7 *Protected cropping***

**General principle**

Natural light, air and water are essential components of organic plant production.

Comment **Anton Pinschof, France**: Soil and sub-soil are not at all mentioned (see in B1 the definition of soil which mentions the connection to the pedosphere, which means that a link to the sub-soil is required). Change to: Natural subsoil, soil, light, air and water are essential components of organic plant production.

Comment **David Gould, USA:** No mention of soil?

Comment **FNAB, France:** suggests to start the General principle with the paragraph: “All the rules on crop production apply to protected cropping, including those concerning conversion period (4.2), diversity of crop production (4.3), and soil fertility and fertilization (4.4)”

Standard Committee Response: we did not emphasize the soil aspect here because indeed our approach was that all the requirements in other sections of this standard apply also to protected cropping. We therefore will include the suggestion of FNAB to make this very clear by adding as a first sentence to the general principle: “All the rules on crop production apply to protected cropping, including those concerning conversion period (4.2), diversity of crop production (4.3), and soil fertility and fertilization (4.4)”.

**Recommendations:**

Energy used for light and climate control should be from renewable resources. Technologies that reduce energy consumption should be used.

Comment **Nature & Progrès, France**: Delete “light and”: why authorizing artificial light in greenhouses? It is in complete contradiction with the general principle expressed just above.

Standard Committee Response: see response below.

**Requirements:**

**4.7.1** Artificial light is allowed only as a complement to sunlight to extend the day length to a maximum of 16 hours and for plant propagation.

Comment **David Gould, USA**: Not sure if this means that plant propagation is directly linked to the 16-hour limit, or what? Needs better grammatical construction.

Comment **FNAB, France:** in regards to the 16 hours: It’s too much. 16H long “days” all year through are an unacceptable artificialisation of the greenhouse cultures.

Comment **Nature & Progrès, France**: replace 4.7.1. by “Artificial light is prohibited”.

Standard Committee Response: we shall leave the requirement as it is, but switch the word order to make it clearer: “Artificial light is only allowed for plant propagation and as a complement to sunlight to extend the day length to a maximum of 16 hours.” This is a new requirement in this standard and we feel it would be too drastic to have a complete prohibition of artificial light at this stage.

**4.7.2** If light and climate control are performed, operators shall monitor, record and optimize the energy consumed. Climate control includes heating, cooling, ventilation and humidity control. Preference shall be given to the use of renewable energy.

Comment **Bionext, Netherlands**: Replace the word “perform” by “used”.

Standard Committee Response: We have rephrased the 4.7.2  to “Operators shall monitor, record and optimize any energy used for artificial light, heating, cooling, ventilation, humidity and other climate control”.

Comment **David Gould, USA:** referring to the preference given to renewably energy: Difficult to verify and/or enforce. Make it a recommendation instead.

Standard Committee Response: we have deleted it from the standard and it remains in the recommendation.

Comment **PuraNatura Foundation, Netherlands**: it may not surprise you that I find references to "Protected Cropping" wanting. The definition is too broad: It comprises "greenhouses" to "nets" in one wild swoop. Because of the nature of protected cropping a connection to the pedosphere is not advisable when we talk about the sophisticated greenhouses that currently provide the affluent markets with high quality produce. Also, you may wonder if a true connection between soil in highly sophisticated greenhouse operations can be seen as connected to the pedosphere, as the pedosphere "only develops when there is a dynamic interaction between the atmosphere (air in and above the soil), biosphere (living organisms), lithosphere (unconsolidated regolith and consolidated bedrock) and the hydrosphere (water in, on and below the soil)".

Well, yes, if we all stretch our idea about the meaning of "dynamic interaction" we can allow for soil in technical sophisticated greenhouse operations, but those with a true understanding of greenhouse operations will feel awkward about it.

When reading section 4.7 I cannot help that I, as a greenhouse afficionado, feel that our industry is treated as a Dickensian stepchild by the "organic nomenklatura".

If IFOAM truly wants to develop organic protected cropping the way it merits we cannot continue with pluri-interpretable, arbitrary and evermore intricate definitions and regulations but see it as it is and be bedazzled by the wonders of modern -organic- greenhouse technology.

If you feel that we should further our ideas at the GA, please let me know.

Standard Committee Response: The motion that lead us to develop our current approach that connection to the soil and sub-soil is not negotiable in organic agriculture, even under greenhouses was a GA motion from 2011.

Comment **FNAB, France:** to add an additional requirement (4.7.3):
“Heating is limited to just above freezing point and to plant propagation. Regional exceptions may be implemented where meteorological conditions are exceptionally cold.”

Standard Committee Response: we considered this possible limitation during our standard writing phase, but concluded that it is more important to optimize the energy use than to set an absolute temperature limit (e.g. above freezing point). Use of renewable energy remains an objective and remains as a recommendation. Systems that rely on completely renewable energy (e.g. compost heating) to heat greenhouses should not be impeded by temperature limits. The phrasing of the exception (“Exceptionally cold”) you propose is not objective and verifiable (where does it start to be considered “exceptionally cold”?).

Comment **Nature & Progrès, France**: replace “If light and climate control are performed” by “If climate control is performed”

Standard Committee Response: we decide not to prohibit artificial light. Therefore the language can remain.

#### 4.8 Breeding of organic varieties

*Explanatory Note: This section refers to breeding of organic varieties, not simply use or production of organic seeds from regular (conventional) varieties.*

**General Principles**

Organic plant breeding and variety development is sustainable, enhances genetic diversity and relies on natural reproductive ability. It aims for new varieties particularly suited for organic production systems. Organic breeding is always creative, cooperative and open for science, intuition, and new findings. Organic plant breeding is a holistic approach that respects natural crossing barriers. Organic plant breeding 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.

**Requirements:**

**4.8.1** To produce organic varieties, plant breeders shall select their varieties under organic conditions that comply with the requirements of this standard. All multiplication practices except meristem culture shall be under certified organic management.

Comment **Nature & Progrès, France**: See our comment above (is meristem culture really needed?)

Standard Committee Response: see our response above.

**4.8.2** Organic plant breeders shall develop organic varieties only on the basis of genetic material that has not been contaminated by products of genetic engineering.

**4.8.3** Organic plant breeders shall disclose the applied breeding techniques. Organic plant breeders shall make the information about the methods, which were used to develop an organic variety, available for the public latest from the beginning of marketing of the seeds.

**4.8.4** The genome is respected as an impartible entity. Technical interventions into the genome of plants are not allowed (e.g. ionizing radiation; transfer of isolated DNA, RNA, or proteins).

**4.8.5** The cell is respected as an impartible entity. Technical interventions into an isolated cell on an artificial medium are not allowed (e.g. genetic engineering techniques; destruction of cell walls and disintegration of cell nuclei through cytoplast fusion).

**4.8.6** The natural reproductive ability of a plant variety is respected and maintained. This excludes techniques that reduce or inhibit the germination capacities (e.g. terminator technologies).

**4.8.7** Organic plant breeders may obtain plant variety protection, but organic varieties shall not be patented.

Comment **Jorge Casale, Argentina**: I’m afraid that this requirement needs some clarification.

Comment **Nature & Progrès, France**: Replace 4.8.7 by: “Organic varieties shall not be patented or covered by any intellectual property right. Organic plant breeders shall use farmer seeds and not ask for plant variety protection.” There is a reflection to do on property right on living organisms (for this matter on plant varieties). We should find a phrasing that includes peasant seeds (free from property rights and reproducible) and that limits the use of patents and other property rights applied to living organisms.

Standard Committee Response: We shall delete this requirement 4.8.7. This is a political statement and we now believe that it does not fit in a standard. It is covered by the IFOAM position on seed and plant propagation materials.

### 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. Stocking rates for livestock should be appropriate for the region in question taking into consideration feed production capacity, stock health, nutrient balance, and environmental impact.

Comment **Mahesh Chander, India**: change to: “… taking into consideration the body size/weight of the breeds maintained, feed production capacity…”

Standard Committee Response: agreed. We shall change accordingly.

**Requirements:**

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

**5.1.2** The operator shall ensure that the environment, the facilities, stocking density and flock/herd size provides for the behavioral needs of the animals.

**5.1.3** In particular, the operator shall ensure the following animal welfare conditions:

**a.** sufficient free movement and opportunity to express normal patterns of behavior, such as space to stand naturally, lie down easily, move around freely, groom themselves, sleep and nest comfortably, as well as assume all natural postures and movements such as stretching etc.;

**b.** sufficient fresh air, water, feed, thermal comfort 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.** provision of suitable materials and areas for exploratory and foraging behaviors;

**e.** in addition to these general welfare conditions for all animal categories, provisions for specific animal groups also have to be taken into account, e.g. for cattle: social grooming and grazing; for pigs: rooting, separate lying-, activity/dunging- and feeding-areas, free farrowing, group housing; for poultry: nesting, wing stretching/flapping, foraging, dust-bathing, perching and preening.

Comment Krav, Sweden: Very good! (in relation to the addition of points d and e).

Comment **Naturland, Germany**: We have a question on this new passage e): We are not sure what is meant exactly by it. Would that mean for cattle for example an obligation to bring cattle out onto the pasture in any case? If so we would be against this regulation. Loose housing stables with a year- round outdoor access should also be an acceptable husbandry system for cattle.

Standard Committee Response: grazing is an essential activity for cattle, but it does not mean that grazing must take place every day of the year. A winter seasons with no access to pasture (but access to outdoor) is acceptable, but not year-round feedlots.

*Note: animals whose management system requires tethering to make use of grazing can still be managed in compliance with these requirements.*

Comment **Bionext, Netherlands**: Suggest to delete - Explanantory notes do not fit in the standards. They should go elsewhere.

Standard Committee Response: We do not have a guidance manual for the interpretation of this standard and believe that the note here is helpful to clarify an issue that has often been misunderstood or debated regarding the interpretation of this standard.

Regional or other exception

*On holdings where, due to their geographical location and structural constraints, it is not possible to allow free movement of animals, tethering of animals may be allowed for a limited period of the year or of the day. In such cases, animals may not be able to turn around freely but other requirements of 5.1.3 must be fulfilled.*

Comment **Anton Pinschof, France:** You use the same term (“tethering”) to mean both tethering for grazing in the pastures and tethering in livestock stables. I propose to separate both, in the following manner:

Note: animals whose management system requires outdoor tethering to make use of grazing can still be managed in compliance with these requirements.

Regional or other exception: On holdings where, due to their geographical location and structural constraints, it is not possible to allow free movement of animals, indoor tethering **(**stanchioning**)** of animals …

Standard Committee Response: agreed, we will change accordingly. Thank you for the suggestion.

Comment **FNAB, France:** in the regional exception box: In such cases, animals may not be able to turn around freely but the tethering conditions should permit the other requirements of 5.1.3, (especially 5.1.3. a) to be fulfilled.

Standard Committee Response: agreed, we will change accordingly.

**5.1.4** Herd animals shall not be kept in isolation from other animals of the same species. 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.

**5.1.5** Construction materials and methods and production equipment that might significantly harm human or animal health shall not be used.

**5.1.6** Operators shall manage pests and diseases in livestock housing 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 (other than pesticides) used in traps.

**d**. substances listed in Appendix 5 of this standard;

 Regional or other exception

*Other products may be used if required by law for the control of notifiable diseases.*

**5.1.7** When animals are housed, the operator shall ensure that:

**a.** where animals require bedding, adequate natural materials are provided. Bedding materials that are normally consumed by the animals shall be organic.

**b.** building construction provides for insulation, heating, cooling and ventilation of the building, ensuring that air circulation, dust levels, temperature, relative air humidity, and gas concentrations are within levels that are not harmful to the livestock.

**c.** no animals shall be kept in closed cages.

**d.** animals are protected from predation by wild and feral animals.

**e.** the above animal welfare requirements are fulfilled.

**f.** animals are regularly visited and monitored.

**g.** when welfare and health problems occur, appropriate management adjustments are implemented (e.g. reducing stocking density).

**5.1.8** All animals shall have unrestricted and daily access to pasture or a soil-based open-air exercise area or run, with vegetation, whenever the physiological condition of the animal, the weather and the state of the ground permit. Such areas may be partially covered. Animals may temporarily be kept indoors because of inclement weather, health condition, reproduction, specific handling requirements or at night. Lactation shall not be considered a valid condition for keeping animals indoors.

Comment **FNAB, France**: There could be pollution and/or environmental problems with soil-based open-air area for pigs, depending on the system.

Standard Committee Response: We will leave the current requirement unchanged. However, we acknowledge that pollution can be a problem at soil-based systems for pigs. Nevertheless, this is addressed by the phrasing “whenever the physiological condition of the animal, the weather and the state of the ground permit” and by other sections of the standard that refer to pollution. If FNAB can come up with a proposal how to improve this requirement, we will consider it.

**5.1.9** 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. For laying hens, a minimum daily rest period of 8 continuous hours without artificial light shall be respected.

#### 5.2 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.

**Requirements:**

**5.2.1** All the requirements of this standard for land and animals must be met for the duration of the conversion period before the resulting product may be considered as organic. Land and animals may be converted simultaneously.

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**5.2.2** Non-organic livestock, either existing on the holding before conversion or brought-in as replacements, may be converted to be organic breeding or dairy stock by being managed organically from the start of gestation. Such animals shall not be sold as organic meat.

Comment **Anne Macey, Canada**: I found the standard clear and readily understandable with one exception 5.2.2. This does not make sense. It reads as if the animal existing before conversion has to be managed organically from the start of gestation of that animal - how is that possible if it was a conventional animal?  Was it intended to say that the animal be managed organically from the start of gestation of its offspring?  I think two concepts are confused in this paragraph and for clarity it would be better with one sentence for breeding stock and another for dairy stock (eg stating how long before milk can be considered organic).  I cannot propose alternative text because I do not know the intent.

Comment **Mahesh Chander, India**: to be organic breeding???

Comment **Naturland, Germany**: regarding the deleted 5.2.3: Here you deleted all conversion periods for animal products. We believe that you have accidently also deleted the conversion period for milk. We strongly support that the conversion period for milk is kept as a requirement in the IFOAM standard.

Comment **OFAI, India**: This is being replaced or removed? If replaced then with what alternate recommendations? If left to local context then this should be mentioned.

Comment Krav, Sweden: The possibility to convert existing animals and animals bought for breeding and dairy production, to organic should remain. As the requirement is formulated now it is like a double sharpening. You can only use animals for organic breeding and dairy production if they are managed organically from gestation- how does that work with 5.3.2? And even though they should be managed organically from gestation they are not allowed to be sold as organic meat.

Standard Committee Response: We shall revise the entire section 5.2 and 5.3, into a merged section 5.2, as follows:

#### “5.2 Animal Origin and Conversion Period

**General Principle**

Organic animals are born and raised on organic holdings. Animal husbandry systems that change from conventional to organic production require a conversion period.

**Requirements:**

**5.2.1** All the requirements of this standard for land and animals must be met for the duration of the conversion period before the resulting product may be considered as organic. Land and animals may be converted simultaneously.

**5.2.2.** Offspring may be considered organic only if their mother has been organically managed throughout the pregnancy.

Milk may be considered organic only if the dairy animal has been organically managed throughout the pregnancy preceding lactation.

Eggs may be considered organic only if the poultry has been organically managed from 2 days old.

**5.2.3** Animals for meat shall be raised organically from birth.

Regional or other exception

*When organic poultry is not available 2 day old conventional poultry may be brought in.*

**5.2.4** 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. Non-organic female breeding replacements must be nulliparous.

Regional or other exception

*Exceptions of more than 10% may be granted, limited to the following circumstances:*

*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.*

“

And will adjust the subsequent numbering and references accordingly.

#### 5.3 Animals Sources/Origin

**General Principle**

Organic animals are born and raised on organic holdings.

**Requirements:**

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

Regional or other exception

*When organic poultry is not available 2 day old conventional poultry may be brought in.*

Comment **AsureQuality, New Zealand**: The only issue we have is with 5.3.1 as it is unlikely that chickens can be managed organically from 2 days old. However we have elected not to contest it. It is more likely that the NZ poultry farmers will drop out of IFOAM.

Standard Committee Response: We shall leave the requirement as it currently is. It is important to keep a strict approach, if we grant exceptions for everybody facing difficulties; there is no point in having this requirement.

**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. Non-organic female breeding replacements must be nulliparous.

#### 5.4 Breeds and Breeding

**General Principle**

Breeds are adapted to local conditions.

Comment **Nature & Progrès, France**: More thinking should be done and included here on animal breeding, similarly to plant breeding (no patent, etc.).

Standard Committee Response: the difference with plant breeding is that we have not developed requirements for the breeding of “organic breeds” which would be comparable to the requirements we have developed for the breeding of “organic plant varieties”. We think that it is still too early, as there it currently no real breeding program for local breeds specific for organic agriculture. The use of breeding techniques incompatible with organic agriculture is also still less widespread in animal breeding as in plant breeding.

**Requirements:**

**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.

Comment **Verbund Ökohöfe, Germany:** suggest that a requirement about avoiding hybrid-breeds should not be missing here.

Standard Committee Response: we do not see why the use of hybrid breeds should be prohibited or avoided in organic agriculture.

#### 5.5 Mutilations

**General Principle**

Organic farming respects the animal’s distinctive characteristics.

**Requirements:**

* + 1. Mutilations are prohibited.

Regional or other exception

*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 is permitted until December 31, 2015.*

Comment Krav, Sweden: This is not about any change in the standard, but we would like to express our opposition to allowing animals to be mutilated in the exceptions b. and e. (Even d. concerning ringing of pigs should not be allowed since in 5.1.3 e the standard now specifically says that pigs should be able to root.

Standard Committee Response: we shall modify point d to “ringing, except for pigs”. We understand the controversy of point e and therefore have put a time limit to this practice to allow operators to transition (change of breeds). We decide to keep exception b), acknowledge that this is a very controversial issue. Some organic and animal welfare standards prohibit it, while other allow or restrict it. We don’t feel currently in a position to delete it.

#### 5.6 Animal Nutrition

**General Principle**

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

**Requirements:**

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

Regional or other exception

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

*a. organic feed is of inadequate quantity or quality;*

*b. areas where organic agriculture is in early stages of development;*

*c. grazing of non-organic grass or vegetation during seasonal migration.*

*In no such 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 non-organic feed for a limited time under specific conditions, following extreme weather conditions or man made or natural disasters beyond the control of the operator*

Comment **Bionext, Netherlands**: suggests to change the last sentence as follows: Operators may feed a higher percentage of non-organic feed for a limited time under specific conditions, following extreme weather conditions or manmade or natural disasters beyond the control of the operator. Comment referring to the higher percentage: This can only be an extra requirement as the possibility to feed up to 10/15% due to specific conditions is already covered by the first exception.

Standard Committee Response: thank you very much for noticing this mistake in the phrasing. We agree with your proposal and will change the last sentence to: “Operators may feed a higher percentage of non-organic feed for a limited time under specific conditions, following extreme and exceptional weather conditions or manmade or natural disasters beyond the control of the operator.”

Comment **Nature & Progrès, France**: See our general comment. In case of unavailability of organic feed, the producer should loose its organic certificate and not keep it if he feeds his animals with conventional feed! This is also an issue of transparency towards organic consumers!

Standard Committee Response: this would be a much too drastic approach, especially in most parts of the world where certified organic feed is not as available as in France. We must be realistic, or not we will kill any emerging organic husbandry sector. Already the percentages of 10% and 15% are very difficult to achieve for certain regions of the world (e.g. developing countries).

**5.6.2** Animals shall be offered 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.

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

Comment **Bionext, Netherlands**: suggests to change to: “More than 50% of the feed shall …”

Standard Committee Response: agreed. We shall change accordingly.

Regional or other exception

*Exceptions may be permitted in regions where organic feed production is in an early stage of development or temporarily deficient, or in cases of unpredictably low crop production on the farm or in the region.*

**5.6.4** 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.

**5.6.5** The following substances are prohibited in the diet:

**a.** farm animal byproducts (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.** synthetic amino-acids andamino-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.

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

Regional or other exception

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

Comment **Nature & Progrès, France**: Delete the exception box. If vitamins and minerals are not available in nature, we should not authorize synthetic ones! This does not encourage the producers and the researchers to find organic solutions and to work on the ingredients of the feed!

Standard Committee Response: We keep the exception box. If synthetic vitamins were prohibited, we might risk animal health issues and even a higher use of other, even more unfavorable substances like synthetic allopathic veterinary drugs could be a result. An example for usage that should remain allowed are vitamin A, D and E supplements given to ruminants in the UK in winter because the fodder does not contain enough vitamins and natural supplements are currently not available in sufficient quantities.

**5.6.7** All ruminants shall have daily access to roughage. Ruminants must be grazed throughout the entire grazing season(s).

Regional or other exception

*Ruminants may be fed with organic carried fresh fodder during the grazing season where weather and soil conditions do not permit grazing. The organic carried fresh fodder shall not exceed 20% of the amount of forage grazed during the grazing season. Animal welfare shall not be compromised.*

**5.6.8** Fodder preservatives such as the following may be used:

**a.** bacteria, fungi and enzymes;

**b.** natural products of food industry;

**c.** plant based products.

d. vitamins and minerals subject to the order of preference in 5.6.6.

Regional or other exception

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

**5.6.9** Young stock from mammals shall be provided maternal milk or organic milk from their own species and shall be weaned only after a minimum period as specified below:

1. Calves and foals: 3 months
2. Piglets: 6 weeks
3. Lambs and kids: 7 weeks

#### 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.

**Requirements:**

**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 such as:

**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.

* + 1. 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. Operators shall give preference to natural medicines and treatments, including homeopathy, Ayurvedic medicine and acupuncture.
		2. Use of synthetic allopathic veterinary drugs or antibiotics will cause the animal to lose its organic status. Producers shall not withhold such medication where doing so will result in unnecessary suffering of the livestock.

Regional or other exception

*The animal may retain its organic status if:*

*a. the operator can demonstrate compliance with 5.7.1, and*

*b natural and alternative medicines and treatments are unlikely to be effective to cure sickness or injury, or are not available to the operator, and*

*b. the chemical allopathic veterinary drugs or antibiotics are used under the supervision of a veterinarian, and*

*c. withdrawal periods shall be not less than double of that required by legislation, or a minimum of 14 days, whichever is longer.*

*d. this exception is not granted if the animal has had more three courses of remedial treatments with chemically-synthesized allopathic veterinary medicinal products or antibiotics within 12 months, or more than one course of treatment if their productive lifecycle is less than one year.*

Comment **Krav, Sweden**: If this means that products with 0 days required by legislation should have 14 days withdrawal this is a very sharp requirement. Specially for diary and egg production. According to the EU legislation for organic farming and to KRAV the minimum is 48 hours.

Standard Committee Response: Avoidance of synthetic allopathic veterinary drugs is an important element in organic agriculture. Even if the legal withdrawal period is zero, it is reasonable to have a 14-day period in organic. For organic the precautionary principle should be central, rather than relying on those drugs. This is also a consumer issue.

Comment **NOFA and NOC, USA (same comment from Naturland and Mahesh Chander):** point out the missing word: more than three.

Standard Committee Response: Thanks for noticing. See change below.

Comment **Bionext, Netherlands:** suggests the following changes in the text:

c. the chemically synthesized allopathic veterinary medical products or antibiotics are used under the supervision of a veterinarian, and

d. withdrawal periods shall be not less than double of that required by legislation, or a minimum of 14 days, whichever is longer.
This exception is granted for a maximum of three courses of remedial treatments with chemically synthesized allopathic veterinary medicinal products or antibiotics within 12 months, or one course of treatment if the productive lifecycle of the animal is less than one year.

Standard Committee Response: agreed. We shall change the whole box to:

Regional or other exception

*The animal may retain its organic status if:*

*a. the operator can demonstrate compliance with 5.7.1, and*

*b natural and alternative medicines and treatments are unlikely to be effective to cure sickness or injury, or are not available to the operator, and*

*c. the chemically synthetized allopathic veterinary medical products or antibiotics are used under the supervision of a veterinarian, and*

*d. withdrawal periods shall be not less than double of that required by legislation, or a minimum of 14 days, whichever is longer.*

*e. this exception is granted for a maximum of three courses of remedial treatments with chemically synthesized allopathic veterinary medicinal products or antibiotics within 12 months, or one course of treatment if the productive lifecycle of the animal is less than one year.*

Comment **Nature & Progrès, France**: in point d, replace “three” by “two”. Add a point e, saying “If chemical allopathic veterinary drugs or antibiotics are used, the operator has to actively search the cause of the disorder that induced the disease for this case not to reproduce.”

Standard Committee Response: In the last round (development of version 1.0), we got a motion on that asking for the current language. We therefore keep the language as per our response above.

**5.7.4** Prophylactic use of any synthetic allopathic veterinary drug is prohibited.

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

**5.7.6** Vaccinations are allowed only in the following cases:

**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.

#### 5.8 Transport and Slaughter

**General Principle**

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

**Requirements:**

**5.8.1** Animals shall 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 shall be provided with conditions during transportation and slaughter that reduce and minimize the adverse effects of: stress, loading and unloading, mixing different groups of animals, extreme temperatures and relative humidity. The type of transport shall meet the specific needs of the species being transported.

**5.8.4** The operator shall ensure an adequate food and water supply during transport and at the slaughterhouse.

**5.8.5** Animals shall not be treated with synthetic tranquilizers or stimulants prior to or during transport.

**5.8.6** Each animal or group of animals shall be identifiable at each step in the transport and slaughter process.

**5.8.7** Slaughterhouse journey times shall not exceed eight hours.

Regional or other exception

*When there is no certified organic slaughterhouse within eight hours travel time, an animal may be transported for a longer period if the animals are given a rest period and access to water.*

**5.8.8** Those responsible for transportation and slaughtering shall avoid contact (sight, sound or smell) of each live animal with dead animals or animals in the killing process.

**5.8.9** Each animal shall be effectively stunned before being bled to death. The equipment used for stunning shall be in good working order.

Regional or other exception

*Exceptions can be made according to religious practice. Where animals are bled without prior stunning this should take place in a calm environment.*

# Comment FNAB, France: suggests change of text: “Where animals are bled without prior stunning, every step must be taken for reducing the pain and stress of the animal to a minimum, especially by adopting an appropriate method of restraint.” Comment: Calm environment should not be specific to bleeding without prior stunning. It should be general rule for slaughtering. There are, however, specific conditions to be laid down for slaughtering without stunning.

Standard Committee Response: we shall change the exception to:

*Exceptions can be made according to religious practice. Where animals are bled without prior stunning this should take place in a calm environment. Slaughter techniques must prioritize animal welfare and aim to eliminate any stress, pain, or suffering endured by the animal.*

#### 5.9 Bee Keeping

**General Principle**

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

**Requirements:**

**5.9.1** The areas within a 3 km radius of the hives shall consist of organically managed fields, uncultivated land and/or wild natural areas in a way 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 a foraging distance (5 kms) of fields or other areas with a high contamination risk (e.g. conventional fields, industrial zones and highways).

**5.9.3** The hives shall consist primarily of natural materials and present no risk of contamination to the environment or the bee products. Use of construction materials with potentially toxic effects is prohibited.

**5.9.4** 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 in response to unexpected need 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 organic sugar shall be used.

**5.9.5** 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 this standard have been complied with for at least one year.

**5.9.6** During the conversion period, the wax shall be replaced by organically produced wax, except where no prohibited products have been previously used in the hive and where is no risk of contamination of wax. In cases where all the wax cannot be replaced during a one-year period, the conversion period shall be extended to cover the full replacement of the wax.

**5.9.7** For pest and disease control the following are permitted:

**a.** lactic acid, formic acid;

**b.** oxalic acid, 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.

**5.9.8** Where preventative measures fail, veterinary medicinal products may be used provided the following are adhered to:

**a.** preference is given to phyto-therapeutic and homeopathic treatment;

**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.

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

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

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

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

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

**5.9.14** The use of chemical synthetic bee repellents is prohibited. 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.

**5.9.15** Honey temperatures shall be maintained as low as possible, and not exceed 45°C, during the extraction and processing of products derived from bee keeping.

# Comment OFAI, India: suggests to add the following requirement: “Introduction of a new species of bees not previously introduced in a geographical location shall not be permitted.” Comment: Case in point is the apis cerena vs apis milifera in the South Asian region. On a broader basis this should be applied to other species as well. Either this can be not permitted or permitted with restriction. In the latter case control measures should be demonstrable.

Standard Committee Response: we understand the concern and acknowledge that pollinators play a special role in the environment. However we decided not to take this suggestion up in this edition of the standard. To add such a requirement, in-depth investigation is needed first. We don’t know about the implications of such a requirement. We therefore save this issue for a later revision.

### 6 . AQUACULTURE PRODUCTION STANDARDS

#### 6.1 Conversion to Organic Aquaculture

**General Principle**

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

**Requirements:**

**6.1.1** Operators shall comply with all the relevant general requirements of chapters 3 and 5.

**6.1.2** The conversion period of the production unit shall be at least one life cycle of the organism or one year, whichever is shorter.

**6.1.3** 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.

**6.1.4** Production units must be located at an appropriate minimum distance from contamination sources and conventional aquaculture.

#### 6.2 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.

**Requirements:**

**6.2.1** Aquatic ecosystems shall be managed to comply with relevant requirements of chapter 2.

**6.2.2** Operators shall take adequate measures to prevent escapes of introduced or cultivated species and document any that are known to occur.

**6.2.3** Operators shall take verifiable and effective measures to minimize the release of nutrients and waste into the aquatic ecosystem.

**6.2.4** Fertilizers and pesticides are prohibited unless they appear in Appendices 2 and 3.

#### 6.3 Aquatic Plants

**General Principle**

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

**Requirements:**

**6.3.1** Aquatic plant production shall comply with the relevant requirements of chapters 2 and 4.

**6.3.2** Harvest of aquatic plants shall not disrupt the ecosystem or degrade the collection area or the surrounding aquatic and terrestrial environment.

#### 6.4 Breeds and Breeding

**General Principle**

Organic aquatic animals begin life on organic units.

**Requirements:**

**6.4.1** Aquatic animals shall be raised organically from birth.

Regional or other exception

*When organic aquatic 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, the control body shall set time limits for the selected use of non-organic sources.*

**6.4.2** Operators shall not utilize artificially polyploided organisms or artificially produced monosex stock.

**6.4.3** Aquatic animal production systems shall use breeds and breeding techniques suited to the region and the production method.

#### 6.5 Aquatic Animal Nutrition

**General Principle**

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

**Requirements:**

**6.5.1** Aquatic animals shall be fed organic feed.

Regional or other exception

*Operators may feed, up to 31st December 2014, 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 exceed 5% dry matter calculated on an annual basis.*

Comment **Naturland, Germany**: All these requirements are not applicable to fishmeal currently used in certified organic aquaculture feed. Fishmeal is typically coming from non-certified sources, but fulfilling certain sustainability criteria.

Standard Committee Response: We change the exception box to:

Regional or other exception

*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.*

*Non-organic aquatic animal protein and oil sources must be from independently verified sustainable sources.*

This is a temporary measure and it will be further discussed in the next round of standard revision focused on aquaculture.

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

**6.5.3** Use of water containing human excrement is prohibited.

Comment **Naturland, Germany**: Delete: we guess most water contains at least some human excrements.

Standard Committee Response: true. We are dealing with this the revision of the aquaculture requirements in a separate revision round, and ask for your patience in dealing with your comment.

Comment of **Fruxotic** together with German DWA NASS sub-working group: See some background information under our comment to point 4.4.6. Consequently, we propose that you change 6.5.3 to:  "The use of nutrient enriched water mixed with source separated collected, and fermented and composted stored human fecal material may be allowed."

Standard Committee Response: We are dealing with this the revision of the aquaculture requirements in a separate revision round, and ask for your patience in dealing with your comment.

#### 6.6 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.

**Requirements:**

**6.6.1** Operators shall comply with relevant requirements of section 5.7.

**6.6.2** Prophylactic use of veterinary drugs is prohibited.

**6.6.3** Operators must use natural methods and medicines, as the first choice, when treatment is necessary. Use of chemical allopathic veterinary drugs and antibiotics is prohibited for invertebrates.

**6.6.4** Synthetic hormones and growth promoters are prohibited for use to artificially stimulate growth or reproduction.

**6.6.5** Stocking densities do not compromise animal welfare.

**6.6.6** 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.

#### 6.7 Aquatic Animal Transport and Slaughter

**General Principle**

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

**Requirements:**

**6.7.1** Operators shall comply with relevant requirements of section 5.8.

**6.7.2** The operator shall handle live organisms in ways that are compatible with their physiological requirements.

**6.7.3** 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.

**6.7.4** 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.

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

### 7 . PROCESSING AND HANDLING

Comment **Bionext, Netherlands:** on processing I found the order of the rules not always logical.

Standard Committee Response: we do not see where the logic could be improved.

#### 7.1 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.

**Requirements:**

**7.1.1** Handlers and processors shall not co-mingle organic products with non-organic products.

**7.1.2** Handlers and processers shall ensure traceability in the organic processing and handling chain.

**7.1.3** All organic products shall be clearly identified as such and processed, stored and transported in a way that prevents substitution by or contact with conventional products through the entire process.

**7.1.4** When non-organic products are prepared or stored in the preparation unit, the operator shall inform the control body.

Comment **Synergy Systems, India**: Organic processing facility should be exclusively meant for Organic production only and non-organic products should not be prepared or stored in such unit.

Standard Committee Response: this would be desirable but it is in many cases not possible (e.g. dairy processing facilities that process both types of milk in a region).

**7.1.5** The handler or 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.

**7.1.6** The handler or processor shall identify and minimize risks of environmental pollution resulting from their activity.

**7.1.7** Processors shall respect the principles of good manufacturing practices. This shall include maintaining appropriate procedures based on identification of critical processing steps.

#### 7.2 Ingredients

**General Principle**

Organic processed products are made from organic ingredients.

**Requirements:**

**7.2.1** All ingredients used in an organic processed product shall be organically produced except for those additives and processing aids that appear in Appendix 4.

Regional or other exception

*In cases where an ingredient of organic origin is commercially unavailable in sufficient quality or quantity, operators may use non-organic raw materials, provided that:*

*a. they are not genetically engineered or contain nanomaterials , and*

*b. the current lack of availability in that region is officially recognized[[1]](#footnote-1) or prior permission from the control body is obtained.*

*c. the requirements in section 8.1.3 shall be met.*

Comment **Nature & Progrès, France**: This exception box should be cancelled because the rules in 8.1.3 are very clear. See proposal to amend 8.1.3.

Standard Committee Response: we cannot delete the exception because it is the one allowing the percentages of conventional ingredients that is dealt with in 8.1.3. Deleting the box would mean requiring 100% organic ingredients, which is not realistic.

**7.2.2** Using organic and non-organic forms of the same ingredient in a single product is prohibited.

**7.2.3** 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.

**7.2.4** 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 in the market to which the particular batch of product is destined.

**7.2.5** 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. Cultures that are prepared or multiplied in-house shall comply with the requirements for the organic production of microorganisms.

**7.2.6** Yeast shall be included in the percentage calculations of organic ingredients by 2013.

Comment **Jorge Casale, Argentina**: This is not clear to me.

Standard Committee Response: actually, we realize that this sentence was not needed because everything counts in the percentage of ingredients, except water and salt. This has been the case historically in the IBS (unlike in the EU regulation). So we shall delete this requirement.

**7.2.7** For the production of organic micro-organisms for processed food and feed, only organically produced substrate shall be used.

#### 7.3 Processing Methods

**General Principle**

Organic processing and handling provides the consumer with high quality supplies of organic products without compromise to the integrity of the products and protects the environment.

**Requirements:**

**7.3.1** Techniques used to process organic products shall be biological, physical, and mechanical in nature. Any additives, processing aids, or other material that reacts chemically with organic products or modifies it must appear in Appendix 4 and shall be used in accordance with noted restrictions.

**7.3.2** 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.

Comment **Jorge Casale, Argentina**: This is too ambiguous. Words such as appropriate, adequate, and others that are not measurable should be avoided.

Comment **Bionext, Netherlands**: What is the reason to treat extraction different from filtration? Alternative could be: Extraction agents are considered processing aids and therefore must appear in Appendix 4.

Standard Committee Response: We do note intend to treat filtration and extraction differently. Therefore we will amend the definition of processing aid to include “solvents used for extraction”, and we amend 7.3.2 to “Solvents used to extract organic products shall be either organically produced or food grade substances that appear on Appendix 4, Table 1 consistent with the annotation.” and add “plant and animal oils” to Appendix 4, with the remark “for extraction only”, and we will amend 7.3.1 to

“Any additives, processing aids, or other material that reacts chemically with organic products or modifies it must be organically produced or appear in Appendix 4 Table 1 and shall be used in accordance with noted restrictions.”

And in appendix 4 you mention these substances with annotation : for extraction

**7.3.3** Substances and techniques shall not be used that:

**a.** reconstitute properties lost by the processing and storage of organic products;

1. conceal negligent processing;

**c.** or may otherwise be misleading as to the true nature of these products.

 Water may be used for re-hydration or reconstitution.

Comment **Bionext, Netherlands**: Swich order 7.3.2 and 7.3.3

Standard Committee Response: ok, we shall do that.

**7.3.4** Irradiation is not permitted for any ingredient or the final product.

**7.3.5** Filtration equipment shall not contain asbestos, or utilize techniques or substances that may contaminate the product. Filtration agents and adjuvants are considered processing aids and therefore must appear in Appendix 4.

**7.3.6** 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.

* + 1. Intentional manufacture or use of nanomaterials in organic products is prohibited.
		2. Equipment surfaces and utensils that might come into contact with organic products shall be free of nanomaterials, unless there is verified absence of contamination risk.

#### 7.4 Pest and Disease Control

**General Principle**

Organic products are protected from pests and diseases by the use of good manufacturing practices that include proper cleaning, sanitation and hygiene, without the use of chemical pest control treatments or irradiation.

**Requirements:**

**7.4.1** Handlers and processors shall 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, including visual detection, sound, ultra-sound, light and UV-light, temperature control, controlled atmosphere and diatomaceous earth.

**c.** substances according to the Appendices of this standard;

**d.** substances (other than pesticides) used in traps.

**7.4.2** 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.

Comment **Bionext, Netherlands**: suggests to delete ethylene oxide. Comment: Why allow ethylene as a ripening assistant but prohibit other uses?

Standard Committee Response: We do not agree with the deletion. Ethylene oxide is a substance very different from ethylene. It is highly toxic and should not be permitted.

**7.4.3** 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 products and related packaging materials 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 and shall be documented to attest this.

#### 7.5 Packaging

**General Principle**

Organic product packaging has minimal adverse impacts on the product and on the

environment.

**Recommendation:**

Polyvinyl chloride (PVC) and aluminum should be avoided.

Comment **Jorge Casale, Argentina**: Isn’t this about PVC a little bit too loose? First of all, it is just a recommendation, while I feel that it should be a requirement (with exclusions or limitations if necessary).

Standard Committee Response: we understand the concern but we did not feel that it was realistic to ban PVC and aluminum completely because alternatives are not always available everywhere.

Comment **Synergy Systems, India**: Clarification is required whether aluminium foil and aluminium laminated packaging material could be used.

Standard Committee Response: they can be used, since this is only a recommendation anyways.

**Requirements:**

**7.5.1** Operators shall not use packaging material that may contaminate organic products. This includes reused bags or containers that have been in contact with any substance likely to compromise the organic integrity. Packaging materials, and storage containers, or bins that contain a synthetic fungicide, preservative, fumigant, or nanomaterials are prohibited.

Comment **OFAI, India**: As mentioned before, should this also negate the use of biodegradeable material made from GMO based starch??

Standard Committee Response: Although we appreciate the sentiment of your comment; at this point, it is not realistic to verify whether a package contains GM components.

**7.5.2** Operators shall demonstrate efforts to minimize packaging and/or choose packaging materials with minimum environmental impact. The total environmental impact of production, use and disposal of packaging must be considered.

#### 7.6 Cleaning, Disinfecting, and Sanitizing of Processing Facilities

**General Principle**

Organic products are safe, of high quality, and free of substances used to clean, disinfect, and sanitize the processing facilities.

**Requirements:**

**7.6.1** Operators shall take all necessary precautions to protect organic products against contamination by substances prohibited in organic farming and handling, pests, disease-causing organisms, and foreign substances.

**7.6.2** 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 the product.[[2]](#footnote-2)

**7.6.3** Operations that use other cleaners, sanitizers, and disinfectants on product contact surfaces shall use them in a way that does not contaminate the product. The operator shall perform an intervening event between the use of any cleaner, sanitizer, or disinfectant and the contact of organic product with that surface sufficient to prevent residual contamination of that organic product.

### 8 . LABELING

#### 8.1 General

**General Principle**

Organic products are clearly and accurately labeled as organic.

**Requirements**

**8.1.1.** Products produced in accordance with this standard may be labeled as organic.

**8.1.2** Labels must identify the following:

a. the person or company legally responsible for the product

b. the body that assures conformity to the applicable organic standard.

Comment Krav, Sweden: add a point c “which organic Standard that is applied”.

Standard Committee Response: However it would require widespread consultation before such a requirement is added.

**8.1.3** Processed products shall be labeled according to the following minimum requirements:

a. Where 95 to 100% of the ingredients (by weight) are organic, the product may be labeled as “organic”.

b. Where less than 95% but not less than 70% of the ingredients (by weight) are organic, these product cannot be labeled as “organic”, but phrases such as “made with organic ingredients” can be used, provided the proportion of organic ingredients is clearly stated.

c. Where less than 70% of the ingredients (by weight) are organic, the product cannot be labeled as “organic”, nor bear phrases such as “made with organic ingredients” on the package front, nor bear any certification body seal, national logo, or other identifying mark which represents organic certification of a product or product ingredients, but individual ingredients may be called “organic” in the ingredients list.

Notes on calculating percentages:

Water and salt are not included in the percentage calculations of organic ingredients.

Comment **OFAI, India**: regarding point b.: Can this also apply to products which may contain less than 30% of GMO based food material? Given the products in the markets and voluntary labeling by most countries, it may be a good idea to specifically prohibit such labels which have even a single GMO based produce even if added as a small additive

Comment **Nature & Progrès, France**: Add a point d to the list above, saying “All non organic ingredients (except water and salt), are not genetically engineered or contain nanomaterials.”

Standard Committee Response: This is already covered under 7.2.1 that prohibits non-organic ingredients to be derived from GMOs or contain nanomaterials.

**8.1.4** 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.

**8.1.5** “In-conversion” ingredients may be used in multi-ingredient feed. However the ingredient list must identify their status and the total percentages of “in-conversion”, organic and non-organic ingredients on a dry matter basis.

**8.1.6** Multi-component products, live or unprocessed (such as vegetable boxes) may be sold or marketed as organic only if all the components are organic.

**8.1.7** The label for in-conversion products shall be clearly distinguishable from the label for organic products. Only single ingredient plant products may be labeled as “in-conversion”.

### 9. SOCIAL JUSTICE

Comment **Jorge Casale, Argentina**: A difference should be made between a case in which there is a national labor legislation and a case in which there is no labor legislation. The latter case has to be covered by the organic standard. But the former case there is the problem of how well is the legislation enforced by the national authorities; organic certification should not take the place of national labor authorities but on the other hand we cannot ignore social infringements in the case (extremely frequent in the developing World) of negligent enforcement of national social legislation by the national or local authorities.

I agree that this poses us a serious conflict as standards writers. Is there a way to solve it?

Standard Committee Response: The approach which we have decided to take is that to certify against this standard inspectors would need to review the compliance with the social aspects laid down in this section, whether or not they might be covered under a national regulation already. As you said, there are many cases of national legislations that are not enforced, especially in the agricultural sector, and therefore it is a safer approach to include social aspects into the organic inspection.

Comment **PuraNatura Foundation, Netherlands**: I am very pleased with the elaborate "Social Justice" paragraph. It truly makes me a proud IFOAM member!

Comment **Nature & Progrès, France**: Well done with this Chapter 9!

Comment **Sumer Hasimoglu, Turkey**: I just wanted to point out one issue that may be helpful especially for the developing countries that is related to namely on protected cropping and on social justice especially for women.  As you know developing countries economy still depends on agriculture and majority of the working women population (82% in Turkey) is employed in agriculture which is also valid for the organic agriculture and livestock production. The standards should emphasize and aimed to determine the socio-demographic features, health problems and working conditions of the women organic agriculture labors.  Some women are seasonal workers and it is absolutely necessary to create convenient residential conditions, to provide drinking and utilizing water, to build hygienic toilets, bathrooms and kitchens is significant necessity. Besides improving the education of women, it is also necessary to make legal arrangements in order to include those women agriculture workers into the social security system. I do not really know and really could not formulize the sentence of above suggestion to be included in the IFOAM Standard but I trust your judgment, ability and capability to do that.

Standard Committee Response: this is already partly covered under 9.11. However, we shall modify 9.11 to add “Operators shall provide residential employees with habitable housing and access to potable water; to sanitary and cooking facilities and to basic medical care.” The aspect of inclusion into the social security system is not possible to include in these requirements because not all countries have such a social security system.

**General Principle**

Social justice and social rights are an integral part of organic agriculture and processing. The fairness principle of organic agriculture emphasizes that those involved in organic agriculture should conduct human relationships in a manner that ensures fairness at all levels and to all parties involved.

**Recommendation:**

Operators should positively and actively encourage the collective organization of their employees or contracted smallholders.

Permanent employees and their families should have access to education, transportation and health services.

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.

Comment **Gerhard Pelzer, Germany**: suggests adding here the following requirement: “Operators should not replace regular workers by volunteers and should not only use volunteers for regular work.”

Standard Committee Response: Committee understands the concern and acknowledges that this problem exists. However the committee can’t see how voluntary work can be restricted in this standard. Voluntary work does not necessarily mean exploitation and there are established systems that have an ongoing voluntary need.

Organic operations should make a positive social and cultural contribution over and above legal obligations. This could be in one or several of the following areas:

* Education and training
* Research and innovation
* Supporting the local and wider community
* Enhancing rural development.

Comment **Krav, Sweden**: In the recommendations section there should be a recommendation that employers should pay a living wage based on local or national living wage levels calculated by local trade unions and NGOs. The living wage should cover the basic needs of the worker and their families (one wage covers 3 consumption units). It should include potable water, access to education and health services, housing, transport, clothing, food needs and savings.

There should also be recommendations towards importers or buyers regarding their sourcing practices which have big impact on working conditions. These recommendations should be included: Do not place orders last minute. Try to place the order during low season. Encourage suppliers that show progressive improvements in terms of working conditions. Build up and prioritize long-term relations with suppliers. Placing orders: be clear, plan them together with supplier, map the need for capacity building to ensure sustainability. Have continuous dialogue with suppliers. Only make changes when the capacity of the supplier permits it. Map routines. Do anonymous evaluations for suppliers about buyers behavior. Evaluate your sourcing practices during the production process.

Standard Committee Response: We believe that those recommendations would better fit under the IFOAM Best Practice Reference document (see <http://www.ifoam.org/en/value-chain/ifoam-best-practice-program>) and encourage you to submit those comments there.

**Requirements:**

Comment **Krav, Sweden**: There should be a statement about minimum wage or industry standard wage. There should also be a requirement on obligations for employee to follow social security laws.

Standard Committee Response: Committee believes that this issue is the same as the fair price problem: IFOAM is not in a position to establish or enforce fair prices or fair wages.

Comment **FNAB, France**: References to “minimum national requirements”, “ILO conventions relating to labor welfare” and “ UN Charter of Rights for Children should stay.

Standard Committee Response: We decided not to reference ILO conventions anymore because it is really complicated to identify which ILO conventions are relevant, and we though that it is better, if a requirement is missing as compared to relevant ILO conventions, to include it into this chapter. After reviewing the UN Charter of Rights for Children, we decide to add to modify 9.7 as follows:

“Operators shall not use child labor[[3]](#footnote-3).

 Regional or other exception

*Children are allowed to experience work on their family’s farm or business 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 child’s educational, moral, social, mental, spiritual and physical development;*

*c. children are supervised by adults or have authorization from a legal guardian.”*

We believe that after this modification, the requirements in this section cover all the points of the UN Charter that are relevant to children working on agricultural operations.

We agree with re-including the minimum national requirements, and add a requirement after 9.11 “9.12 Operators shall comply with minimum national social requirements in the countries of operation”.

**9.1.** In cases where production is based on violation of human rights and clear cases of social injustice, including recent violation of indigenous land rights, that product cannot be declared as organic.

Comment **Krav, Sweden**: “Based on” should be removed as it is an unclear formulation, for example in terms of regular violation of overtime regulations. The old formulation was good and clear and should be kept “This policy shall comply with the minimum national requirements and with all ILO conventions relating to labor welfare and the UN charter of Rights for Children”.

Standard Committee Response: We will changes Change 9.1. to “Production that violates human rights and social justice requirements in this chapter cannot be declared organic” and add a “9.2 Operators shall not violates indigenous land rights”, then adjust the numbering accordingly.

**9.2** Operators shall not use forced or involuntary labor or apply any pressure such as retaining part of the workers’ wages, property or documents.

**9.3** Operators shall not interfere with the right of their employees, suppliers (including farmers) and contractors to organize and to bargain collectively.

Comment **NOFA and NOC, USA**: suggests to add at the end of this sentence.

“… free from supervisor or employer interference or intimidation and free from retaliation.

Operators will recognize and negotiate in good faith the terms of employment with (a) any employee in the case of a single hired worker, (b) any group of employees, in the case of more than one hired worker, who choose to bargain collectively or (c) representatives democratically chosen by employees, which could include union representation, free from employer or supervisor interference or intimidation. “

Standard Committee Response: We will change 9.3 to “Operators shall not interfere with the right of their employees, suppliers, farmers and contractors to organize and to bargain collectively, free from interference, intimidation and retaliation.”

Comment **Krav, Sweden**: How does the standards consider the demand of Freedom of Association in China or Vietnam where there are no freely chosen trade unions? Are organic products, certified against the criteria in IFOAM’s Norms, still accepted if they are from for example China or Vietnam?

Standard Committee Response: The requirement can only apply to operators, not to the State, etc. Therefore such production would not necessarily be in violation of the standard.

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

Comment **NOFA and NOC, USA:** add “All workers performing the same task will be paid the same wages (This shall not prohibit employers from developing pay scales based upon seniority or productivity or other measurable indicators that are documented by the employer.)

Operators will have in place a fair disciplinary procedure with a system of warnings before any suspension or dismissal and workers will be given full details on why they are being dismissed.

Operators will have in place a conflict resolution procedure that is available to and clearly understood by all workers and suppliers (including farmers) and is free from retaliation.”

Standard Committee Response: Same wage for same task is already covered by the equal opportunity aspect. The conflict resolution procedure is too prescriptive given the diversity of operators, and would rather belong to the Best Practice. We agree to add a requirement phrased as “Operators shall have a disciplinary procedure with a system of warning before any suspension or dismissal. Workers dismissed shall be given full details of reasons for dismissal”.

**9.5** Employees shall be granted the right to take at least one day off after six consecutive days of work. Operators shall not require workers to work more than the contracted hours or the national or regional sectorial legislation, whichever is shorter, except in peak work season. Overtime shall be remunerated in the form of supplementary payments or time off in lieu.

Comment **NOFA and NOC, USA:** adding into the last sentence: “Overtime shall be voluntary and remunerated …”

Comment Krav, Sweden: The exception of peak seasons should be removed otherwise it violates local law. “according to local law” should be included at the end of the last sentence. Otherwise it is unclear how overtime would be remunerated since there reference is missing.

Standard Committee Response: we shall change to 9.5 to “Employees shall be granted the right to take at least one day off after six consecutive days of work. Operators shall not require workers to work more than the contracted hours and the national or regional sectorial legislation. Overtime shall be remunerated in the form of supplementary payments or time off in lieu.”

**9.6** Operators shall never require an employee to work who is ill or requiring medical attention and shall not sanction an employee for the sole fact of missing work due to illness.

**9.7** Operators shall not use child labor[[4]](#footnote-4).

 Regional or other exception

*Children are allowed to experience work on their family’s farm or business 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 child’s educational, moral, social, and physical development;*

*c. children are supervised by adults or have authorization from a legal guardian.*

Comment **FNAB, France**: suggests to add family also in front of business. “or family’s business”.

Standard Committee Response: this is already what the grammar of the sentence means. The business has to be a family business.

Comment Krav, Sweden: Why 13 years and not the regular definition (according to ILO convention 138) or local law?

Standard Committee Response: We feel that 13 is an acceptable compromise between what is ideal and what is common practice in many developing countries.

**9.8** Operators shall provide written terms and conditions of employment to both permanent and temporary employees, in a language and presentation understandable to the worker. The terms and conditions must specify at least: wages; frequency and method of payment; location, type and hours of work; as well as eligibility and terms of overtime, holiday pay, sickness benefit and other benefits such as maternity and paternity leave. Operators shall ensure that the workers understand the terms of their employment contract. Operators shall respect the terms of the contract in good faith, including timely payment of wages.

Comment **NOFA and NOC, USA:** change the middle part of the requirement as follows: “… location, type and hours of work; recognition of workers’ freedom of association; disciplinary procedure; conflict resolution process; health and safety procedures; as well as eligibility and terms of overtime, holiday pay, sickness benefit and other benefits such as maternity and paternity leave, and worker’s right to terminate employment. Operators shall …”

Standard Committee Response: ok, we shall change the second sentence to:

“The terms and conditions must specify at least:

* wages;
* frequency and method of payment;
* location, type and hours of work;
* recognition of workers’ freedom of association;
* disciplinary procedure;
* health and safety procedure;
* eligibility and terms of overtime, holiday pay, sickness benefit and other benefits such as maternity and paternity leave; and
* worker’s right to terminate employment.”

 Regional or other exception

*In cases where:*

*- the operator is unable to write, or*

*- workers are hired for periods of less than 6 days, or*

*- emergency labor is needed to address unpredictable problems*

*oral mutual agreements on the terms and conditions of employment are sufficient.*

**9.9** Operators shall ensure adequate access to potable water.

**9.10** Operators shall provide appropriate safety training and equipment to protect workers from noise, dust, sunlight and exposure to chemicals or other hazards in all production and processing operations.

**9.11** Operators shall provide residential employees with weatherproof and non-hazardous housing and access to potable water and sanitary facilities and basic medical care. If families reside on the operation, the operator shall also enable access to basic medical care for family members and to school for children.

**9.12** Operators with more than 10 employees must have a written employment policy and maintain records to demonstrate full compliance with the requirements of this section.

Comment **NOFA and NOC, USA:** add: “Workers will have access to their own files.”

Standard Committee Response: agreed.

**9.13** Requirements in this section apply equally to all workers on the operation regardless of how they are employed[[5]](#footnote-5), except for subcontractors performing non-production core business functions such as plumbing, machine repair, or electrical work.

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## 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, additives, processing aids, and other substances that are allowed for use in organic production, handling, and processing under this standard. These lists will be amended based on a review by the IFOAM Standard Committee, taking into account the below criteria for evaluation of inputs. The process for members or other stakeholders to request adding, deleting or otherwise changing the status of an input is located in IFOAM Policy 20 on the revision of the IFOAM Norms, which is accessible on the IFOAM website, www.ifoam.org, or can be ordered from the IFOAM Head Office (ogs@ifoam.org).

**Production Input Criteria**

Inputs used in organic production are consistent with the principles of organic farming outlined in the relevant chapters of the IFOAM Standard 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 Standard does 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 additives and 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 the product. For 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 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 product that is consistent with organic principles stated in the IFOAM Standard.

1.1. All dossiers shall take into consideration the technical feasibility of the following alternatives:

a) Whole products that are organically produced according to the standard.

b) Products that are organically produced and processed according to the standard.

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 standard but appear on Appendix 4.

1.2 If an ingredient is required to manufacture a processed product to independently established minimum technical specifications recognized by consumers, and no organic substitute is available, then a non-organic ingredient may 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 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. 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.

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 humans should be taken into account. It should be demonstrated that no group has a normal intake that 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 product that is consistent with organic principles stated in the IFOAM Standard.

***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 products.

6.3 Consumer perceptions of the compatibility of additives and processing aids shall be taken into account. An input might be reasonably considered 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,.

Comment **Marcus Bruegel, GOTS:** In Appendix 1, section A) Crop and Livestock Criteria, chapter 6.2 it is stated: "Inputs should respect the general opinion of consumers about what is natural and organic, e.g. genetic engineering is neither natural nor organic."

while in section B) Processing and Handling Criteria of the same appendix the wording ",… e.g. genetic engineering is neither natural nor organic." has been deleted from this sentence.

This is somehow irritating. Does this mean IFOAM assumes that the consumer opinion regarding genetic engineering has changed for processing and handling of organic products (but not for crop and livestock criteria)?

Standard Committee Response: the committee decided to delete the example from 6.3 above but forgot to delete it as well from 6.2 in part A. The rational was that criteria do not need examples and the prohibition of GMOs is regulated sufficiently in the standard. We shall also delete it from part A, section 6.2.

### APPENDIX 2: FERTILIZERS AND SOIL CONDITIONERS

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| --- | --- |
| **SUBSTANCES DESCRIPTION, COMPOSITIONAL REQUIREMENTS** | **CONDITIONS FOR USE** |
|  |  |
| **I. PLANT AND ANIMAL ORIGIN** |  |
| Farmyard manure, slurry and urine | Shall not constitute the main source of nitrogen in the absence of complimentary and additional nitrogen generating practices on farm and shall not be from conventional intensive livestock production systems without prior permission from the control body |
| Guano |  |
| Source separated human excrement  | Only in compliance with requirement 4.4.5. |
| Comment of **Frutoxic** together with German DWA NASS sub-working group: Change to "Source separately collected human excrement (urine and fecal material), and separately treated and stored". Standard Committee Response: We shall include the following definition in the definition section: “Source separated: Human excrement collected separately from waste streams that contain prohibited substances.” |
| Vermicastings |  |
| Blood meal, meat meal, bone, bone meal |  |
| Hoof and horn meal, feather meal, fish and shell products, wool, hide, 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 | Free of significant contaminants; or composted before bringing onto organic land and confirmed free of significant contaminants |
| Crop residues and plant materials, mulch, green manure, straw |   |
| Wood, bark, sawdust, wood shavings, wood ash, wood charcoal |  Only if not chemically treated  |
| Seaweed and seaweed products | As far as obtained by: (i) physical processes including dehydration, freezing and grinding; (ii) extraction with water or potassium hydroxide solutions, provided that the minimum amount of solvent necessary is used for extraction; (iii) fermentation.  |
| Peat (prohibited for soil conditioning) | Excluding synthetic additives; permitted only in horticulture (floriculture, nursery plants, potting mixes). |
| Comment **AFAS Certification Center**: would like to know why peat is only permitted in horticulture?Standard Committee Response: the use of peat is not sustainable as it is a resource that renews itself only very slowly and using it in large quantities also has transport implications. However, in some cases of horticultural production, there is currently no commercially viable alternative to the use of peat, hence the derogation to use it. |
| Plant preparations and extracts |  |
| Compost made from ingredients listed in this appendix, |  |
| spent mushroom waste, humus from worms and insects, |  |
| urban composts and household wastes from separated sources which are monitored for contamination |  |
|  |  |
| **II. MINERAL ORIGIN** |  |
|  |  |
| **Calcareous and magnesium amendments:** |  |
| Limestone, gypsum, marl, maerl, chalk, sugar beet lime, |  |
| calcium chloride, |  |
| Magnesium rock, kieserite and Epsom salt (magnesium |  |
| sulfate) |  |
| Other non-synthetic calcareous and magnesium amendments  |  |
|  |  |
| Clay (e.g. bentonite, perlite, vermiculite, zeolite) |  |
| Mineral potassium (e.g. sulfate of potash, muriate of potash, kainite, sylvanite, patenkali) | Shall be obtained by physical procedures but not enriched by chemical processes |
| Phosphates in non-synthetic form (e.g. rock phosphate, colloidal phosphate, apatite) | Cadmium content less than or equal to 90 mg/kg of P2O5 |
| Pulverized rock, stone meal, crushed stone. |  |
| Sodium chloride |  |
| Sulfur |  |
| Trace elements, e.g.:boric acid, sodiumborate, calciumborate, borethanolamin,cobalt-acetate, cobalt-sulphate,copper oxide, copper sulfate, copper hydroxide, copper silicate, copper carbonate, copper citrateferric oxide, ferric sulfate, ferrous sulfate, iron citrate, iron sulfate, or iron tartratemanganous oxide, manganese sulfate and manganese carbonateselenic acid, selenous acid,sodiummolybdate, molybdic oxidezinc carbonate, zinc oxide, zinc silicate, and zinc sulfate | Use restricted to cases where soil/plant nutrient deficiency is documented by soil or tissue testing or diagnosed by an independent expert.Micronutrients in either chloride or nitrate forms are prohibited. Micronutrients may not be used as a defoliant, herbicide, or desiccant. |
|  |  |
| **III. MICROBIOLOGICAL** |  |
| Biodegradable processing by-products of microbial origin, |  |
| e.g. by-products of brewery or distillery processing |  |
| Microbiological preparations based on naturally occurring organisms |  |
|  |  |
|  |  |
| **IV. OTHERS** |  |
| Biodynamic preparations |  |
| Calcium lignosulfonate |  |

### APPENDIX 3: CROP PROTECTANTS AND GROWTH REGULATORS

Comment **Naturland, Germany**: We would like to have included: potash alum (kalinite) for post harvest treatment of bananas. This substance (Potassium aluminium (aluminium sulphate) (Kalinite)) is also allowed in the EU-Reg 889/2008 (Annex II.6.) for the prevention of ripening of bananas.

Standard Committee Response: the procedure, as regulated under IFOAM Policy 20 on the revision of IFOAM Norms requires that, if someone wants a substances to be added to the list, they should submit a complete dossier. More specifically, the policies says “For the addition, deletion or other revision of substances in the Appendices of the IFOAM Standard, the following processes apply:

1. Initiation: Any party may request that IFOAM consider adding, deleting, or changing the status  of an input. The Standard Committee may itself decide to initiate this procedure. A dossier shall be prepared by the party requesting the change, containing an assessment of the concerned substance according to the Criteria for the Evaluation of Substances annexed to the IFOAM Standards Requirements. IFOAM shall set reasonable fees to pay the cost of the evaluation of dossiers, including staff time, administrative overhead, Standard Committee meeting costs, and the hiring of outside experts. Fees may be waived by IFOAM in cases where other funding is available. A list of requests submitted and their status shall be made publicly available.”

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| **SUBSTANCES DESCRIPTION, COMPOSITIONAL REQUIREMENTS** | **CONDITIONS FOR USE** |
|  |  |
| **I. PLANT AND ANIMAL ORIGIN** |  |
| Algal preparations | As far as obtained by: (i) physical processes including dehydration, freezing and grinding; (ii) extraction with water or potassium hydroxide solutions, provided that the minimum amount of solvent necessary is used for extraction; (iii) fermentation. |
| Animal preparations and oils |  |
| Beeswax |  |
| Chitin nematicides (natural origin) | Not processed by acid hydrolysis |
| Coffee grounds |  |
| Corn gluten meal  |  |
| Dairy products (e.g. milk, casein) |  |
| Gelatin |  |
| Lecithin |  |
| Natural acids (e.g. vinegar) |  |
| Neem (Azadirachta indica) |  |
| Plant oils |  |
| Plant preparations |  |
| Plant based repellents |  |
| Propolis |  |
| Pyrethrum (Chrysanthemum cinerariaefolium) | The synergist Piperonyl butoxide is prohibited.  |
| Quassia (Quassia amara) |  |
| Rotenone (Derris elliptica, Lonchocarpus spp. Tephrosia spp.) | Not near waterways. Subject to approval by the CB |
| Ryania (Ryania speciosa) |  |
| Sabadilla |  |
|  |  |
| **II. MINERAL ORIGIN** |  |
| Chloride of lime (calcium chloride) |  |
| Clay (e.g. bentonite, perlite, vermiculite, zeolite) |  |
| Copper salts (e.g. sulfate, hydroxide, oxychloride, octanoate | Max 6 kg Cu/ha per year (on a rolling average basis) |
| Diatomaceous earth |  |
| Light mineral oils (paraffin) |  |
| Lime sulfur (Calcium polysulfide) |  |
| Potassium bicarbonate |  |
| Calcium hydroxide (hydrated lime) |  For application on aerial plant parts only |
| Silicates (e.g. sodium silicates, quartz) |  |
| Sodium bicarbonate |  |
| Sulfur |  |
|  |  |
| **III. MICROORGANISMS** |  |
| Fungal preparations (e.g. spinosad) |  |
| Bacterial preparations (e.g. Bacillus thuringiensis) |  |
| Release of parasites, predators and sterilized insects |  |
| Viral preparations (e.g. granulosis virus) |  |
|  |  |
| **IV. OTHERS** |  |
| Biodynamic preparations |  |
| Carbon dioxide | Shall not be the result of burning fuel solely to produce carbon dioxide; allowed only as a by-product of other processes. |
| Comment **FNAB, France**: suggests to delete carbon dioxide from this annex. Standard Committee Response: Carbon dioxide was already on the Appendix. We propose to restrict it further with this change. For a complete removal, we invite you to submit a dossier.  |
| Ethyl alcohol |  |
| Homeopathic and Ayurvedic preparations |  |
| Iron phosphates (for use as molluscicide) |  |
| Seasalt and salty water |  |
| Soft soap |  |
|  |  |
| **V. TRAPS, BARRIERS, REPELLENTS** |  |
| Physical methods (e.g. chromatic traps, mechanical traps) |  |
| Mulches, nets |  |
| Pheromones – in traps and dispensers only |  |

### APPENDIX 4 – TABLE 1: LIST OF APPROVED ADDITIVES[[6]](#footnote-6) AND PROCESSING / POST-HARVEST HANDLING AIDS

Substances of certified organic origin must be used if commercially available. If organic sources are not available, natural sources must be used if commercially available. Only if organic and natural sources are not available, synthetic forms of the substances below may be used.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **INT’L****NUMBERING SYSTEM** | **PRODUCT** | **ADDITIVE** | **PROC. & Post Har. Han.****AID** | **LIMITATION/ NOTE** |
| INS 170 | Calcium carbonate | X | X | Not for coloring |
| 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 | Obtained without bleaches |
| 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 |  |  |
| INS 414 | Arabic gum | X |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **INT’L****NUMBERING SYSTEM** | **PRODUCT** | **ADDITIVE** | **PROC. & Post Har. Han.****AID** | **LIMITATION/ NOTE** |
| INS 415 | Xanthan gum | X |  |  |
| INS 428 | Gelatin |  | X |  |
| 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 | X | As processing aid for pH adjustment of water during sugar processing.As additive for wine and apple cider production |
| 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 | Food additive for maize tortilla flourProcessing aid for sugar |
| INS 551 | Silicon dioxide (amorphous) |  | X |  |
| INS 553 | Talc |  | X |  |
| INS 558 | Bentonite |  | X | Only for fruit and vegetable products |
| INS 901 | Beeswax |  | X |  |
| INS 903 | Carnauba wax |  | X |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **INT’L****NUMBERING SYSTEM** | **PRODUCT** | **ADDITIVE** | **PROC. & Post Har. Han.****AID** | **LIMITATION/ NOTE** |
| INS 938 | Argon | X |  |  |
| INS 941 | Nitrogen | X | X |  |
| INS 948 | Oxygen | X | X |  |
|  | Ethylene |  | X | De-greening of citrus and ripening |
|  | Activated carbon |  | X |  |
|  | Casein |  | X | Only for wine |
|  | Cellulose |  | X |  |
|  | Diatomaceous earth |  | X |  |
|  | Ethanol |  | X |  |
|  | Isinglass |  | X | Only for wine |
|  | Kaolin |  | X |  |
|  | Perlite |  | X |  |
|  | Preparations of bark |  | X | Only for sugar |

**Flavoring Agents**

**Operators may use:**

• organic flavoring extracts (including volatile oils), and, if not available,

• natural flavoring preparations approved by the control body. Such approval shall include assessment that natural flavors shall meet the following criteria:

* the sources are plant, animal or mineral;
* the process of production is in accordance with a recognized organic standard;
* they are produced by means of solvents such as vegetal oil, water, ethanol, carbon dioxide and mechanical and physical processes.

Comment **Organic Unit of the Ministry of Agriculture, Animal Wealth and Irrigation of Sudan:** suggests to use plural: “vegetal oils”

Standard Committee Response: agreed.

**Preparations of Micro-organisms and Enzymes for use in food processing (see 7.2.5)**

These may be used as ingredient or processing aids with approval from the control body:

• Organic certified micro-organisms

• Preparations of micro-organisms

• Enzymes and enzyme preparations

### APPENDIX 4 – TABLE 2: INDICATIVE LIST OF EQUIPMENT CLEANSERS AND EQUIPMENT DISINFECTANTS

|  |  |
| --- | --- |
| **PRODUCT** | **LIMITATION/NOTE** |
|  |  |
| Acetic acid |  |
| Alcohol, ethyl (ethanol) |  |
| Alcohol, isopropyl (isopropanol) |  |
| Calcium hydroxide (slaked lime) |  |
| Calcium hypochlorite | An intervening event or action must occur to eliminate risks of contamination |
| Calcium oxide (quicklime) |  |
| Chloride of lime (calcium oxychloride, calcium chloride, and calcium hydroxide) |  |
| Chlorine dioxide | An intervening event or action must occur to eliminate risks of contamination |
| 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 | An intervening event or action must occur to eliminate risks of contamination |
| Sodium carbonate |  |
| Sodium hydroxide (caustic soda) | An intervening event or action must occur to eliminate risks of contamination |
| Sodium hypochlorite | An intervening event or action must occur to eliminate risks of contamination |
| Sodium soap | An intervening event or action must occur to eliminate risks of contamination |

### APPENDIX 5: SUBSTANCES FOR PEST AND DISEASE CONTROL AND DISINFECTION IN LIVESTOCK HOUSING AND EQUIPMENT

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| **PRODUCT** |
| Alkali carbonates |
| Calcium oxide (lime, quicklime) |
| Caustic potash (potassium hydroxide) |
| Caustic soda (sodium hydroxide) |
| Citric, peracetic acid, formic, lactic, oxalic and acetic acid |
| Cleaning and disinfection products for teats and milking facilities |
| Ethanol and isopropanol |
| Hydrogen peroxide |
| Iodine |
| Milk of lime (=slack lime, cal, pickinglime, hydrated lime, slaked lime) = calcium hydroxide |
| Natural essences of plants |
| Nitric acid (dairy equipment) |
| Phosphoric acid (dairy equipment) |
| Potassium and sodium soap |
| Sodium carbonate |
| Sodium hypochlorite (e.g. as liquid bleach) |
| Water and steam |

1. This may be by inclusion on a government or certification body list of permitted non-organic agricultural ingredients. [↑](#footnote-ref-1)
2. Note: this clause does not preclude other terminal sanitizers to be used, as the list is simply indicative. [↑](#footnote-ref-2)
3. For the purpose of this standard, all people under 13 are considered children. [↑](#footnote-ref-3)
4. For the purpose of this standard, all people under 13 are considered children. [↑](#footnote-ref-4)
5. For example, direct employment, employment agencies, labor contractors and employment brokers. [↑](#footnote-ref-5)
6. Additives may contain carriers, which shall be evaluated. [↑](#footnote-ref-6)