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DOMINICA ORGANIC AGRICULTURE MOVEMENT (DOAM) DRAFT STANDARDS

NOVEMBER 2007

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CONTENTS

- General Approach 1

- Section A: Scope and Principles 2
 - 1. Scope and Definitions 2
 - 2. Principles of Organic Production and Handling 7

- Section B: General Requirements 8
 - 1. Organic System Plan 8
 - 2. Record Keeping 8
 - 3. Conversion Requirements 9

- Section C: Organic Crop Production 10
 - 1. Land Requirements/Buffer Zones 10
 - 2. Ecosystem Management 10
 - 3. Soil Fertility and Nutrient Management 10
 - 4. Biological Diversity and Crop Rotations: 12
 - 5. Seeds and Planting Stock 12
 - 6. Weed, Pest, and Disease Control 13
 - 7. Wild Crop Harvesting 14

- Section D: Organic Livestock Production 15
 - 1. Source of Livestock 15
 - 2. Beekeeping 16
 - 3. Livestock Feed 16
 - 4. Livestock Health Care 17
 - 5. Livestock Living Conditions 18
 - 6. Livestock Handling, Transport and Slaughter (Animal Welfare General Precepts) 19

- Section E: Organic Processing and Labeling 20
 - 1. Processing Methods 20
 - 2. Protecting Organic Integrity 20
 - 3. Facility Pest Management 20
 - 4. Product Composition and Labeling 21

Introduction to Appendices.....	24
I. Revision Procedure for Appendices	24
II. Criteria for Evaluation of Additional Inputs to Organic Agriculture	25
III. Criteria for Evaluation of Additives, Processing Aids, and Cleaning and Disinfection Products	27
Appendix A. Crop Production Substances.....	29
I. Permitted and Prohibited Fertility Inputs	29
2. Permitted and Prohibited Weed, Pest & Disease Control Inputs, Production Aids, Mulches, Barriers.....	31
APPENDIX B. Livestock Production Substances	34
I. Permitted and Prohibited Feedstuffs.....	34
Permitted and Prohibited Health Care Substances.....	36
APPENDIX C: Processing Substances.....	38
I. List of Approved Additives and Processing Aids	38
II. List of Approved Products for Cleaning and Disinfection.....	41
APPENDIX D: Plant Breeding and Multiplication	43

GENERAL APPROACH

The approach to setting organic standards in Dominica should reflect the distinctive situation of Dominican producers and consumers, and be oriented toward stimulating both marketing and organic production. Dominica's standards should be established for internal markets yet remain compatible with both the USDA National Organic Program (NOP) and the European Union (EU) so that producers and handlers interested in export markets will be able to obtain the applicable certifications.

The standards should first serve an educational function, and thus should be relatively simple and readily understood. They should not attempt to encompass all possible sectors of organic production and processing, especially those that are minimally developed for conventional agriculture on the island. These livestock standards are intended to be attainable by small producers who sell to local markets only. In the event that organic livestock products are intended for export, producers should be certified according to either the NOP or EU.

This proposal covers only processed products that contain 95 percent or more organic agricultural ingredients, to align with the revised European Union regulations. If there is interest in exporting complex, multi-ingredient processed products that contain some non-organic agricultural ingredients and labeled "made with organic ingredients," these follow the requirements of the USDA National Organic Program.

This proposal allows for the use of natural sodium nitrate (Chilean nitrate), according to the restrictions of the USDA National Organic Program. (Chilean nitrate is prohibited by the EU regulation, Codex Guidelines for Organic, and IFOAM.) If Chilean nitrate is not a soil amendment used or is not essential for crop production in Dominica, it should be deleted from Appendix A.

A Dominica-based certification program should be as simple as possible, starting as a registration and affidavit system. Ultimately, the Bureau of Standards should assume the role of certifying body, and every effort should be made to coordinate with other Caribbean countries in a region-wide organic standard and certification program.

SECTION A: SCOPE AND PRINCIPLES

1. SCOPE AND DEFINITIONS

1.1 Scope of the DOAM Organic Standards

These standards apply to production or handling operations or specified portions of a production or handling operation that operate within the territory of the country of Dominica that produce or handle crops, livestock, livestock products, or other agricultural products intended to be sold, labeled, or represented as having been produced and/or handled according to organic methods. These standards apply to the following products:

- Unprocessed agricultural crop and livestock products
- Processed agricultural crop and livestock products intended for human consumption
- Feeding stuffs, compound feeding stuffs, and feed materials
- Other items intended for human consumption, including articles of clothing, medicines, and other household items

The products of hunting and fishing of wild animals shall not be considered as organic production.

These standards are intended to:

- Establish national standards governing the production and marketing of certain agricultural products as organically produced products,
- Assure consumers that organically produced products meet a consistent standard.

1.2 Definitions

Agricultural inputs: All substances or materials used in the production or handling of organic agricultural products.

Agricultural product: Any agricultural commodity or product, whether raw or processed, including any commodity or product derived from livestock, that is produced for human or livestock consumption.

Allopathic: The treatment of a disease by using remedies whose effects differ from those produced by that disease.

Annual seedling: A plant grown from seed that will complete its life cycle or produce a harvestable yield within the same crop year or season in which it was planted.

Ayurvedic: Traditional Indian system of medicine.

Biodegradable: Subject to biological decomposition into simpler biochemical or chemical components.

Biodiversity: The variety of life forms and ecosystem types on Earth. Includes genetic diversity (i.e. diversity within species), species diversity (i.e. the number and variety of species) and ecosystem diversity (total number of ecosystem types).

Breeding: The 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.

Commercially available: The ability to obtain a production input in an appropriate form, quality, or quantity to fulfill an essential function in a system of organic production or handling, as determined by the certifying agent in the course of reviewing the organic plan.

Commingling: Physical contact between unpackaged organically produced and non-organically produced agricultural products during production, processing, transportation, storage, or handling, other than during the manufacture of a multi-ingredient product containing both types of ingredients.

Compost: The product of a managed process through which microorganisms break down plant and animal materials into more available forms suitable for application to the soil.

Contamination: Pollution of organic product or land or contact with any material that would result in the loss of its organic status.

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

Feed/feeding stuffs: Edible materials that are consumed by livestock for their nutritional value. Feed may be concentrates (grains) or roughages (hay, silage, fodder). The term "feed" encompasses all agricultural commodities, including pasture ingested by livestock for nutritional purposes.

Feed additive: A substance added to feed in microquantities to fulfill a specific nutritional need; for example, essential nutrients in the form of amino acids, vitamins, and minerals.

Feed supplement: A combination of feed nutrients added to livestock feed to improve the nutrient balance or performance of the total ration and intended to be (1) diluted with other feeds when fed to livestock, (2) offered free choice with other parts of the ration if separately available, or (3) further diluted and mixed to produce a complete feed.

Food additive: Enrichment, supplement, or other substance which can be added to a foodstuff to affect its keeping quality, consistency, color, taste, smell, or other technical property.

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 modification include, but are not limited to: recombinant DNA, cell fusion, micro- and macro-injection, encapsulation, gene deletion, and doubling. Genetically engineered organisms do not include organisms resulting from techniques such as conjugation, transduction, and natural hybridization.

Genetically modified organism (GMO): A plant, animal, or microbe that is transformed by genetic engineering.

Green manure: A crop that is incorporated into the soil for the purpose of soil improvement. This may include spontaneous crops, plants, or weeds.

Handle: To sell, process, or package agricultural products, except such term shall not include the sale, transportation, or delivery of crops or livestock by the producer thereof to a handler.

Handler: Any person engaged in the business of handling agricultural products, including producers who handle crops or livestock of their own production, except such term shall not include final retailers of agricultural products that do not process agricultural products.

Handling operation: Any operation or portion of an operation (except final retailers of agricultural products that do not process agricultural products) that receives or otherwise acquires agricultural products and processes, packages, or stores such products.

Habitat: The area in which a plant or animal species naturally exists and the area where a species occurs. Also used to indicate types of habitat, e.g. seashore, riverbank, woodland, grassland.

Homeopathic treatment: Treatment of disease based on administration of remedies prepared through successive dilutions of a substance that in larger amounts produces symptoms in healthy subjects similar to those of the disease itself.

Ingredient: Any substance, including a food additive, used in the manufacture or preparation of a food or present in the final product although possibly in a modified form.

Irradiation (ionizing radiation): High energy emissions from radio-nucleotides, capable of altering a food's molecular structure for the purpose of controlling microbial contaminants, pathogens, parasites, and pests in food; preserving food; or inhibiting physiological processes such as sprouting or ripening.

Labeling: Any written, printed or graphic representation that is present on the label of a product, accompanies the product, or is displayed near the product.

Livestock production: The production of domestic or domesticated terrestrial animals (including insects) and aquatic species farmed in fresh, salt, or brackish water. The products of hunting and fishing of wild animals shall not be considered as organic production.

Marketing: Holding or displaying for sale, offering for sale, selling, delivering, or placing on the market in any other form.

Non-retail container: Any container used for shipping or storage of an agricultural product that is not used in the retail display or sale of the product.

Operator: An individual or business enterprise, responsible for ensuring that products meet the certification requirements.

Organic: A labeling term that denotes products that have been produced in accordance with organic production standards and certified by a duly constituted certification body or authority.

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.

Organic feed/organic feeding stuff: Feed or feed materials produced in accordance with the rules of a pertinent organic standard, and duly certified as such.

Organic matter: The remains, residues, or waste products of any organism.

Organic system plan: A plan of management of an organic production or handling operation that has been agreed to by the producer or handler and the certifying agent and that includes written plans concerning all aspects of agricultural production or handling described in these standards.

Pasture: Land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water, and vegetative resources.

Preparation, processing: The operations of preserving and/or processing of agricultural products (including slaughter and cutting for livestock products), and also packaging and/or alterations made to the labeling concerning the presentation of the organic production method of the fresh, preserved and/or processed products.

Processing aid: Any substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients, to fulfill a certain technical purpose during treatment or processing and which may result in the non-intentional, but unavoidable presence of residues or derivatives in the final product.

Producer: A person who engages in the business of growing or producing food, fiber, feed, and other agricultural-based consumer products.

Production: The operations on the agricultural holding involved in producing, packaging and initially labeling as products of organic production.

Production lot number: Identification of a product based on the production sequence of the product showing the date, time, and place of production used for quality control purposes.

Prohibited substance: A substance the use of which in any aspect of organic production or handling is prohibited or not provided for in this standard.

Records: Any information in written, visual, or electronic form that documents the activities undertaken by a producer, handler, or certifying agent to comply with this standard.

Sewage sludge: A solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes but is not limited to domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

Slaughter stock: Any animal that is intended to be slaughtered for consumption by humans or other animals.

Sustainable: A method of harvesting or using a resource so that the resource is not depleted or permanently damaged.

Synthetic: Manufactured by chemical and industrial processes. May include products not found in nature, or simulation of products from natural sources (but not extracted from natural raw materials).

Wild crop: Any plant or portion of a plant that is collected or harvested from a site that is not maintained under cultivation or other agricultural management.

2. PRINCIPLES OF ORGANIC PRODUCTION AND HANDLING

Organic agriculture is a sustainable production management system that promotes and enhances biodiversity, biological cycles, and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that restore, maintain, and enhance ecological harmony. Organic production systems seek to provide food, fiber, and herbal products of the highest quality in sufficient quantities. The following principles are the foundation of organic management methods:

- Protect the environment, minimize pollution, promote health, and optimize biological productivity
- Replenish and maintain long-term soil fertility by providing optimal conditions for soil biological activity
- Maintain diversity within the farming system and its surroundings and protect and develop plant and wildlife habitat
- Recycle materials and resources to the greatest extent possible within the farm and its surrounding community as part of a regionally organized agricultural system
- Provide attentive care that meets both health and behavioral requirements of farm animals
- Maintain the integrity and nutritional value of organic food and processed products through each step of the process from planting to consumption
- Develop and adopt new technologies with consideration for their long range social and ecological impact

SECTION B: GENERAL REQUIREMENTS

1. ORGANIC SYSTEM PLAN

A producer or handler wishing to market a product as “organic” must develop a written organic production or handling system plan that is approved by DOAM. An organic production or handling system plan must include:

- A description of production and/or handling practices and procedures to be performed and maintained, including the frequency with which they will be performed.
- A list of each substance, ingredient, and plant material to be used as a production or handling input, indicating its composition, source, location(s) where it will be used, and documentation of commercial availability, as applicable.
- A description of the monitoring practices to be used to ensure that the organic system plan is being properly implemented. Examples of monitoring practices include soil and water quality testing, monitoring of livestock health and body condition, and mock recalls verifying audit trail adequacy.
- A description of the recordkeeping system implemented to comply with the requirements established in these standards, including maintenance of an adequate audit trail.
- A description of the management practices and physical barriers established to prevent commingling of organic and non-organic products on a split operation and to prevent contact of organic production and handling operations and products with prohibited substances.
- Additional information as requested by DOAM that may be needed to evaluate compliance with these standards.

2. RECORD KEEPING

An organic producer or handler must maintain records concerning the production, harvesting, and handling of agricultural products that are or that are intended to be sold, labeled, or represented as “organic.” Such records must:

- Be adapted to the particular business that the organic operation is conducting
- Fully disclose all activities and transactions of the organic operation in sufficient detail as to be readily understood and audited
- Be sufficient to demonstrate compliance with these standards

The organic producer or handler must make such records available for inspection and copying during normal business hours by authorized representatives of DOAM.

3. CONVERSION REQUIREMENTS

3.1 Land conversion

Land used to produce organic crops, including pasture for livestock, must have received no application of a prohibited substance, as identified in Appendix A, for at least three years prior to harvest of the organic crop.

3.2 Livestock conversion

Livestock may be designated as organic for the production of meat and livestock products after being maintained under organic management as specified in Section D.1.

Livestock may graze on pasture or consume forage from land that is in its third year of conversion, as specified above.

3.3 Split Production and Parallel Production

Where the whole farm is not converted (split production), the organic and non-organic parts of the farm must be clearly and continuously separate. This shall be verified by inspection.

Simultaneous production of organic and non-organic crops or animal products (parallel production) must only be permitted where such production is undertaken with clear and continuous separation of all product claimed as organic. Adequate records must be kept to show the separation.

Where farms engage in split (including parallel) production, the use of genetically engineered organisms is prohibited in any production activity on the farm.

The operator shall demonstrate that the production system does not involve continuous switching between organic and non-organic management.

SECTION C: ORGANIC CROP PRODUCTION

1. LAND REQUIREMENTS/BUFFER ZONES

Any field or farm parcel from which harvested crops are intended to be sold, labeled, or represented as “organic,” must:

- Be managed in accordance with the provisions of Sections C.1 through C.6
- Have had no prohibited substances, as identified in Appendix A, applied to it for a period of three years immediately preceding harvest of the organic crop
- Have distinct, defined boundaries and buffer zones, such as runoff diversions, to prevent the unintended application of a prohibited substance to the crop or contact with a prohibited substance applied to adjoining land that is not under organic management

2. ECOSYSTEM MANAGEMENT

An organic system plan must identify practices that maintain and improve the agro-ecosystem, in accordance with Sections C.3 through C.6. Such practices may include, but are not limited to:

- Practices that protect soil and water from erosion and contamination from nutrient runoff
- Practices that recycle organic wastes produced on farm or in the local community for use as a soil nutrient source
- Practices that improve and maintain biological diversity within the farm, such as hedgerows, wetlands, woodlands, and other means of providing wildlife habitat
- Practices that attract beneficial organisms and predators of pest species, including bird feeders, bat houses, and amphibian shelters
- Practices that integrate crops and livestock, including annual and perennial cropping systems, intensive rotational grazing systems, agroforestry, and polyculture methods

3. SOIL FERTILITY AND NUTRIENT MANAGEMENT

- The producer must select and implement tillage and cultivation practices that maintain or improve the physical, chemical, and biological condition of soil and minimize soil erosion.
- The producer must manage crop nutrients and soil fertility through rotations, cover crops, and the application of plant and animal materials.
- The producer must manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances, as identified in Appendix A. Animal and plant materials may be obtained from any source except those identified in Section 3.5, and include:

- Raw animal manure, which must be composted unless it is one of the following:
 - Applied to land used for a crop not intended for human consumption
 - Incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles
 - Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles
- Composted plant and animal materials
- Un-composted plant materials
- A producer may manage crop nutrients and soil fertility to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances (as identified in Appendix A) by applying the following:
 - A crop nutrient, fertilizer or soil amendment included on the list of permitted soil fertility inputs in Appendix A
 - Ash obtained from the burning of a plant or animal material, provided that, the material burned has not been treated or combined with a prohibited substance or the ash is not included on the list of prohibited soil fertility inputs in Appendix A
- The producer must not use:
 - Any fertilizer or composted plant and animal material that contains a substance included on the list of substances prohibited for use in organic crop production in Appendix A
 - Manures containing human excrement (feces and urine) for use on crops for human consumption
 - Sewage sludge
 - Burning as a means of disposal for crop residues produced on the operation (except that burning may be used to suppress the spread of disease or to stimulate seed germination)
- For the production of mushrooms, only the following substrates shall be used:
 - Farmyard manure and animal excrements from operations that meet these organic standards
 - Non-organic manures and excrements compliant with Appendix A, comprising up to 25 percent of the substrate, as calculated on the weight of total components before

- Organically produced agricultural products (e.g. straw)
- Peat, not chemically treated
- Wood, not chemically treated after felling
- Mineral products listed in Appendix A
- Water and soil

4. BIOLOGICAL DIVERSITY AND CROP ROTATIONS:

- The producer must implement a crop rotation in any crop system that includes annual cultivated crops, including but not limited to sod, cover crops, green manure crops, and catch crops that provide the following functions that are applicable to the operation:
 - Maintain or improve soil organic matter content
 - Provide for pest management in annual and perennial crops
 - Manage deficient or excess plant nutrients
 - Provide erosion control
- The producer must introduce biological diversity into any annual or perennial cropping system through practices that include, but are not limited to:
 - Inter-planting of annual and perennial crops, companion planting, and living mulches
 - Pasture and forage mixes containing a diversity of plant species
 - Perennial polycultures using diverse food, shade, and wildlife habitat species
 - Integration of livestock into the cropping system
- The producer must select crop varieties and livestock breeds as well as crop and livestock species that are suited to the local environment and resistant to pests and diseases, so long as no genetically modified organisms are deliberately introduced into the agro-ecosystem.

5. SEEDS AND PLANTING STOCK

- The producer must use organically produced seeds, annual seedlings, and perennial planting stock to produce an organic crop, except that:
 - Non-organically produced, untreated seeds and planting stock may be used to produce an organic crop when an equivalent organically produced variety is not commercially available
 - Non-organically produced seeds and planting stock that have been treated with a permitted substance, as identified in Appendix A, may be used to produce an organic crop when an equivalent organically produced or untreated variety is not commercially available

- Non-organically produced annual seedlings may be used to produce an organic crop when a crop must be replanted due to natural disaster, crop failure, or other emergency situation; the producer must document the rationale for the necessity of using non-organically produced seedlings
- Non-organically produced planting stock to be used to produce a perennial crop may be sold, labeled, or represented as organically produced nursery stock only after the planting stock has been maintained under a system of organic management for a period of no less than one year; and
- Seeds, annual seedlings, and planting stock treated with prohibited substances identified in Appendix A may be used to produce an organic crop when the application of the materials is a requirement of government phytosanitary regulations.
- The producer of a crop of edible sprouts may use only organically grown seeds.
- Prohibited: Genetically modified organisms may not be used to produce an organic crop.

6. WEED, PEST, AND DISEASE CONTROL

The producer must implement a weed, pest and disease management strategy according to the following order of preference:

- Prevention: Management practices must be used to prevent crop pests, weeds, and diseases, including but not limited to:
 - Crop rotation and soil and crop nutrient management practices, as provided for in Sections 3 and 4, that maintain optimum plant health and biodiversity of soil organisms
 - Sanitation measures to remove disease vectors, weed seeds, and habitat for pest organisms
 - Cultural practices such as selection of plant species and varieties with regard to suitability to site-specific conditions and resistance to prevalent pests, weeds, and diseases; timing of plantings to avoid pest populations; maintaining habitats for natural enemies of pests; and similar methods
- Mechanical or physical pest control: When prevention proves ineffective, pest problems may be controlled through mechanical or physical methods including but not limited to:
 - Augmentation or introduction of predators or parasites of the pest species
 - Non-synthetic controls such as lures, traps, and repellents
- Mechanical or physical weed control: When prevention proves ineffective, weed problems may be controlled through:
 - Mulching with fully biodegradable materials
 - Mowing

- Livestock grazing
 - Hand weeding and mechanical cultivation
 - Flame, heat, or electrical means
 - Plastic or other synthetic mulches, provided that they are removed from the field at the end of the growing or harvest season
- When prevention proves ineffective, disease problems may be controlled through:
 - Management practices which suppress the spread of disease organisms
 - Application of non-synthetic biological, botanical, or mineral inputs
 - When the practices above are insufficient to prevent or control crop pests, weeds, and diseases, a substance included in Appendix A's list of substances allowed for use in organic crop production may be applied to prevent, suppress, or control pests, weeds, or diseases. Justification for using the substance must be documented in the organic system plan.
 - Prohibited: The operator may not use:
 - Any weed, pest or disease control substance that is not included on the list of substances allowed for organic crop production in Appendix A
 - Any product derived from or consisting of GMOs
 - Lumber treated with arsenate or other prohibited materials for new installations or replacement purposes in contact with soil, crops, or livestock

7. WILD CROP HARVESTING

- A wild crop that is intended to be sold, labeled, or represented as organic must be harvested from a designated area that has had no prohibited substance (as identified in Appendix A) applied to it for a period of three years immediately preceding the harvest of the wild crop.
- A wild crop must be harvested in a manner that ensures that such harvesting or gathering will not be destructive to the environment; threaten the existence of plant, fungal, or animal species in the wild crop area; and will sustain the growth and production of the wild crop.
- The collection or harvest area must be at an appropriate distance from non-organic farming and other sources of possible pollution or contamination with prohibited substances.
- The operator and the people who harvest wild crops must comply with all local and national regulations regarding use of common and public lands.

SECTION D: ORGANIC LIVESTOCK PRODUCTION

1. SOURCE OF LIVESTOCK

- Livestock products that are to be sold, labeled, or represented as organic must be from livestock under continuous organic management starting from the last third of gestation for mammals, and from hatching for poultry, except for the following.
 - Poultry: Poultry or edible poultry products must be from poultry that has been under continuous organic management beginning no later than the second day of life for slaughter stock, and ten weeks of age for egg production.
 - Mammalian slaughter stock: Meat products that are sold, labeled, or represented as “organic” must be from cattle, goats, and pigs that have been under continuous organic management beginning no later than six weeks of age or weaning.
 - Dairy animals: Milk or milk products must be from animals that have been under continuous organic management beginning no later than one year prior to the production of the milk or milk products that are to be sold, labeled, or represented as organic, except that crops and forage from land, included in the organic system plan of a dairy farm, that is in the third year of organic management may be consumed by the dairy animals of the farm during the 12-month period immediately prior to the sale of organic milk and milk products.
 - Breeder stock: Livestock used as breeder stock may be brought from a non-organic operation onto an organic operation at any time. Products from such breeder stock may not be sold, labeled, or represented as organic unless the breeder stock has been under continuous organic management as specified above.
- Livestock breeds and breeding
 - The producer must select species and breeds of livestock that are well adapted to organic production methods and site-specific conditions, and that are not prone to health problems associated with intensive production.
 - Breeding practices used to produce livestock for the production of products that will be sold, labeled, or represented as organic may include natural breeding or artificial insemination, so long as no hormones are administered to control reproduction.
- Prohibited: The following may not be sold, labeled, or represented as organic livestock or used for the production of organic livestock products.
 - Livestock breeds created through genetic engineering or breeding practices that require administration of hormones, such as embryo transfer and cloning
 - Livestock or edible livestock products that are removed from an organic operation and subsequently managed on a non-organic operation

— Breeder or dairy stock that has not been under continuous organic management as specified above

- The producer must maintain records sufficient to preserve the identity of all organically managed animals and edible and non-edible animal products produced on the operation.

2. BEEKEEPING

- Apiaries must be placed in areas with nectar and pollen sources consisting of organically produced crops and/or wild natural areas. The operator must not place hives within foraging distance of fields or other areas with a high contamination risk, such as urban centers, motorways, industrial areas, waste dumps, waste incinerators, or non-organic farms.
- At the end of the production season, hives shall be left with reserves of honey and pollen sufficient for the colony to survive the dormant period. The artificial feeding of colonies with organic honey, sugar syrup, or molasses is authorized where the survival of the hives is endangered due to extreme climatic conditions.
- Hives and materials used in beekeeping must primarily consist of natural materials. Use of construction material with potentially toxic effects is prohibited.
- The destruction of bees in the combs as a method associated with the harvesting of beekeeping products is prohibited.
- Apiaries must be constituted by means of the division of colonies or the acquisition of swarms or hives from organic bee units complying with these standards, except that: When organically managed apiaries are not available, or in the case of high mortality of bees caused by health or catastrophic circumstances, swarms or hives from non-organic units may be used and will be subject to the conversion period.
- Bee products may be sold as organically produced when the requirements of these standards have been complied with for at least one year

3. LIVESTOCK FEED

- The producer must provide livestock with a total feed ration composed of agricultural products, including pasture and forage, that are organically produced and, if applicable, organically handled, except that:
 - Livestock may consume feed or forage produced on a farm or portion of a farm that is in its third year of conversion to organic practices, as documented in the applicable organic system plan;
 - The producer may provide livestock with non-organic substances as livestock feed additives and supplements as permitted in Appendix B
 - The producer may feed a portion of non-organic feed for a limited time, as specified by DOAM. The following conditions must be met:

- Justification for use of non-organic feed may be based on situations including natural disasters, extreme climatic or weather conditions, other unforeseen events that cause organic feed of the necessary quality and quantity to be commercially unavailable.
- Permission to feed a portion of non-organic feed must be provided by DOAM, based on documented justification by the producer.
- Quantities of non-organic feed provided may not exceed 10 percent per year in the case of herbivores and 20 percent per year for other species.
- The producer must implement a strategy for maintaining adequate supplies of organic livestock feed, such as arranging additional storage or suppliers, and document these activities in the organic system plan.
- The producer must not engage in any of the following prohibited feeding practices.
 - Using animal drugs, including hormones, to promote growth
 - Providing feed supplements or additives in amounts above those needed for adequate nutrition and health maintenance for the species at its specific stage of life
 - Feeding plastic pellets for roughage
 - Feeding formulas containing urea or manure
 - Feeding mammalian or poultry slaughter by-products to mammals or poultry
 - Using feed, feed additives, and feed supplements in violation of law

4. LIVESTOCK HEALTH CARE

- The producer must establish and maintain preventive livestock health care practices, including:
 - Selection of species and types of livestock with regard to suitability for site-specific conditions and resistance to prevalent diseases and parasites
 - Provision of a feed ration sufficient to meet nutritional requirements, including vitamins, minerals, protein and/or amino acids, fatty acids, energy sources, and roughage for ruminants
 - Establishment of appropriate housing, pasture conditions, and sanitation practices to minimize the occurrence and spread of diseases and parasites
 - Provision of conditions which allow for exercise, freedom of movement, and reduction of stress appropriate to the species
 - Performance of physical alterations as needed to promote the animal's welfare and in a manner that minimizes pain and stress

- Administration of vaccines and other veterinary biologics
- When preventive practices and veterinary biologics are inadequate to prevent sickness, a producer may administer veterinary medications, provided that:
 - Such medications are listed in Appendix B as permitted for organic livestock health care
 - Applicable conditions, such as additional withdrawal times and requirements based on stage of production or species (as listed in Appendix B) are observed
 - The producer documents the justification for administration of such medications and identifies measures in the organic system plan to be implemented to avoid the need for such medications in the future
- Prohibited health care practices: The producer must not engage in any of the following.
 - Sell, label, or represent as organic any animal or edible product derived from any animal treated with any substance that is listed as prohibited for organic livestock health care in Appendix B
 - Administer any animal drug, other than vaccinations, in the absence of illness
 - Administer hormones for growth promotion
 - Administer any veterinary medication on a routine or prophylactic basis
 - Administer animal drugs in violation of law
 - Withhold medical treatment from a sick animal in an effort to preserve its organic status. All appropriate medications must be used to restore an animal to health when methods acceptable to organic production fail. Livestock treated with a prohibited substance must be clearly identified and shall not be sold, labeled, or represented as organically produced.

5. LIVESTOCK LIVING CONDITIONS

- The producer must establish and maintain livestock living conditions which accommodate the health and natural behavior of animals, including:
 - Access to the outdoors; and shade, shelter, exercise areas, fresh air, and direct sunlight suitable to the species, its stage of production, the climate, and the environment
 - Access to pasture for ruminants
 - Appropriate clean, dry bedding; if the bedding is typically consumed by the animal species, it must comply with the feed requirements of Section 3
 - Shelter designed to allow for:

- Natural maintenance, comfort behaviors, and opportunity to exercise
 - Temperature level, ventilation, and air circulation suitable to the species
 - Reduction of potential for livestock injury
- The producer may provide temporary confinement for an animal because of:
 - Inclement weather
 - The animal's stage of production
 - Conditions that could jeopardize the health, safety, or well being of the animal
 - Risk to soil or water quality
 - The producer must manage manure in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, heavy metals, or pathogenic organisms and optimizes recycling of nutrients

6. LIVESTOCK HANDLING, TRANSPORT AND SLAUGHTER (ANIMAL WELFARE GENERAL PRECEPTS)

- Handling that minimizes stress to animals
- Minimize transport, and ensure that transport conditions minimize stress
- Humane slaughter

SECTION E: ORGANIC PROCESSING AND LABELING

1. PROCESSING METHODS

- The handler may use the following methods and substances in handling a processed product that is sold, labeled, or represented as “organic”:
 - Mechanical or biological methods, including but not limited to cooking, baking, curing, heating, drying, mixing, grinding, churning, separating, distilling, extracting, slaughtering, cutting, fermenting, eviscerating, preserving, dehydrating, freezing, chilling, or otherwise manufacturing, and the packaging, canning, jarring, or otherwise enclosing food in a container may be used to process an organically produced agricultural product for the purpose of retarding spoilage or otherwise preparing the agricultural product for market.
 - Nonagricultural substances included on the list of substances allowed for use in or on organic processed products in Appendix C.
- Prohibited handling practices: The handler must not use any of the following as ingredients, processing aids, or methods in processing agricultural products intended to be sold, labeled, or represented as “organic.”
 - Genetically modified organisms or any their derivatives
 - Ionizing radiation
 - A volatile synthetic solvent or other synthetic processing aid not included on the list in Appendix C of substances allowed for use in organic processing.

2. PROTECTING ORGANIC INTEGRITY

- The handler must implement measures necessary to prevent the commingling of organic and non-organic products, and protect organic products from contact with prohibited substances or with food contact substances such as sanitizers and boiler additives.
- The following are prohibited for use in the handling of any organically produced agricultural product or ingredient labeled in accordance with this standard.
 - Packaging materials, and storage containers, or bins that contain a synthetic fungicide, preservative, or fumigant
 - The use or reuse of any bag or container that has been in contact with any substance in such a manner as to compromise the organic integrity of any organically produced product or ingredient placed in those containers, unless such reusable bag or container has been thoroughly cleaned and poses no risk of contact of the organically produced product or ingredient with the substance used

3. FACILITY PEST MANAGEMENT

- The producer or handler must use management practices to prevent pests, including but not limited to:

- Removal of pest habitat, food sources, and breeding areas
 - Prevention of access to handling facilities
 - Management of environmental factors, such as temperature, light, humidity, atmosphere, and air circulation, to prevent pest reproduction
- Pests may be controlled through:
 - Mechanical or physical controls, including but not limited to traps, light, or sound
 - Lures and repellents, using substances listed as permitted for pest control in Appendix A.
 - If the practices provided for in this section are not effective to prevent or control pests, a substance listed as permitted for pest control in Appendix A may be applied.
 - If the practices provided for in this section are not effective to prevent or control facility pests, a prohibited substance may be applied, provided that the handler and certifying agent agree on the substance, method of application, and measures to be taken to prevent contact of the organically produced products or ingredients with the substance used.
 - The handler who applies a substance to prevent or control pests must update the operation's organic handling plan to reflect the use of such substances and methods of application. The updated organic plan must include a list of all measures taken to prevent contact of the organically produced products or ingredients with the substance used.
 - Notwithstanding the practices provided for in this section, a handler may otherwise use substances to prevent or control pests as required by law, provided that measures are taken to prevent contact of the organically produced products or ingredients with the substance used.

4. PRODUCT COMPOSITION AND LABELING

- A raw or processed agricultural product, including livestock feed, sold, labeled, or represented as “organic,” must contain (by weight or fluid volume, excluding water and salt) not less than 95 percent organically produced raw or processed agricultural products. Any remaining product ingredients must be nonagricultural substances listed as permitted for use in or on organic processed products in Appendix C.
 - The producer must identify each organic ingredient in the ingredient statement with the word “organic” or with an asterisk or other reference mark which is defined below the ingredient statement to indicate that the ingredient is organically produced. Water or salt included as ingredients cannot be identified as organic.
 - The producer may display (on the principal display panel, information panel, and any other panel of the package and on any labeling or market information concerning the product) the percentage of organic ingredients in the product, only if the size of the percentage statement must not exceed one-half the size of the largest type size on the panel on which the statement is displayed; and must appear in its entirety in the same type size, style, and color without highlighting.

- The producer may display the DOAM seal when approved by DOAM. DOAM retains the right to withdraw the permission to use its seal in case on non-compliance with these standards.
- The percentage of all organically produced ingredients in an agricultural product sold, labeled, or represented as “organic” must be calculated by:
 - Dividing the total net weight (excluding water and salt) of combined organic ingredients at formulation by the total weight (excluding water and salt) of the finished product.
 - If the product and ingredients are liquid, dividing the fluid volume of all organic ingredients (excluding water and salt) by the fluid volume of the finished product (excluding water and salt). If the liquid product is identified on the principal display panel or information panel as being reconstituted from concentrates, the calculation should be made on the basis of single-strength concentrations of the ingredients and finished product.
 - For products containing organically produced ingredients in both solid and liquid form, dividing the combined weight of the solid ingredients and the weight of the liquid ingredients (excluding water and salt) by the total weight (excluding water and salt) of the finished product.
 - The percentage of all organically produced ingredients in an agricultural product must be rounded down to the nearest whole number.
- The percentage must be determined by the handler who affixes the label on the consumer package, and included in the handler’s organic system plan. The handler may use information provided by the organic production operation in determining the percentage.
- Non-retail containers used only to ship or store raw or processed agricultural product labeled as containing organic ingredients may display the following terms or marks:
 - Identification of the product as organic
 - Special handling instructions needed to maintain the organic integrity of the product
- Non-retail containers used to ship or store raw or processed agricultural product labeled as containing organic ingredients must display the production lot number of the product if applicable.
- The label for conversion products shall be clearly distinguishable from the label for organic products. Crop products shall bear indications referring to conversion to the organic production method only where:
 - The requirements of these standards are fully satisfied, with the exception of those concerning the length of the conversion period
 - A conversion period of at least 12 months before the harvest has been complied with

- Such indications do not mislead the purchaser of the product regarding its difference from products that satisfy all the requirements of these standards
- Such indications take the form of the words “product under conversion to organic farming,” and appear in a color, size, and style of lettering which is not more prominent than the sales description of the product; in this indication, the words “organic farming” shall not be more prominent than the words “product under conversion to”
- The product contains only one crop ingredient of agricultural origin
- The labeling refers to the name and/or the code number of the certification body to which the operator who has carried out the most recent production or preparation operation is subject
- The product has been produced without the use of genetically modified organisms and/or any products derived from such organisms

INTRODUCTION TO APPENDICES

In organic agriculture, the maintenance of soil fertility is achieved through the recycling of minerals and organic matter where the nutrients are made available to crops through the activity of soil micro-organisms.

Pests, diseases, and weeds can be managed through cultural practices. Organic foods are processed primarily by biological, mechanical, and physical means. The following appendices are used as a guideline, and are not intended to be comprehensive.

Taking into consideration factors such as contamination, risk of nutritional imbalances, importation of inputs from outside the farm, and depletion of natural resources, the use of many of these inputs is already restricted.

Where there is doubt about whether products should be included in the appendices, the precautionary principle should be applied.

I. REVISION PROCEDURE FOR APPENDICES

Any DOAM member can request that DOAM add, delete, or change the status of an input. A member who wishes DOAM to determine whether or not an input should be permitted for use in organic production or processing shall submit a dossier. A dossier addresses all of the criteria and follows the format prescribed by the Standards Committee (SC). A dossier requesting deletion needs only to address the criteria for which non-fulfillment constitutes the reason for deletion. Requests from non-members may also be considered, at the discretion of the SC.

Dossiers shall be submitted to the SC when the certification body or inspection body recommends an input that does not appear in the appendices or that is not clearly covered by the general standards or generic groups in the standards. Inputs that are the subject of dossiers may be used during the assessment period, but any user, certification body, or inspection body does so at its own risk and should be mindful that a negative decision may be made.

The Standards Committee reviews the dossier and makes one of five decisions:

- **Insufficient information.** The dossier is returned to the member with a request to provide more information.
- **Clarification of existing standards.** The member is informed that the input is already covered (allowed, restricted, or prohibited) by the standards.
- **Reference to Experts.** The Standards Committee requires the opinion of recognized experts before it can make a decision. The DOAM SC passes a dossier to one or several experts for evaluation. If the experts require further information, the SC requests this information and passes it to the experts. The experts provide a recommendation to the SC. The SC passes expert comment back to the applicant for further comment. The SC then makes a decision based on the recommendation and comments of the applicant.

- Recommendation for Change of a Relevant Appendix. The SC informs the member that the change is recommended by the SC to be included into the DOAM Standards. The input then follows the procedure established for changes of the standards.
- Rejection of the Change. The SC informs the member that the input is not considered to be appropriate for inclusion in the standards.

Final decisions and recommendations shall be published and circulated to all DOAM members.

II. CRITERIA FOR EVALUATION OF ADDITIONAL INPUTS TO ORGANIC AGRICULTURE

Necessity

Each input must be necessary. Necessity will be investigated in the context in which the product will be used. Arguments to prove the necessity of an input shall be drawn from such criteria as yield, product quality, environmental safety, ecological protection, landscape, and human and animal welfare. The use of an input may be restricted to specific crops (especially perennial crops), specific regions, or specific conditions under which the input may be used.

Nature and Way of Production

The origin of the input should usually be (in order of preference):

- Organically produced
- Non-organic vegetative, animal, microbial
- Mineral
- Non-natural products that are chemically synthesized and identical to natural products may be used. There may be ecological, technical or economic arguments to take into consideration in the allowance of chemically identical inputs.

The ingredients of the inputs may undergo the following processes:

- Mechanical
- Physical
- Enzymatic
- Action of micro-organisms
- Chemical (as an exception and restricted)

The collection of the raw materials comprising the input shall not affect the stability of the natural habitat nor affect the maintenance of any species within the collection area.

Environment

The input shall not be harmful or have a lasting negative impact on the environment, nor should the input give rise to unacceptable pollution of surface or ground water, air, or soil. All stages during processing, use, and breakdown shall be evaluated. The following characteristics of the input shall be taken into account:

- Degradability
 - All inputs shall be degradable to CO₂, H₂O, and/or its mineral form.
 - Inputs with a high acute toxicity to non-target organisms should have a maximum half-life of five days.
 - Natural substances used as inputs that are not considered toxic do not need to be degradable within a limited time.
- Acute Toxicity of non-target organisms
 - When inputs have a relatively high acute toxicity for non-target organisms, restrictions for their use is needed.
 - Measures have to be taken to guarantee the survival of these non-target organisms.
 - Maximum amounts allowed for application must be set. When adequate measures are not possible, the use of the input is not permitted.
- Long-term chronic toxicity: Inputs that accumulate in organisms or systems of organisms and inputs which have, or are suspected of having, mutagenic or carcinogenic properties shall not be used. If there are any risks, sufficient measures shall be taken to reduce any risk to an acceptable level and to prevent long-lasting negative environmental effects.
- Chemically synthesized products and heavy metals
 - Inputs shall not contain harmful amounts of manufactured chemicals (xenobiotic products). Chemically synthesized products may be accepted only if nature identical.
 - Mineral inputs should contain as few heavy metals as possible. Due to the lack of any alternative, and their longstanding traditional use in organic agriculture, copper and copper salts are exceptions for the time being. The use of copper in any form in organic agriculture must be seen, however, as temporary and use shall be restricted with regard to environmental impact.

Human Health and Quality

- Human health: Inputs shall not be harmful to human health. All stages during processing, use, and degradation shall be taken into account. Measures shall be taken to reduce any risks and standards set for inputs used in organic production.
- Product quality: Inputs shall not have negative effects on the quality of the product — e.g. taste, keeping quality, visual quality.
- Animal welfare: Inputs shall not have a negative influence on the natural behavior or physical functioning of animals kept at the farm.

- Consumers' perception: Inputs should not meet resistance or opposition of consumers of organic products. An input might be considered by consumers to be unsafe to the environment or human health, even if the input has not been scientifically proven unsafe. Inputs should not interfere with a general feeling or opinion about what is natural or organic — e.g. genetic engineering.

III. CRITERIA FOR EVALUATION OF ADDITIVES, PROCESSING AIDS, AND CLEANING AND DISINFECTION PRODUCTS

Additives, processing aids, flavoring agents, and colors in organic food production shall be evaluated according to these criteria.

Necessity

Additives and processing aids may only be allowed in organic food products if each additive or processing aid is essential to the production, the authenticity of the product is respected, and the product cannot be produced or preserved without the aids.

Criteria for the Approval of Additives and Processing Aids

Additives and processing aids may be approved where:

- There are no other acceptable technologies available to process or preserve the organic product
- The use of additives or processing aids which minimize physical or mechanical damage to the foodstuff as a substitute for other technologies which if used would result in such damage
- The hygiene of the product cannot be guaranteed as effectively by other methods (such as a reduction in distribution time or improvement of storage facilities)
- There are no natural food sources available of acceptable quality and quantity which can replace the use of additives or processing aids
- The additives or processing aids do not confuse the customer by giving the impression that the final product is of higher quality than is justified by the quality of the raw material (this refers primarily, but not exclusively, to coloring and flavoring agents)
- Additives and processing aids should not detract from the overall quality of the product.

Procedure for the use of Additives and Processing Aids

Instead of using additives or processing aids, the preferred first choice is:

- Foods grown under organic conditions and are used as a whole product or are processed in accordance with the DOAM Basic Standards (e.g. flour used as a thickening agent or vegetable oil as a releasing agent)
- Foods or raw materials of plant and animal origin produced only by mechanical or simple physical procedures (e.g. salt)

The second choice is:

- Substance isolated from food and produced physically or by enzymes (e.g. starch, tartrates, pectin)
- Purified products of raw materials of non-agricultural origin and micro-organisms (e.g. acerola fruit extract, enzymes, and micro-organism preparations such as starter cultures)

APPENDIX A. CROP PRODUCTION SUBSTANCES

I. PERMITTED AND PROHIBITED FERTILITY INPUTS

1. Plant and Animal Origin

ALLOWED

- 1.1 Farmyard and poultry manure: dried, composted and only restricted use of raw manure
- 1.2 Slurry and urine: only after fermentation or appropriate dilution
- 1.3 Guano
- 1.4 Blood meal, meat meal, bone, bone meal: only after approval by DOAM and restricted to local consumption
- 1.5 Hoof and horn meal, feather meal, wool, fur, hair, dairy products: only after approval by DOAM and restricted to local consumption
- 1.6 Fish and fish products: only after composting
- 1.7 Liquid fish products: can be pH adjusted with sulfuric, citric or phosphoric acid: the amount of acid used shall not exceed the minimum needed to lower the pH to 3.5
- 1.8 Biodegradable processing by-products: only of vegetative origin
- 1.9 Crop and vegetable residues, mulch, green manure, straw
- 1.10 wood, bark, sawdust, wood shavings, wood ash, wood charcoal: only from wood not treated with chemicals
- 1.11 Seaweed and seaweed products: when extracted see plant preparations -1.12
- 1.12 Plant preparations and extracts, such as liquid manures: extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction
- 1.13 Compost made from ingredients listed in this appendix, spent mushroom waste, humus and castings from worms and insects
- 1.14 Urban composts from separated sources which are tested for contamination
- 1.15 Humic acids: naturally occurring deposits, water and alkali extracts only

PROHIBITED

Ash from manure burning

2. Mineral Origin

ALLOWED

- 2.1 Basic slag
- 2.2 Calcareous and magnesium amendments
- 2.3 Limestone, gypsum, marl, chalk, sugar beet lime, calcium chloride
- 2.4 Magnesium rock, kieserite and Epsom salt (magnesium sulfate): shall be obtained by physical procedures but not enriched by chemical processes
- 2.5 Natural phosphates: Cadmium content less than or equal to 90 mg/ka P205
- 2.6 Pulverized rock, stone meal
- 2.7 Clay (e.g. bentonite, perlite, vermiculite, zeolite)
- 2.8 Lignin sulphonate: chelating agent, dust suppressant, flotation agent
- 2.9 Trace elements (e.g. boron, copper, iron, manganese, molybdenum, zinc)
- 2.10 Sulfur
- 2.11 Sulfate, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt: not to be used as a defoliant, herbicide or desiccant. Soil deficiency must be documented by testing.
- 2.12 Soluble boron products: not to be used as a defoliant, herbicide or desiccant. Soil deficiency must be documented by testing.

PROHIBITED

- 2.1 Potassium Chloride: unless derived from mined source and applied in a manner that minimizes chloride accumulation in the soil.
- 2.2 Sodium nitrate: unless use is restricted to no more than 20% of the crop's total nitrogen requirement (If crop or as an ingredient in a processed product to be sold to EU then can not be used.)
- 2.3 Sulfate, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt if made from nitrates or chlorides.
- 2.4 Soluble boron products if made from nitrates or chlorides

3. Microbiological

ALLOWED

- 3.1 Biodegradable processing by-products of microbial origin, e.g. by-products of brewery or distillery processing

3.2 Microbiological preparations based on naturally occurring organisms

4. Others

PROHIBITED

- 4.1 Arsenic
- 4.2 Lead salts
- 4.3 Sodium Fluoroaluminate (mined)
- 4.4 Strychnine
- 4.5 Nicotine Sulfate (tobacco dust)

2. PERMITTED AND PROHIBITED WEED, PEST & DISEASE CONTROL INPUTS, PRODUCTION AIDS, MULCHES, BARRIERS

1. Plant and Animal Origin

ALLOWED:

- 1.1 Algal preparations
- 1.2 Beeswax: pruning agent
- 1.3 Chitin nematicides (natural origin)
- 1.4 Coffee grounds
- 1.5 Corn gluten meal: for weed control use
- 1.6 Dairy products (e.g. milk, casein)
- 1.7 Gelatine
- 1.8 Lecithin
- 1.9 Natural acids (e.g. vinegar)
- 1.10 Neem (*Azadirachta indica*): for use as an insecticide
- 1.11 Plant oils
- 1.12 Plant preparations
- 1.13 Plant-based repellents
- 1.14 Propolis
- 1.15 Pyrethrum (*Chrysanthemum cinerariaefolium*), typically with a synergist, such as vegetable oil. The synergist Piperonyl butoxide is prohibited.
- 1.16 Quassia (*Quassia amara*)

- 1.17 Rotenone (*Derris elliptica*, *Lonchocarpus spp.*, *Thephrosia spp*)
- 1.18 Ryanis (*Ryania speciosa*)
- 1.19 Sabadilla
- 1.20 Vitamin D: for use as a rodenticide

2. Mineral Origin

ALLOWED:

- 2.1 Chloride of lime
- 2.2 Clay (e.g. bentonite, perlite, vermiculite, zeolite)
- 2.3 Diatomaceous earth
- 2.4 Light mineral oils (e.g. paraffin): for use as an insecticide and plant disease control
- 2.5 Lime sulfur (calcium polysulfide): for use as an insecticide and plant disease control
- 2.6 Potassium bicarbonate: for use as a plant disease control
- 2.7 Potassium permanganate
- 2.8 Quicklime
- 2.9 Silicates (e.g. sodium silicates, quartz)
- 2.10 Sodium bicarbonate
- 2.11 Sulfur: for use as an insecticide and plant disease control

3. Microorganisms

ALLOWED:

- 3.1 Fungal preparations
- 3.2 Bacterial preparations (e.g. *Bacillus thuringiensis*)
- 3.3 Release of parasites, predators and sterilized insects
- 3.4 Viral preparations (e.g. granulosis virus)

4. Others

ALLOWED:

- 4.1 Biodynamic preparations
- 4.2 Ammonium: for use as large animal repellent only, no contact with soil or edible portion of crop
- 4.3 Carbon dioxide
- 4.5 Ethyl alcohol
- 4.6 Ethylene: for regulation of pineapple flowering
- 4.7 Hydrogen peroxide
- 4.8 Homeopathic and Ayurvedic preparations

- 4.9 Sea salt and salty water
- 4.10 Bicarbonate of soda
- 4.11 Soft soap: for use in farmstead maintenance and insecticide on ornamental crops
- 4.12 Boric acid: for use in structural pest control, no direct contact with food or crops
- 4.13 Copper (copper hydroxide, copper oxide, copper oxychloride, copper sulfate, hydrated lime): must be used in a manner that minimized accumulation of copper in the soil
- 4.14 Sulfur dioxide: for use as a rodenticide, underground only (smoke bombs)

PROHIBITED:

- 4.1 Copper (copper hydroxide, copper oxide, copper oxychloride, copper sulfate, hydrated lime): cannot be used as an herbicide

5. Traps, barriers, repellents

ALLOWED:

- 5.1 Physical methods (e.g. chromatic traps, mechanical traps)
- 5.2 Nets: petroleum based but not polyvinyl chloride (PVC)
- 5.3 Mulches: newspaper or other recycled paper may not have glossy finish or colored inks
- 5.4 Pheromones (e.g. ammonium carbonate): for use in traps and dispensers only

APPENDIX B. LIVESTOCK PRODUCTION SUBSTANCES

I. PERMITTED AND PROHIBITED FEEDSTUFFS

1. Plant and Animal Origin

ALLOWED

- 1.1 Cereals, grains, their products and by-products
- 1.2 Oil seed, oil fruits, their products and by-products
- 1.3 Legume seeds, their products and by-products
- 1.4 Tuber roots, their products and by-products
- 1.5 Other seeds and fruits, their products and by-products
- 1.6 Forages and roughages
- 1.7 Molasses as a binding agent in compound feeding stuffs
- 1.8 Seaweed meal: obtained by drying and crushing seaweed and washing to reduce iodine content
- 1.9 Powders and extracts from plants
- 1.10 Plant protein extracts: solely provided to young animals
- 1.11 Spices and herbs
- 1.12 Milk and milk products: milk substitutes not containing antibiotics may be used in emergencies only
- 1.13 Fish, other marine animals, their products and by-products
- 1.14 Fish — molluscan or crustacean autolysates, hydrolysate and proteolysates: obtained by an enzyme action, whether or not in a soluble form, solely provided to young animals
- 1.15 Fish meal

PROHIBITED

Refined fish, fish oil and cod-liver oil

2. Mineral Origin

ALLOWED

- 2.1 Sodium: unrefined sea salt, coarse rock salt, sodium sulfate, sodium carbonate, sodium bicarbonate, sodium chloride

- 2.2 Calcium: lithotamnion and maerl, shells of aquatic animals (including cuttlefish bones), calcium carbonate, calcium lactate, calcium gluconate
- 2.3 Phosphorus: bone dicalcium, phosphate precipitate, defluorinated dicalcium phosphate, defluorinated monocalcium phosphate
- 2.4 Magnesium: anhydrous magnesia, magnesium sulfate, magnesium chloride, magnesium carbonate
- 2.5 Sulfur: sodium sulfate

3. Permitted and Prohibited Feed Additives and Supplements

ALLOWED:

- 3.1 Iron: ferrous carbonate, ferrous sulfate monohydrate, ferric oxide
- 3.2 Iodine: calcium iodate, anhydrous calcium iodate, hexahydrate potassium iodide
- 3.3 Cobalt: cobaltous sulfate monohydrate and/or heptahydrate, basic cobaltous carbonate, monohydrate
- 3.4 Copper: copper oxide, basic copper carbonate, monohydrate, copper sulfate, pentahydrate
- 3.5 Manganese: manganese carbonate, manganous oxide and manganic oxide, manganous sulfate, mono- and/or tetrahydrate
- 3.6 Zinc: zinc carbonate, zinc oxide, zinc sulfate mono- and/or heptyhydrate
- 3.7 Molybdenum: ammonium molybdate, sodium molybdate
- 3.8 Selenium: sodium selenate, sodium selenite
- 3.9 Vitamins, pro-vitamins, and chemically well-defined substances having a similar effect: preferably derived from raw materials occurring naturally in feed stuffs, or synthetic vitamins identical to natural vitamins only for mono-gastric animals. Vitamin D: maximum 200,000 IU/kg
- 3.10 Enzymes
- 3.11 Micro-organisms

4. Preservatives

ALLOWED

- 4.1 Formic, acetic, lactic and propionic acid: only for silage
- 4.2 Binders, anti-caking agents and coagulants, including the following: Colloidal silica, Kieselgur, Sepiolite, Bentonite, Kaolinitic clays, Vermiculite, Perlite

4.3 Processing aids used in feeding stuffs, including the following: sea salt, coarse rock salt, enzymes, yeasts, whey, sugar, sugar beet pulp, cereal flour, molasses and lactic, acetic, formic, and propionic bacteria

4.4 Glucose

PERMITTED AND PROHIBITED HEALTH CARE SUBSTANCES

ALLOWED

1.1 Aspirin: approved by healthcare use to reduce inflammation

1.2 Chlorohexidine: for surgical procedures conducted by veterinarian, and as a teat dip when alternative agents or physical barriers have lost their effectiveness

1.3 Biologics: for use as vaccines

1.4 Electrolytes: without antibiotics

1.5 Glucose

1.6 Glycerine: allowed as a livestock teat dip, must be produced through the hydrolysis of fats or oils

1.7 Iodine

1.8 Oxytocin: for use in postparturition therapeutic applications.

1.9 Ivermectin, for use as a parasiticide. Prohibited in slaughter stock, allowed in emergency treatment for dairy and breeder stock when organic system plan-approved preventive management does not prevent infestation. Milk or milk products from a treated animal cannot be labeled as provided for in subpart D of this part for 90 days following treatment. In breeder stock, treatment cannot occur during the last third of gestation if the progeny will be sold as organic and must not be used during the lactation period for breeding stock.

1.10 Magnesium sulfate

1.11 Copper sulfate: for use as an external parasiticide

1.12 Iodine: as topical treatment

1.13 Lidocaine: as a local anesthetic. Use requires a withdrawal period of 90 days after administering to livestock intended for slaughter and 7 days after administering to dairy animals.

1.14 Lime, hydrated: for use as an external pest control, not permitted to cauterize physical alterations or deodorize animal wastes

1.15 Mineral oil: for topical use and as a lubricant

- 1.16 Procaine: as a local anesthetic. Use requires a withdrawal period of 90 days after administering to livestock intended for slaughter and seven days after administering to dairy animals.
- 1.17 Lactic, formic, oxalic and acetic acid: for pest and disease control in beehives
- 1.18 Sulfur: for pest and disease control in beehives
- 1.19 Natural essential oils (e.g. menthol, eucalyptol, camphor)
- 1.20 *Bacillus thuringiensis*: for pest and disease control in beehives

PROHIBITED

Strychnine

APPENDIX C: PROCESSING SUBSTANCES

I. LIST OF APPROVED ADDITIVES AND PROCESSING AIDS

Where the substances listed in this annex can be found in nature, natural sources are preferred. Substances of certified organic origin are preferred. Food additives may contain carriers, which shall be evaluated. Irradiation (ionizing radiation) is prohibited.

INTERNATIONAL NUMBERING SYSTEM	PRODUCT NAME	ADDITIVE	PROC. AID	DOAM CONDITIONS FOR USE
INS 170	Calcium carbonate	X	X	
INS 181	Tannin		X	Only for wine
INS 184	Tannic acid		X	Filtration aid for wine
INS 220	Sulfur dioxide	X		Only for wine labeled "made with organic grapes," provided total sulphite concentration less than 100ppm
INS 270	Lactic acid	X	X	
INS 290	Carbon dioxide	X	X	
INS 300	Ascorbic acid	X		
INS 306	Tocopherols, mixed natural concentrates	X		Anti-oxidant in fats and oils
INS 322	Lecithin (bleached)	X	X	
INS 330	Citric acid	X	X	
INS 331	Sodium citrate	X		Acidity regulator, sequestrant, emulsifier, stabilizer
INS 332	Potassium citrate	X		Acidity regulator, sequestrant, stabilizer
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 339	Sodium phosphates	X		For use only in dairy foods
INS 341	Mono calcium phosphate	X		Only for "raising flour"
INS 400	Alginate acid	X		
INS 401	Sodium alginate	X		
INS 402	Potassium alginate	X		
INS 406	Agar	X		
INS 407	Carrageenan	X		

INTERNATIONAL NUMBERING SYSTEM	PRODUCT NAME	ADDITIVE	PROC. AID	DOAM CONDITIONS FOR USE
INS 410	Locust bean gum	X		Water extracted only
INS 412	Guar gum	X		Water extracted only
INS 413	Tragacanth gum	X		Water extracted only
INS 414	Arabic gum	X		Water extracted only
INS 415	Xanthan gum	X		Water extracted only
INS 440	Pectin	X		Unmodified
INS 471	Mono and di-glycerides of fatty acids	X		Emulsifier, stabilizer
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		Only in agricultural products labeled "made with organic." Prohibited in agricultural products labeled "organic."
INS 508	Potassium chloride	X		Gelling agent
INS 509	Calcium chloride	X	X	
INS 511	Magnesium chloride	X	X	Only for soybean products
INS 516	Calcium sulfate	X		For soybean products, confectionery and in bakers' yeast
INS 518	Magnesium sulfate	X		As a firming agent
INS 524	Sodium hydroxide	X	X	For sugar processing and for the surface treatment of traditional bakery products. Prohibited for use in lye peeling of fruits and vegetables.
INS 526	Calcium hydroxide	X	X	Food additive for maize tortilla flour. Processing aid for sugar
INS 550	Sodium silicate	X	X	For tree fruit and fiber processing
INS 551	Silicon dioxide, amorphous	X		Anticaking agent
INS 553.	Talc		X	
INS 558	Bentonite		X	Only for fruit and vegetable products
INS 901	Beeswax		X	
INS 903	Carnauba wax		X	
INS 917	Potassium iodide	X		Treatment of flour. Only in agricultural products labeled "made with organic." Prohibited in agricultural products labeled "organic."

INS 938	Argon	X		
INS 941	Nitrogen	X	X	
INS 948	Oxygen	X	X	
	Activated carbon		X	
	Casein		X	Only for wine
	Cornstarch (native)	X		Only when not available in organic form
	Diatomaceous earth		X	Only for sweeteners and wine
	Egg white albumen		X	Only for wine
	Ethylene		X	For post-harvest ripening of tropical fruit
	Gelatin	X	X	Only for wine, fruit, and vegetable
	Glycerin	X		Produced by hydrolysis of fats and oils
	Isinglass		X	Only for wine
	Kaolin		X	As a thickener and dietary supplement. Only when not available in organic form.
	Kelp	X		As a thickener and dietary supplement. Only when not available in organic form.
	Lecithin (unbleached)	X	X	Only when not available in organic form.
	Ozone		X	
	Perlite		X	
	Preparations of bark		X	Only for sugar
	Tocopherols	X		Derived from vegetable oil when rosemary extracts are not a suitable alternative.
	Yeast	X		Nonsynthetic only. Growth on petrochemical substrate and sulphite. Waste liquor is prohibited.

Flavoring Agents:

- Natural flavoring extracts (including volatile oils)
- Volatile (essential) oils produced by means of solvents such as oil, water, ethanol, carbon dioxide, and mechanical and physical processes
- Natural smoke flavor
- Natural flavoring preparations are only to be approved based on the Procedure to Evaluate Additives and Processing Aids

Preparations of Micro-organisms and Enzymes for use in food processing:

These may be used as ingredient or processing aids with approval based on the DOAM Procedure to Evaluate Additives and Processing Aids for Organic Food Products.

- Organic certified microorganisms
- Preparations of microorganisms
- Enzymes and enzyme preparations derived from edible, non-toxic plants, non-pathogenic fungi, or non-pathogenic bacteria

Coloring Agents:

- Organic colors
- If not available in an organic form, then colors from non-synthetic sources only

II. LIST OF APPROVED PRODUCTS FOR CLEANING AND DISINFECTION

This list applies to the cleaning and disinfection of buildings, equipment, utensils, transportation carriers, and transportation containers used in the handling of livestock, storage of products, and the processing and packaging of organic products.

SUBSTANCE DESCRIPTION	DOAM CONDITIONS FOR USE
Potassium and sodium soap	
Water and steam	
Milk of lime	
Lime, hydrated	Not permitted to cauterize physical alterations or deodorize animal wastes.
Quicklime	
Caustic soda	
Caustic potash	
Hydrogen peroxide	
Natural essences of plants	
Citric, peracetic acid, formic, lactic, oxalic and acetic acid, Peroxyacetic acid	
Alcohol (ethanol, isopropanol)	
Chlorine (Calcium Hypochlorite, Chlorine Dioxide, Sodium Hypochlorite)	Disinfecting and sanitizing facilities and equipment. Residual chlorine levels in the water shall not exceed the maximum residual disinfectant limit for drinkable water
Nitric acid	

Phosphoric acid	As an equipment cleaner only, provided that no direct contact with organically managed livestock or land occurs.
Formaldehyde	
Carbon Dioxide	
Steam	As a disinfectant
Direct flame	As a disinfectant in beehives

APPENDIX D: PLANT BREEDING AND MULTIPLICATION

For a plant to be an organic variety, only suitable methods of breeding shall be used as listed in this standard. All multiplication practices except in-vitro-cultivation shall be under organic management. The use of genetically modified organisms and/or products derived from such organisms is prohibited.

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

The following plant breeding methods and materials are permitted for organic plant breeding:

- combination breeding
- crossing varieties
- bridge crossing
- backcrossing hybrids with fertile F1
- temperature treating
- grafting style
- cutting style
- untreated mentor pollen

The following selection techniques are permitted:

- mass selection
- pedigree selection
- site-determined selection
- change in surroundings
- change in sowing time
- ear bed method
- test crossing
- indirect selections
- DNA diagnostic methods

Permitted maintenance and multiplication methods include the use of the following:

- generative propagation
- vegetative propagation
- partitioned tubers
- scales, husks, partitioned bulbs, brood bulbs, bulbils
- offset bulbs, etc.
- layer, cut and graft shoots
- rhizomes
- meristem culture