THE SOUTH AFRICAN ORGANIC SECTOR ORGANISATION (SAOSO) STANDARD FOR ORGANIC PRODUCTION AND PROCESSING

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SECTION A – GENERAL

Introduction:

The last number of years has seen a substantial growth in the awareness and marketing of organic agriculture products. The awareness of organics also brought an additional need for assurance and quality management. As organic agriculture in South Africa enters the mainstream economy, it has to comply with and conform to its rules of engagement. This means that claims regarding the organic integrity of a product need to be independently verified to the customers' satisfaction. It is also clear that local markets and small growers are not exempt from this need for assurance.

Before one can describe the standard for organic production and processing, one has to agree on a common definition of organic agriculture. This standard is based on the Standard for Organic Production and Processing of IFOAM - Organics International, as well as on the global organisation's Definition and Principles of Organic Agriculture as adopted by the IFOAM World Board in 2008:

THE IFOAM ORGANICS INTERNATIONAL DEFINITION AND PRINCIPLES:

"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."

- Principle of health: Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible.
- Principle of ecology: Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.
- Principle of fairness: Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities.
- Principle of care: Organic Agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

SCOPE OF THE SAOSO STANDARD

Organic agriculture 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. Therefore organic production is more than a system of production that includes or excludes certain inputs.

The SAOSO Standard is written in such a way that producers wishing to follow the standard may use it in the context of third party certification, Participatory Guarantee Systems (PGS), Community Supported Agriculture (CSA), or simply self-commitment.

STRUCTURE

The SAOSO Standard covers the areas of general organic management, crop production (including plant breeding), animal production (including beekeeping), wine making, wild collection, processing and handling, labelling and marking, approval and certification, and 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, such as a farm or enterprise, must meet to be certified as organic.

Chapters 1, 2 and 3 are applicable to all crop and animal production systems.

Chapters 8, 9 and 10 are applicable to all systems, including processing.

Technical terms are explained in the section on definitions below.

SAOSO would like to thank all those who participated in the process of getting the SAOSO Standard for Organic Production and Processing to the point of being published. Particular thanks go to those members of the SABS1369 Committee, PGS-SA and other specialists who assisted with the finalisation of the standard. Special thanks to Konrad Hauptfleisch and Joelle Katto-Andrighetto of IFOAM Organic International, whose advice and work have been invaluable.

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, colour, taste, smell or other technical property (or 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.).

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.

Biodynamic: Biodynamic agriculture is a holistic method of agriculture that is based on individuals considering every aspect of the food system and strictly follows the standards as outlined by Demeter. **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: An organization that has 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.

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.

Extensive farming: means farming that corresponds to at least the stocking densities as indicated in these standards and includes the prescribed outdoor area requirements for the animals.

Factory farming: means industrial management systems that are heavily reliant on veterinary and feed inputs not permitted in organic agriculture and/or where the animals are hindered from moving freely around 360°, or kept in obscurity or deprived from litter and thus include animals kept in batteries or fattening of chickens with more than 25kg weight/m².

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.

Intensive farming: means those practices that do not fit within the "factory farming" or "extensive farming".

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.

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 Nano scale 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

Nano scale range created during traditional food processing such as homogenization, milling, churning, and freezing, and naturally occurring particles in the Nano scale range are not intended to be included in this definition.

Notifiable exception: An exception to a requirement stipulated in this standard, which is allowed once the relevant certifying authority was notified <u>and</u> has given authorisation for the said exception to apply. Exceptions might have conditions specified in the standard or annexes.

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.

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.

Participatory Guarantee Systems: (PGS) are locally focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange. PGS rely on locally adapted systems on conformity assessment and farmer support, and operate outside the scope of third party certification. Their focus is on local markets, short supply chains and smallholder farmers.

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 fulfil 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 and solvents used for extraction.

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 forms of constructed or man-made protection such as greenhouses, polytunnels, plastic roofs, nets, fleece, or cloches.

Ruderal (of a plant): Growing where the natural vegetation or cover has been disturbed, such as roadside and rubbish dumps, and previously tilled lands.

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 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.

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 natural events.

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, microbial and human health. Soil quality is a function of its biological, 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.

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.

2. ORGANIC ECOSYSTEMS

General Principle

Organic farming benefits the quality of ecosystems.

Requirements

2.1. Ecosystem Management

- 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:
 - Extensive grassland such as moorlands, reed land or dry land;
 - 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;
 - Ecologically rich fallow land or arable land;
 - Ecologically diversified (extensive) field margins;
 - Waterways, pools, springs, ditches, floodplains, wetlands, swamps and other water-rich areas which are not used for intensive agriculture or aquaculture production;
 - Areas with ruderal flora;
 - 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 five years shall not be considered compliant with this standard;
- 2.1.3. Clearing of virgin rainforest: The clearance of virgin rain forest for agricultural usage is forbidden. Other high value conservation areas must also be protected, and may only be cleared after an exemption has been approved by the respective organisation;
- 2.1.4. Biodiversity reserve: The farm must show a commitment to the maintenance of farm biodiversity. If the Biodiversity reserve on the farm and in areas directly adjacent to it does not reach 10% of the total farm area, a biodiversity plan that documents how this will be achieved, with a clear time frame, must be approved by the respective organization. This plan can include other cultural elements such as the maintenance of rare or endangered breeds of plants and animals, fostering bird/insect life by providing habitats, utilization of Biodynamic plant and animal breeding, etc.

Areas counting as Biodiversity reserve:

- Lightly grazed fields that allow for some vegetation to flower and go to seed
- Forested fields (agro forestry)
- Undisturbed forest
- Headlands
- Land seeded to annual / perennial plants that are allowed to go through flowering
- Fallow land as part of the rotation or otherwise
- Undisturbed grasslands (no mowing in the courses of a year)
- Fence lines (width of undisturbed land can be counted)
- Native trees, single trees appropriate to the location (100m2 per tree) and tree lined avenues
- Hedges, field and stream bank tree groves
- Water races, ponds, wet lands, riparian areas
- Ruderal areas (e.g. landslips), stone windrows and heaps

- Dry stone walls
- Unsealed natural paths and tracks
- Other biodiversity reserve contributions, including husbandry of rare or endangered plant and animal species
- Other element approved in the Biodiversity plan

2.2. Soil and Water Conservation

- 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 ploughing, crop selection, maintenance of soil plant cover and other management practices that conserve soil;
- 2.2.2. Land preparation by burning vegetation or crop residues is prohibited;

Notifiable 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. Stocking densities and grazing shall not degrade land or pollute water resources. This applies also to all manure management and applications;
- 2.2.4. Operators shall prevent or remedy soil and water salinization where these pose a problem;
- 2.2.5. 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 is based on the precautionary principle and should prevent significant risks by adopting appropriate technologies and rejecting unpredictable ones.

Requirements

- 2.3.1. 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;
- 2.3.3. Inputs, processing aids and ingredients shall be traced back one step in the biological chain to the direct source organism from which they are produced to verify that they are not derived from GMOs;
- 2.3.4. On farms with split (including parallel) production, the use of genetically engineered organisms is not permitted in any production activity on the farm;
- 2.3.5. 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 neighbouring land, air and water.

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

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. Split Production and Parallel Production:

- 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 the same 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.
- 3.1.3. Organic and non-organic units in parallel production must be physically, financially and operationally separated. 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 on-going commitment to organic production practices.

Recommendations:

In the 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.

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

4. CROP PRODUCTION

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

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.

Recommendation:

Operators should give preference to organically bred varieties (varieties from organic breeding programs, see 4.8) 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.

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

- 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, whichever is the longer, before being certified as organic seed and plant material;
- 4.1.3. Propagation may be based on generative propagation (seeds) as well as vegetative propagation derived from various plant organs e.g.
 - Partitioned tubers, scales, husks;
 - Partitioned bulbs, brood, bulbs, bulbils, offset bulbs etc.;
 - Layer, cut and graft shoots;
 - Rhizomes.
- 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.

- 4.2.1. All the requirements of this standard shall be met for the duration of the conversion period.
- 4.2.2. 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.

- 4.2.3. 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.

Notifiable Exceptions may be granted in cases where a farmer can prove organic practices 36 months prior to application.

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:

- 4.3.1. 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.

- 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 overaccumulation 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 exceptionally allowed only as a necessary complement when other fertility building techniques have been applied and are insufficient;
- 4.4.6. Human excrement is not allowed for use in organic systems under this standard;
- 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;
- 4.4.9. Chilean nitrate and all synthetic fertilizers, including urea, are prohibited;
- 4.4.10. 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 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 certifying body can allow production on permitted growing media;
- 4.4.11. 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 the certifying authority.

- 4.5.1. The organic production system shall include biological, cultural and mechanical mechanisms to manage pests, weeds and diseases. These include:
 - i. Choice of appropriate species and varieties;
 - ii. Appropriate rotation programs, intercropping and companion planting;
 - iii. Mechanical cultivation;
 - iv. Protection of natural enemies of pests through provision of favourable habitat, such as hedges, nesting sites and ecological buffer zones that maintain the original vegetation to house pest predators;
 - v. Natural enemies including release of predators and parasites;
 - vi. Mulching and mowing;
 - vii. Grazing by animals;
 - viii. Mechanical controls such as traps, barriers, light and sound.
 - ix. On-farm preparations from local plants, animals and microorganisms.
- 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.

- 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.
- 4.5.5. Thermal sterilization of soils is prohibited.

Notifiable exceptions may be granted to protected cropping structures in instances of severe disease or pest infestation that cannot be otherwise remedied through measures in 4.5.1, 4.5.2

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.

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 crops, soil, water, and inputs for risks of contamination by prohibited substances and environmental contaminants.
- 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.

4.7. Protected cropping

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

Recommendations:

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

Requirements:

- 4.7.1. 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.
- 4.7.2. Operators shall monitor, record and optimize any energy used for artificial light, heating, cooling, ventilation, humidity and other climate control.

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 programme.

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 shall be under organic management.
- 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).

5. WINE MAKING

- 5.1. Wine production shall be according to the rules for organic processing provided in previous sections of this document.
- 5.2. The only products and substances authorised for use in preparing organic products of the wine sector are listed in Appendix 7, together with their uses and conditions of use.
- 5.3. Products of the wine sector shall be produced from organic raw materials. This includes grapes. Other agricultural inputs that should be derived from organic raw material if available are set out in Appendix 7
- 5.4. The use of the following oenological practices, processes and treatments is prohibited:
- a) Partial concentration through cooling;
- b) Elimination of sulphur dioxide by physical processes;
- c) Electro dialysis treatment to ensure the tartaric stabilisation of the wine;
- d) Partial dealcoholisation of wine;
- e) Treatment with cation exchangers to ensure the tartaric stabilisation of the wine.
- 5.5. The use of the following oenological practices, processes and treatments is permitted under the following conditions:
- a) For heat treatments, the temperature shall not exceed 70 °C;
- b) For centrifuging and filtration with or without an inert filtering agent, the size of the pores shall be not smaller than 0,2 micrometres.
- 5.6. The maximum use of sulphur dioxide for different wines is set out in Appendix 7. However, if there are exceptional climatic conditions in a given harvest year, which lead to deterioration of the sanitary status of organic grapes in a specific geographical area because

of severe bacterial attacks or fungal attacks, the winemaker may seek permission from SAOSO to use more sulphur dioxide than in normal years to obtain a comparable final product. Wine-makers will be required to keep documentary evidence of the use of this exception.

6. ANIMAL HUSBANDRY

6.1. Animal Management

General Principle

Organic livestock husbandry is based on the harmonious relationship between land, plants and livestock, respect for the physiological and behavioural 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 the body size/weight of the breeds maintained, feed production capacity, stock health, nutrient balance, and environmental impact.

Management of the animal environment shall be by personnel who possess the necessary basic knowledge and skills regarding the health and welfare needs of the animals.

Recommendations:

Ecologically acceptable and ethical management strategies to deal with wild animal and livestock farming conflicts should be encouraged.

- 6.1.1. Landless animal husbandry systems are prohibited.
- 6.1.2. The operator shall ensure that the environment, the facilities, stocking density and flock/herd size provides for the behavioural needs of the animals.
- 6.1.3. In particular, the operator shall ensure the following animal welfare conditions:
 - a) Sufficient free movement and opportunity to express normal patterns of behaviour:
 - b) 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.;
 - c) Sufficient fresh air, water, feed, thermal comfort and natural daylight, to satisfy the needs of the animals;
 - d) Access to resting areas, shelter and protection from sunlight, temperature, rain, mud and wind adequate to reduce animal stress;
 - e) Provision of suitable materials and areas for exploratory and foraging behaviours;

f) 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;

Note: animals whose management system requires outdoor tethering to make use of grazing can still be managed in compliance with these requirements. Tethering must however be managed in compliance with all points under para. 6.1 with due notice taken of the following:

- Animals to be tethered on grass where they can graze, with adequate access to shade and water;
- The animal must have sufficient free movement to express normal behavior, and have enough space to stand naturally, lie down easily, move around and groom themselves, etc.;
- Animals to have protection from sunlight as provided in 6.1.3 d) and sufficient water (6.1.3.c)
- Animals to be regularly visited and monitored;
- The tethering must not produce injuries.
- 6.1.4. 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;
- 6.1.5. Construction materials and methods and production equipment that might significantly harm human or animal health shall not be used;
- 6.1.6. 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.

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

6.1.7. When animals are housed, the operator shall ensure that:

Where animals require bedding, adequate natural materials are provided. Bedding materials that are normally consumed by the animals shall be organic;

- a) 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;
- b) No animals shall be kept in closed cages;
- c) Animals are protected from predation by wild and feral animals;
- d) The above animal welfare requirements are fulfilled;
- e) Animals are regularly visited and monitored;
- f) When welfare and health problems occur, appropriate management adjustments are implemented (e.g. reducing stocking density);
- g) The minimum surface areas for perches, indoor housing and outdoor exercise areas are laid out in Appendix 6;

- h) At least half the floor area of livestock housing must be solid, not of slatted or of grid construction and the floors must not be slippery: Provided that the area may be reduced to one third for poultry;
- i) Calves may not be housed in individual boxes after the age of one week;
- j) Sows must be kept in groups except in the last stages of pregnancy and during the suckling period and piglets may not be kept on flat decks or in piglet cages;
- k) The exercise areas for pigs must permit dunging and rooting by the animals;
- I) Water fowl must have access to a stream, pond or lake;
- m) Poultry houses/buildings must have exit/entry pop-holes of adequate size for the birds and the pop-holes must have a combined length of at least 4 m per 100 m² of the house/building;
- n) Each poultry house/building may not contain more than 4 800 chickens, 3 000 laying hens, 5 200 guinea fowl, 4 000 female Muscovy and Peking ducks, 3 200 male Muscovy or Peking ducks or other ducks, 2 500 capons, geese or turkeys and the total usable area of poultry houses/buildings for meat production on any single production unit must not exceed 1 600 m²;
- o) Poultry buildings must be emptied of livestock between each batch of poultry reared, cleaned and disinfected and the open air runs must be left empty in order for the vegetation to grow back;
- p) If there are both organically and non-organically managed livestock on the same farm (split production) they must be reared on units where the buildings and parcels are clearly separated, and a different species is involved;
- q) Housing shall ensure that animals are protected from predation by wild and feral animals.
- 6.1.8. All animals shall have unrestricted and daily access to pasture or a soil-based openair 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, and specific handling requirements or at night. Lactation shall not be considered a valid condition for keeping animals indoors;
- 6.1.9. The maximum hours of artificial light used to prolong natural day length shall not exceed a maximum that respects the natural behaviour, 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.

6.2. 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.

- 6.2.1. 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.
- 6.2.2. Offspring may be considered organic only if their mother has been organically managed throughout the pregnancy.
- 6.2.3. Milk may be considered organic only if the dairy animal has been organically managed throughout the pregnancy preceding lactation
- 6.2.4. Eggs may be considered organic only if the poultry has been organically managed from 2 days old.

6.2.5. Animals for meat shall be raised organically from birth.

Notifiable Exception: When organic poultry is not available 2-day-old conventional poultry may be brought in.

- 6.2.6. 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.
 - 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.

Notifiable 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.

6.3. Breeds and Breeding

General Principle

Breeds are adapted to local conditions.

Requirements:

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

6.4. Mutilations

General Principle

Organic farming respects the animal's distinctive characteristics.

Requirements:

Mutilations are prohibited.

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

- a) Castrations;
- b) Tail docking of lambs;
- c) Dehorning;
- d) Ringing, except for pigs.

6.5. Animal Nutrition

General Principle

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

6.5.1. Animals shall be fed organic feed.

Notifiable Exceptions: 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 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.

- 6.5.2. 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 behaviour.
- 6.5.3. 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.

Notifiable 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.

- 6.5.4. 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.
- 6.5.5. The following substances are prohibited in the diet:
 - a) Farm animal by-products (e.g. abattoir waste) to ruminants;
 - b) Slaughter products of the same species;
 - c) All types of excrements including droppings, dung or other manure;
 - d) Feed subjected to solvent extraction (e.g. hexane) or the addition of other chemical agents;
 - e) Synthetic amino-acids and amino-acid isolates;
 - f) Urea and other synthetic nitrogen compounds;
 - g) Synthetic growth promoters or stimulants;
 - h) Synthetic appetizers;
 - i) Preservatives, except when used as a processing aid;
 - j) Artificial colouring agents.
- 6.5.6. Animals may be fed vitamins, trace elements and supplements from natural sources.
- 6.5.7. All ruminants shall have daily access to roughage. Ruminants must be grazed throughout the entire grazing season(s).
- 6.5.8. 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 6.5.6.
- 6.5.9. 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:

Calves and foals: 3 months

Piglets: 6 weeks

Lambs and kids: 7 weeks

6.6. Veterinary Medicine

General Principle

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

Requirements:

- 6.6.1. The operator shall take all practical measures to ensure the health and wellbeing 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 defence 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.
- 6.6.2. If an animal becomes sick or injured despite preventative measures, that animal shall be treated promptly and adequately, if necessary in isolation and in suitable housing. Operators shall give preference to natural medicines and treatments, including homeopathy, Ayurvedic medicine and acupuncture;
- 6.6.3. 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.

Notifiable exceptions may be permitted allowing the animal to retain its organic status if:

- a) the operator can demonstrate compliance with 6.6.1, 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.
 - 6.6.4. Producers shall not withhold such medication where doing so will result in unnecessary suffering of the livestock. When allopathic veterinary products are used, the withdrawal period shall be at least double the legal period, or at least 48 hours when no withdrawal period is specified;

- 6.6.5. Prophylactic use of any synthetic allopathic veterinary drug is prohibited;
- 6.6.6. Substances of synthetic origin used to stimulate production or suppress natural growth are prohibited;
- 6.6.7. 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.

6.7. Transport and Slaughter

General Principle

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

Requirements:

- 6.7.1. Animals shall be handled calmly and gently during transport and slaughter;
- 6.7.2. The use of electric prods and other such instruments is prohibited, with the following exception: in extreme circumstances, such as a downed animal, where their use is required to ensure the physical safety of both livestock and humans;
- 6.7.3. 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;
- 6.7.4. The operator shall ensure an adequate food and water supply during transport and at the slaughterhouse;
- 6.7.5. Animals shall not be treated with synthetic tranquilizers or stimulants prior to or during transport;
- 6.7.6. Each animal or group of animals shall be identifiable at each step in the transport and slaughter process;
- 6.7.7. Slaughterhouse journey times shall not exceed eight hours;
- 6.7.8. 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;
- 6.7.9. Each animal shall be effectively stunned before being bled to death. The equipment used for stunning shall be in good working order.

Notifiable exceptions may be made according to religious practice. Where animals are bled without prior stunning, this must 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.

6.8. Beekeeping

General Principle

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

- 6.8.1. 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;
- 6.8.2. The operator shall not place hives within a foraging distance (5 km) of fields or other areas with a high contamination risk (e.g. conventional fields, industrial zones and highways);

- 6.8.3. 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;
- 6.8.4. 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;
- 6.8.5. 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;
- 6.8.6. 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;
- 6.8.7. For pest and disease control the following are permitted:
 - a) Lactic acid, formic acid;
 - b) Oxalic acid, acetic acid;
 - c) Sulphur;
 - d) Natural essential oils (e.g. menthol, eucalyptol, camphor);
 - e) Bacillus thuringiensis;
 - f) Steam, direct flame and caustic soda for hive disinfection.
- 6.8.8. 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.
- 6.8.9. The practice of destroying the male brood is permitted only to contain infestation with Varroa (mites);
- 6.8.10. The health and welfare of the hive shall be primarily achieved by hygiene and hive management;
- 6.8.11. The destruction of bees in the combs as a method of harvesting of bee products is prohibited;
- 6.8.12. Mutilations, such as clipping of the wings of queen bees, are prohibited;
- 6.8.13. Artificial insemination of queen bees is permitted;
- 6.8.14. 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;
- 6.8.15. 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;

7. PROCESSING AND HANDLING

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;
- 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;

Notifiable exceptions may be permitted 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 nano-materials, and
- b) the current lack of availability in South Africa is officially recognized or prior permission from the control body is obtained.
- c) the requirements in section 8.1.6 shall be met.
 - 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 microorganisms and enzymes commonly used in food processing may be used, except for genetically engineered microorganisms 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. For the production of organic microorganisms 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 be organically produced or appear in Appendix 4 Table 1 and shall be used in accordance with noted restrictions;
- 7.3.2. Substances and techniques shall not be used that:
 - i. Reconstitute properties lost by the processing and storage of organic products;
 - ii. Conceal negligent processing;
 - iii. Or may otherwise be misleading as to the true nature of these products.

Water may be used for re-hydration or reconstitution.

- 7.3.3. 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;
- 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.
- 7.3.7. Intentional manufacture or use of nanomaterials in organic products is prohibited.
- 7.3.8. 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.

- 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, ultrasound, 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, aluminium phosphide or other substance not contained in Appendix 4;
- c) Ionizing radiation.
- 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 aluminium should be avoided.

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;
- 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;
- 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. LABELLING AND MARKING

8.1. General

General Principle

Organic products are clearly and accurately labelled as organic.

Requirements:

- 8.1.1. Products produced in accordance with this standard may be labelled 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.
- 8.1.3 Processed products shall be labelled according to the following minimum requirements:
 - a) Where 95 to 100% of the ingredients (by weight) are organic, the product may be labelled as "organic".
 - b) Where less than 95% but not less than 70% of the ingredients (by weight) are organic, these products cannot be labelled 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 labelled 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.

- 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 labelled as "in conversion".
- 8.1.8. Products endorsed by SAOSO approved Participatory Guarantee Systems shall always display the words "Organic PGS endorsed" on labelling and in advertising. In outlets were products that are labelled "Organic PGS endorsed" are sold notices shall be posted that inform customers of the meaning of the words. PGS suppliers shall supply such notices.

9. APPROVAL, VERIFICATION AND EQUIVALENCE

9.1. Organic products sold in South Africa fall into one of four categories, all of which may use the South African Organic Sector Organisation (SAOSO) Organic logo (see Appendix 8)

after an application in this regard has been lodged with SAOSO and approval to use the logo was granted by SAOSO. The four categories are the following:

- Organic products produced in South Africa according to this standard and certified by a certification body holding a national or international accreditation with an organic scope and that carry the SAOSO Organic logo (see Appendix 8);
- Organic products produced in South Africa according to these standards and approved as
 organic by members of participatory guarantee systems for local marketing which have
 been approved annually by SAOSO. These shall carry the SAOSO Organic PGS endorsed
 logo (see Appendix 8);
- c. Organic products produced in South Africa and certified to other organic standards by a certification body holding a national or international accreditation with an organic scope, provided that the standard is listed as approved in the IFOAM "Family of Standards". These shall bear marks that indicate organic certification. Producers shall provide copies of valid organic certificates to buyers when requested; or
- d. Imported organic products certified to other organic standards, provided that:
 - 1. The standard is listed as approved in the IFOAM "Family of Standards", and;
 - 2. The product is certified under a certification program that is officially accepted under a government organic regulation or is certified by a certifier holding an international organic accreditation (accredited to ISO 17065 or SANS 17065, or IFOAM Accreditation) for the scope of the standard referred to above.
- 9.2. In the case of PGS market schemes, the PGS shall:
 - Align with this standard;
 - Provide evidence that the Criteria for Approval (Appendix 9) has been satisfied following the Procedures for Approval as stipulated by the relevant authority.
- 9.3. Imported organic products that are sold in their original, unaltered, foreign packaging and with marks indicating their certification status shall not require further certification. However, the importer shall be required to furnish copies of the original organic certificate and the transaction certificate associated with the transportation of the product to any buyer that requests it;
- 9.4. Imported products that are repackaged, relabelled or processed in any way after import shall require organic certification by an accredited certifier who shall ensure organic integrity and regulated chain of custody along the whole supply chain, starting from the original organic producer.

10.SOCIAL JUSTICE

- 10.1. Production that violates human rights and social justice requirements in this chapter cannot be declared organic.
- 10.2. Operators shall not violate indigenous land rights.
- 10.3. Operators shall not use forced or involuntary labour or apply any pressure such as retaining part of the workers' wages, property or documents.
- 10.4. 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.
- 10.5. Operators shall provide their employees and contractors equal opportunity and treatment, and shall not act in a discriminatory way.
- 10.6. 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.
- 10.7. 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.

- 10.8. 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.
- 10.9. Operators shall not use child labour.

Notifiable Exception: Children are allowed to experience work on their family's farm or business or a neighbouring 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.
 - 10.10. Operators shall pay employees wages and benefits that meet legal minimum requirements of the operation's jurisdiction or, in the absence of this minimum, the sectorial benchmark.
 - 10.11. 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:
 - 1. Wages;
 - 2. Frequency and method of payment;
 - 3. Location, type and hours of work;
 - 4. Recognition of workers' freedom of association;
 - 5. Disciplinary procedure;
 - 6. Health and safety procedure;
 - 7. Eligibility and terms of overtime, holiday pay, sickness benefit and other benefits such as maternity and paternity leave; and
 - 8. Worker's right to terminate employment.
 - 10.12. 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.
 - 10.13. Operators shall ensure adequate access to potable water.
 - 10.14. 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.
 - 10.15. Operators shall provide residential employees with habitable housing and access to potable water; to sanitary and cooking facilities and to 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.
 - 10.16. Operators shall comply with minimum national social requirements in the countries of operation
 - 10.17. 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. Workers will have access to their own files.
 - 10.18. Requirements in this section apply equally to all workers on the operation regardless of how they are employed, except for subcontractors performing non-production core business functions such as plumbing, machine repair, or electrical work.

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 behaviour 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 SAOSO Standards Committee, taking into account the below criteria for evaluation of inputs.

Production Input Criteria

Inputs used in organic production are consistent with the principles of organic farming outlined in the relevant chapters of the SAOSO 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 SAOSO 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 SAOSO, 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; neighbours 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, flavour, 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 favours 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.
- 6.3 Inputs used for animal feed and livestock production shall be evaluated for their impact on animal health, welfare, and behaviour. Medications must either alleviate or prevent animal suffering. Animal inputs that cause suffering or have a negative influence on the natural behaviour 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 SAOSO 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, flavours, 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; neighbours who may be

- exposed through release into the environment; and consumers exposed by ingestion of food-borne residues.
- 4.3. SAOSO 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, flavour, 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 flavours, colours, 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 SAOSO 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 favoured 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.

APPENDIX 2: FERTILISERS AND SOIL CONDITIONERS

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	
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).
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) Phosphates in non-synthetic form (e.g. rock phosphate, colloidal phosphate, apatite) Phosphates in non-synthetic form (e.g. rock phosphate, colloidal phosphate, apatite) Pulverized rock, stone meal, crushed stone. Sodium chloride Sulphur Trace elements, e.g.: boric acid, sodium borate, calcium borate, copper oxide, copper sulfate, corpor carbonate, copper citrate engricate, copper carbonate, copper citrate engricate, copper carbonate, copper ithrate engrangenous oxide, manganese sulfate and manganese carbonate selenic acid, selenous acid, sodiumnolybdate, molybdic oxide zinc carbonate, zinc oxide, zinc silicate, and zinc silicate, and zinc silicate, and zinc silicate, and zinc silicate, or products of brewery or distillery processing Microbiological preparations based on naturally occurring organisms IV. OTHERS Biodynamic preparations Lain magnesium and physical procedures but not enriched by chemical processes Ladium lignosulfonate Calcium lignosulfonate		
amendments Clay (e.g. bentonite, perlite, vermiculite, zeolite) Mineral potassium (e.g. sulfate of potash, muriate of potash, kainite, sylvanite, patenkali) Phosphates in non-synthetic form (e.g. rock phosphate, colloidal phosphate, apatite) Pulverized rock, stone meal, crushed stone. Sodium chloride Sulphur Trace elements, e.g.: boric acid, sodium borate, calcium borate, borethanolamin, cobalt-acetate, cobalt-sulphate, copper hydroxide, copper sulfate, copper hydroxide, copper sulfate, copper carbonate, copper chydroxide, copper ferrous sulfate, iron citrate, iron sulfate, or iron tartrate manganous oxide, manganese sulfate and manganese carbonate, zinc oxide, ginc sulfate, and zinc sulfate 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		
Mineral potassium (e.g. sulfate of potash, muriate of potash, kainite, sylvanite, patenkali) Phosphates in non-synthetic form (e.g. rock phosphate, colloidal phosphate, apatite) Pulverized rock, stone meal, crushed stone. Sodium chloride Sulphur Trace elements, e.g.: boric acid, sodium borate, calcium borate, borethanolamin, cobalt-acetate, cobalt-sulphate, copper oxide, copper sulfate, copper citrate efferic oxide, ferric sulfate, ferrous sulfate, iron citrate, iron sulfate, or iron tartrate manganous oxide, manganese sulfate and manganese elenic acid, selenous acid, sodiummolybdate, molybdic oxide zinc carbonate, zinc oxide, zinc silicate, and zinc sulfate 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	,	
potash, kainite, sylvanite, patenkali) Phosphates in non-synthetic form (e.g. rock phosphate, colloidal phosphate, apatite) Pulverized rock, stone meal, crushed stone. Sodium chloride Sulphur Trace elements, e.g.: boric acid, sodium borate, calcium borate, borethanolamin, cobalt-acetate, cobalt-sulphate, copper oxide, copper sulfate, copper hydroxide, copper silicate, copper carbonate, copper citrate ferric oxide, ferric sulfate, ferrous sulfate, iron citrate, iron sulfate, or iron tartrate manganous oxide, manganese sulfate and manganese carbonate selenic acid, selenous acid, sodiummolybdate, molybdic oxide zinc carbonate, zinc oxide, zinc silicate, and zinc sulfate 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	Clay (e.g. bentonite, perlite, vermiculite, zeolite)	
colloidal phosphate, apatite) Pulverized rock, stone meal, crushed stone. Sodium chloride Sulphur Trace elements, e.g.: boric acid, sodium borate, calcium borate, borethanolamin, cobalt-acetate, cobalt-sulphate, copper oxide, copper sulfate, copper hydroxide, copper silicate, copper carbonate, copper carbonate, copper carbonate, copper carbonate, iron sulfate, or iron tartrate manganous oxide, manganese sulfate and manganese carbonate selenic acid, selenous acid, sodiummolybdate, molybdic oxide zinc carbonate, zinc oxide, zinc silicate, and zinc sulfate 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		
Sodium chloride Sulphur Trace elements, e.g.: boric acid, sodium borate, calcium borate, coper sulface, copper sulfate, copper sulfate, copper sulfate, copper sulfate, copper carbonate, copper carbonate selenic acid, selenous acid, sodiummolybdate, molybdic oxide zinc carbonate, zinc oxide, zinc silicate, and zinc sulfate 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		Cadmium content less than or equal to 90 mg/kg of P2O5
Sulphur Trace elements, e.g.: boric acid, sodium borate, calcium borate, borethanolamin, cobalt-acetate, cobalt-sulphate, copper oxide, copper sulfate, copper hydroxide, copper silicate, copper carbonate, copper citrate ferric oxide, ferric sulfate, ferrous sulfate, iron citrate, iron sulfate, or iron tartrate manganous oxide, manganese sulfate and manganese carbonate selenic acid, selenous acid, sodiummolybdate, molybdic oxide zinc carbonate, zinc oxide, zinc silicate, and zinc sulfate 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	Pulverized rock, stone meal, crushed stone.	
Trace elements, e.g.: boric acid, sodium borate, calcium borate, borethanolamin, cobalt-acetate, cobalt-sulphate, copper oxide, copper sulfate, copper hydroxide, copper silicate, copper carbonate, copper citrate ferric oxide, ferric sulfate, ferrous sulfate, iron citrate, iron sulfate, or iron tartrate manganous oxide, manganese sulfate and manganese carbonate selenic acid, selenous acid, sodiummolybdate, molybdic oxide zinc carbonate, zinc oxide, zinc silicate, and zinc sulfate 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	Sodium chloride	
Trace elements, e.g.: boric acid, sodium borate, calcium borate, borethanolamin, cobalt-acetate, cobalt-sulphate, copper oxide, copper sulfate, copper hydroxide, copper silicate, copper carbonate, copper citrate ferric oxide, ferric sulfate, ferrous sulfate, iron citrate, iron sulfate, or iron tartrate manganous oxide, manganese sulfate and manganese carbonate selenic acid, selenous acid, sodiummolybdate, molybdic oxide zinc carbonate, zinc oxide, zinc silicate, and zinc sulfate 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	Sulphur	
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	boric acid, sodium borate, calcium borate, borethanolamin, cobalt-acetate, cobalt-sulphate, copper oxide, copper sulfate, copper hydroxide, copper silicate, copper carbonate, copper citrate ferric oxide, ferric sulfate, ferrous sulfate, iron citrate, iron sulfate, or iron tartrate manganous oxide, manganese sulfate and manganese carbonate selenic acid, selenous acid, sodiummolybdate, molybdic oxide	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
e.g. by-products of brewery or distillery processing Microbiological preparations based on naturally occurring organisms IV. OTHERS Biodynamic preparations	III. MICROBIOLOGICAL	
Microbiological preparations based on naturally occurring organisms IV. OTHERS Biodynamic preparations		
OCCURRING ORGANISMS IV. OTHERS Biodynamic preparations	e.g. by-products of brewery or distillery processing	
Biodynamic preparations		
	IV. OTHERS	
Calcium lignosulfonate	Biodynamic preparations	
	Calcium lignosulfonate	

APPENDIX 3: CROP PROTECTANTS AND GROWTH REGULATORS

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) Gelatine	
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 sulphur (Calcium polysulfide)	
Potassium bicarbonate	
Calcium hydroxide (hydrated lime)	For application on aerial plant parts only
Silicates (e.g. sodium silicates, quartz)	
Sodium bicarbonate	
Sulphur	
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.
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 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'LNUMBE RING SYSTEM	PRODUCT	ADDITIVE	Processing & Post Harvest handling aid	LIMITATION/ NOTE
INS 170	Calcium carbonate	X	Х	Not for colouring
INS 184	Tannic acid		X	Filtration aid for wine
INS 220	Sulphur dioxide	X		Only for wine
INS 224	Potassium metabisulphite	X		Only for wine
INS 270	Lactic acid	Х	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	Х		
INS 407	Carrageenan	Х		
INS 410	Locust bean gum	X		
INS 412	Guar gum	Х		
INS 413	Tragacanth gum	X		
INS 414	Arabic gum	X		
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	Х		
INS 509	Calcium chloride	Х	X	
INS 511	Magnesium chloride	х	X	Only for soybean products
INS 513	Sulphuric 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	х		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	Х	X	For sugar processing and for the surface treatment of traditional bakery products

INS 526	Calcium hydroxide	X	X	Food additive for maize tortilla flour
				Processing 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	
INS 938	Argon	х		
INS 941	Nitrogen	х	x	
INS 948	Oxygen	х	x	
	Ethylene		х	De-greening of citrus and ripening
	Activated carbon		х	
	Casein		х	Only for wine
	Cellulose		x	
	Diatomaceous earth		X	
	Ethanol		х	
	Isinglass		х	Only for wine
	Kaolin		х	
	Perlite		х	
	Plant and animal oils		х	For extraction only
	Preparations of bark		х	Only for sugar

Flavouring Agents:

Operators may use:

- organic flavouring extracts (including volatile oils), and, if not available,
- natural flavouring preparations approved by the control body. Such approval shall include assessment that natural flavours shall meet the following criteria:
- a. the sources are plant, animal or mineral;
- b. the process of production is in accordance with a recognized organic standard;
- c. they are produced by means of solvents such as vegetal oils, water, ethanol, carbon dioxide and mechanical and physical processes.

Preparations of Microorganisms 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	Intervening event or action needed to eliminate risks of contamination
Calcium oxide (quicklime)	
Chloride of lime (calcium oxychloride, calcium chloride, and calcium hydroxide)	
Chlorine dioxide	Intervening event or action needed 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	Intervening event or action needed to eliminate risks of contamination
Sodium carbonate	
Sodium hydroxide (caustic soda)	Intervening event or action needed to eliminate risks of contamination
Sodium hypochlorite	Intervening event or action needed to eliminate risks of contamination
Sodium soap	Intervening event or action needed to eliminate risks of contamination

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

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, picking lime, 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

APPENDIX 6: MINIMUM SURFACE AREAS INDOORS AND OUTDOORS AND OTHER CHARACTERISTICS OF HOUSING IN THE DIFFERENT SPECIES AND TYPES OF PRODUCTION

a. BOVINES, OVINES AND PIGS

	INDOOR AREA		OUTDOOR AREA	
	(net area available to animals) Live weight m²/head		(exercise area,	
			excluding	
			pasturage)	
			m²/head	
	minimum (kg)			
Breeding and fattening bovine and	Up to 100	1,5	1,1	
equidae	Up to 200	2,5	1,9	
	Up to 350	4,0	3	
	Over to	5 with a minimum	3,7 with a minimum of	
	350	of 1 m ² /100 kg	0,75 m²/100 kg	
Dairy cows		6	4,5	
Bulls for breeding		10	30	
Sheep and goats		1,5 sheep/goat	2,5	
		0,35 lamb/kid	2,5 with 0,5 per lamb/kid	
Farrowing sows with piglets up to 40 days		7,5 sow	2,5	
Fattening pigs	Up to 50	0,8	0,6	
	Up to 85	1,1	0,8	
	Up to 100	1,3	1	
Piglets	Over 40 days		0,4	
	and up to 30 kg	7		
Brood pigs		2,5 female	1,9	
		6,0 male	8,0	

2. POULTRY

	INDOOR AREA			OUTDOOR AREA
	(net area available	e to animals)	(m² of area available in	
			1 .	rotation/head)
	No animals/m²	cm perch/animal	nest	
Laying hens	6	18	nest or in case of	4, provided that the limit of 170 kg of N/ha/ year is not exceeded
Fattening poultry	10 with a	20		4 broilers and guinea fowl 4,5
(in fixed housing)	maximum of 21 kg	(for guinea fowl only)		ducks
	live weight/m²			10 turkey
				15 geese
				In all the species men- tioned
				above the limit of 170 kg of
				N/ha/year must not be exceeded
Fattening poultry	16 in mobile			2,5, provided that the limit of 170
in mobile	poultry houses			kg of N/ha/year is not exceeded
housing	with a maximum			
	of 30 kg live weight/m²			

APPENDIX 7: AUTHORISED OENOLOGICAL PRACTICES AND PROCESSES IN ORGANIC WINEMAKING

	Oenological practice	Authorised products	Conditions of use (1)	Limits on use and Applications
1	Aeration or oxygenation using gaseous oxygen	Air, Gaseous oxygen		
2	Heat treatments	Maximum temperature 70oC		
3	Centrifuging and filtration with or without an inert filtering agent	Perlite, Cellulose, Diatomaceous earths		Use of an agent must not leave undesirable residues in the treated product
4	Use of carbon dioxide, argon or nitrogen, either alone or combined, in order to create an inert atmosphere and to handle the product shielded from the air	Nitrogen, Carbon dioxide, Argon	Only with fresh grapes, grape must, partially fermented grape must, partially fermented grape must obtained from raisined grapes, concentrated grape must and new wine still in fermentation and for the second alcoholic fermentation of all categories of sparkling wine.	Use in order to create an inert atmosphere and to handle the product shielded from the air.
5	Use of yeasts for wine production, whether dry or in wine suspension	Yeasts (if available, derived from organic raw material)		
6a	Use to encourage yeast development, with the possible addition of microcrystalline cellulose as an excipient: - addition of diammonium phosphate	Diammonium phosphate	Only with fresh grapes, grape must, partially fermented grape must, partially fermented grape must obtained from raisined grapes, concentrated grape must and new wine still in fermentation and for the second alcoholic fermentation of all categories of sparkling wine.	No more than 1 g/l (expressed in salts) or 0,3 g/l for the second fermentation of sparkling wines.

6b	Use to encourage yeast development, with the possible addition of microcrystalline cellulose as an excipient:- addition of thiamine hydrochloride	a. Thiami ne hydroc hlorid e	Only with fresh grapes, grape must, partially fermented grape must, partially fermented grape must obtained from raisined grapes, concentrated grape must and new wine still in fermentation and for the second alcoholic fermentation of all categories of sparkling wine.	No more than 0,6 mg/l (expressed in thiamine) for each treatment
7	Use of sulphur dioxide, potassium bisulphite or potassium metabisulphite, also called potassium disulphite or potassium pyrosulphite	Sulphur dioxide, Potassium bisulphite or potassium metabisulphite		For red wines: (a) With residual sugar <2g/L: 100 mg/L; (b) With residual sugar >2g/L and < 5g/L: 120 mg/L (c) With residual sugar ≥ 5g/L: 170 mg/L For white and rosé wines: (d) With residual sugar <2g/L: 150 mg/L (e) With residual sugar <2g/L: 150 mg/L (g) With residual sugar >2g/L and < 5g/L: 170 mg/L (g) With residual sugar ≥ 5g/L: 220mg/L For liqueur wines: With residual sugar < 5g/L: 120 mg/L With residual sugar < 5g/L: 120 mg/L With residual sugar ≥ 5g/L: 170 mg/L With residual sugar ≥ 5g/L: 155 mg/L Other sparkling wines: Quality wines (Mèthode Cap Classique): 155 mg/L Other sparkling wines: 205 mg/L

8	Treatment with charcoal for oenological use		Only for musts and new wines still in fermentation, rectified concentrated grape must and white wines	No more than 100 g of dry product per hl
9	Clarification by means of one or more of the following substances for oenological use:	 edible gelatine, plant proteins of wheat or peas, isinglass, egg albumin, tannin, casein and potassium caseinates, bentonite, silicon dioxide as a gel or colloidal solution, pectolytic enzymes 		The following substances should be derived from organic raw material if available: - Edible Gelatine, - Plant proteins of wheat or peas, - Isinglass, - Egg white albumen, - Tannins
10	Use of tartaric L(+) acid, or lactic acid for acidification purposes	Lactic acid, L(+) Tartaric acid	L(+) tartaric acid must be of agricultural origin and extracted specifically from wine products. It must also comply with purity criteria. Process to be carried out in a single operation if possible	
11	Use of one or more of the following substances for deacidification purposes:	 neutral potassium tartrate potassium bicarbonate calcium carbonate, L(+) tartaric acid 	L(+) tartaric acid must be of agricultural origin and extracted specifically from wine products. It must also comply with purity criteria. Process to be carried out in a single operation if possible.	
12	Use of preparations from yeast cell walls	Yeasts, (if available, derived from organic raw material)		No more than 40 g/hl
13	Use of lactic bacteria	Lactic bacteria		
14	Addition of L ascorbic acid	L ascorbic acid		Maximum content in wine thus treated and placed on the market: 250 mg/l. The use

				limit is 250 mg/l for each treatment.
15	Use in dry wines of fresh lees which are sound and undiluted and contain yeasts resulting from the recent vinification of dry wine	Yeasts, (if available, derived from organic raw material)	For natural wines, sparkling wines and liqueur wines.	Quantities not exceeding 5 % of the volume of product treated
16	Bubbling using argon or nitrogen			
17	Addition of carbon dioxide	Carbon Dioxide	For partially fermented must for direct human consumption as such and for natural wines, aerated sparkling wines and aerated semi sparkling wines.	In the case of still wines the maximum carbon dioxide content in the wine so treated and placed on the market is 3 g/l, while the excess pressure caused by the carbon dioxide must be less than 1 bar at a temperature of 20 °C
18	Addition for wine stabilisation purposes	Citric acid	For partially fermented must for direct human consumption as such and for natural wines, liqueur wines, sparkling wines, and wines made from raisined grapes and overripe grapes.	Maximum content in wine thus treated and placed on the market: 1g/l
19	Addition of tannins	Tannins (derived from organic raw material, if available)	For partially fermented must for direct human consumption as such and for natural wines, liqueur wines, sparkling wines, and wines made from raisined grapes and overripe grapes.	
20	Addition of metatartaric acid	Meta-tartaric acid	For partially fermented must for direct human consumption as such and for natural wines, liqueur wines, sparkling wines, and wines made from raisined grapes and overripe grapes.	No more than 100 mg/l

21	Use of acacia	Acacia gum, derived from organic material if available (= gum arabic)	For partially fermented must for direct human consumption as such and for natural wines, liqueur wines, sparkling wines, and wines made from raisined grapes and overripe grapes.	
22	To assist the precipitation of tartaric salts, use of:	Potassium bitrate	For partially fermented must for direct human consumption as such and for natural wines, liqueur wines, sparkling wines, and wines made from raisined grapes and overripe grapes.	In the case of calcium tartrate, no more than 200 g/hl
23	To eliminate defects of taste or smell in the wine	Cupric citrate Also copper sulphate authorised until 31 July 2015	For partially fermented must for direct human consumption as such and for natural wines, liqueur wines, sparkling wines, and wines made from raisined grapes and overripe grapes.	No more than 1 g/hl, provided that the copper content of the product so treated does not exceed 1 mg/l
24	For winemaking and ageing, including in the fermentation of fresh grapes and grape must	Oak chips	Chips (at least 95% of which will not pass through a 2 mm. mesh filter) only from the Quercus genus. In their natural state or heated but not having undergone combustion, nor undergone any other chemical, enzymatic or physical processes.	
25	Use of:	Potassium alginate	Only for the manufacture of all categories of sparkling and semi-sparkling wines obtained by fermentation in bottle and with the lees separated by disgorging	

NOTE:

(1) Unless otherwise stated, the practice or process described may be used for fresh grapes, grape must, partially fermented grape must from raisined grapes, concentrated grape must, new wine still in fermentation, partially fermented grape must for direct human consumption, wine, all categories of sparkling wine, semi-sparkling wine, aerated semi-sparkling wine, liqueur wines, wines made from raisined grapes and wines made from over-ripened grapes.

APPENDIX 8: SAOSO ORGANIC LOGOS

1. Logo for use on products certified organic under a 3rd Party Certification scheme:



2. Logo for use on products endorsed as organic under a Participatory Guarantee Systems (PGS) scheme:



Appendix 9

The SAOSO Organic Logo

CRITERIA FOR APPROVAL OF PGS

Note: This document should be read alongside **Procedure for approval for use of the south african organic sector organisation (SAOSO) organic PGS endorsed logo**.

Each of the following criteria will be assessed by PGSSA in ways that are reflective of the diverse ways by which PGS aim to address the basic criteria: if there is a criteria that the PGS does not comply with for very justified reasons and it has an alternative and equivalent (=equally effective) way to address the intent of the criteria, this equivalent mechanism can be considered acceptable. It should however be reported to PGSSA who will keep a compiled record of all "derogations based on equivalent mechanisms". PGSSA will forward the report of granted derogations to SAOSO minimum annually. This will serve for guaranteeing fairness and consistency in the assessments of PGS regionally, and for future improvement of these criteria.

- a. The PGS is a participatory organization or structure, whereby producers (at minimum) and other stakeholders (desirable) participate voluntarily and transparently in the choice of the standard, the procedures for verification and sanctions, and the choice of people with specific responsibility in the PGS. Decisions regarding PGS procedures are made either in general assembly, regular group meetings (open to all participating producers), or by regularly elected producer (and consumer) representatives.
- b. PGS implementation mechanisms are locally and culturally adapted and relevant and efforts are made to minimize paperwork needed for endorsement.
- c. Participating producers take a public pledge to follow the standard and are subsequently subject to onsite reviews/assessments at minimum once a year to verify their continued compliance with the standard.
- d. The PGS has developed a system for managing non-compliance, with clear consequences that are implemented, including suspending operators with serious non-compliances.
- e. The PGS grants open and easy access to consumers, the public and any interested person to:
 - a. Its chosen standard
 - b. Its list of group members and its list of endorsed operators
 - c. Information concerning its structure and its main procedures (steps in the assessment process)
- f. The PGS has mechanisms to ensure that producers understand:
 - a. the principles of organic agriculture and expected practices,
 - b. the purpose and structure of the PGS and their rights for participation

- c. the role of verification and the sanctions that might be imposed on them in case of non-compliance.
- g. Farm/site reviews/assessments involve a team of, at minimum 3 persons, including 1 experienced person and 1 peer operator. Experience in on-site "assessment" can have been acquired through training or learning-by-doing. Reciprocal assessment is not considered a valid procedure.
- h. The PGS has a mechanism to also receive, objectively assess and feed into the verification process the information on potential non-compliances acquired outside of the farm visits (e.g. continued "social control", external observations, consumer complaints, etc.).
- i. A group with the appropriate technical experience and with at least one member producer takes the decision for the endorsement of each producer. The PGS does not delegate the decision to an external body or organization, but it is permitted to request advice from external bodies. The PGS has mechanisms to minimize conflict of interest, and to ensure consistency on the level of the assessment decision.
- j. Information about compliance is generated, maintained and updated (minimum annually) for each producer. This information includes the type of production, areas of compliance and non-compliance with the standard, brought-in inputs, etc.
- k. The PGS delivers specific recognition or market access to its endorsed producers only. This can be in the form of a product logo, a certificate, access to an open market place, etc.
- I. The PGS allows any stakeholder, including those not directly part of the PGS group (e.g. producers of other groups, consumers, state representatives, NGOs, SAOSO representatives etc.) to visit the PGS operators (open gate policy), to participate as observer in the farm/site assessment or PGS meetings and to consult the PGS documentation. The PGS grants consumers the possibility to become active members of the PGS. The PGS communicates actively about this possibility.
- m. The PGS procedures are regularly internally reviewed and improved, minimum once every two years.
- n. The PGS includes on-going (minimum yearly) mechanisms for capacity building of operators and/or knowledge and advice sharing among group members.

¹ Reciprocal means that operator A assesses operator B, and B assesses A, which can create conflict of interest.

The SAOSO Organic Logo

PROCEDURE FOR APPROVAL FOR USE OF THE OF THE SOUTH AFRICAN ORGANIC SECTOR ORGANISATION (SAOSO) ORGANIC PGS ENDORSED LOGO

BACKGROUND

This document outlines the *procedure* to be used for approval of PGS initiatives for use of the SAOSO organic PGS Endorsed logo. It should be read and used together with the document *Criteria for Approval of PGS*.

GENERAL POLICY

- a. To be granted the use of the SAOSO organic PGS Endorsed logo PGS groups must² be approved by PGS South Africa (PGSSA).
- b. The approval process must include persons or organisations other than those engaged in supporting the PGS group³.
- c. Approval must be based on the submission of a complete file prepared by the applicant PGS and the documented verification through file review and on-site visit (see 3.4 On-site assessment visit) by PGSSA or a person or a committee appointed by PGSSA for this purpose of the compliance of the applicant PGS with the CRITERIA FOR THE APPROVAL OF PGS and THE SAOSO STANDARD FOR ORGANIC PRODUCTION AND PROCESSING.
- **d.** Approvals may be conditional, i.e. that the PGS shall implement some specific improvements before or after the decision has become effective.
- e. The initial approval of PGS is valid for a period of 1 year.
- f. Subsequent approvals are valid for a period of 2 years.
- g. The approval may be suspended or cancelled, with the latter as the last resort option, by PGSSA if serious noncompliance with the criteria is observed, following a fair and transparent process.
- h. At least one month before the expiry of the approval, the approved PGS must re-submit an updated file and be subject to a file review and on-site visit by PGSSA in order to renew its approval.

SAOSO has a right of veto on the approval of PGS groups. It can therefore require PGSSA to revise their decision and revoke or suspend approval at any point in time.

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² In this document, "must" describes a condition/criteria, "shall" an obligation (for either the SAOSO, PGSSA or the PGS) and "will" describes the procedural steps (and are in that sense an obligation to follow).

³ This means that if one person is engaged in assistance to the PGS, at least one other person who is not engaged in assistance to the PGS must also be included in the decision-making for the approval.

PROCEDURES

b. INQUIRY

Any PGS interested in applying for approval will get from PGSSA:

- An application form
- This procedure (or a simplified version of it)
- The CRITERIA FOR THE APPROVAL OF PGS
- THE SAOSO STANDARD FOR ORGANIC PRODUCTION AND PROCESSING.
- Rules for the Use of the SAOSO organic PGS endorsed logo
- LICENSE AGREEMENT

c. APPLICATION

The PGS applying for approval will submit to PGSSA their file containing the following up-to-date information:

- It's PGS Manual explaining the PGS structure and the assessment procedure in such a way that allows verification of the existence of procedures or processes that ensure compliance with the CRITERIA FOR THE APPROVAL OF PGS
- A completed PGS GROUP APPLICATION FORM (according to template)
- The current list of its endorsed producers and their registered categories (i.e., crops, wild harvest, livestock, and/or processing,) of production

d. Examination of file

A person or committee appointed by PGSSA will review the file and:

- a) seek clarification on any unresolved matters
- b) determine, based on the Criteria for Approval of PGS, if the PGS has reached a sufficient stage of development to proceed with the application
- c) assign one or more persons to make an on-site assessment visit.

e. On-site assessment visit

An individual or group with working knowledge of PGS, appointed by PGSSA will carry out the on-site assessment visit. The visit shall include:

- a review of the relevant documentation
- a review of the files of a sample number of members of the PGS
- On-site production premises visits of a sample of members for which the files have been reviewed
- interviews with members of the group and other stakeholders about their understanding of organic practices, of the standards, their awareness of being part of a PGS, their personal involvement in the PGS, of their opinion on the PGS procedures and management as well as confidence in the system. Interview of members will normally be part of the visits under (c)
- an exit discussion with the PGS members responsible for the application where the findings are presented

The visit, decision and any applicable conditions shall be recorded in the PGS Assessment Form.

f. Decision

A person or committee appointed by PGSSA will review the file and the result of the on-site assessment visit and shall:

- seek clarification on any unresolved matters
- determine if the PGS can be approved
- determine any conditions that have to be fulfilled before or after licensing of the logo. Any such condition shall have a clearly spelled out time line

The decision and any applicable conditions shall be recorded on the PGS Assessment Form

g. REGISTRATION AND LICENSING

Once a group has been approved,

- the decision will be communicated to the PGS group by means of a standard letter
- a License Agreement will be signed
- a certificate will be issued
- the relevant data will be included in the Register of Logo Users

h. Monitoring and complaints

There may be on-site visits by PGSSA within the approval period to verify continued compliance if necessary.

PGSSA shall investigate in a timely manner any formal complaints received against an approved PGS group. Such an investigation shall include at least:

- a) Evaluation of the nature of the complaint and if an investigation should take place
- b) Investigation of the actual situation
- c) Asking the PGS group for any comments or corrections
- d) Informing the complainant about the outcome

In a complaints process, the identity of the complainant shall not be disclosed to the PGS group. PGSSA shall keep a record of complaints received and their resolutions.

NB: When there is an appeal made in reference to the outcome decision made PGSSA or its conduct, redress should be sought at SAOSO.

i. Transparency

The process of each approval and the basic data about the PGS groups shall be accessible⁴ for any interested parties, including members of the public.

j. Training

The persons involved in file reviews, on site visits and decision-making regarding the approval of the PGS shall be trained to perform their functions including, but not limited to:

- a) working knowledge of PGS (i.e. familiarity with PGS basic elements and key features, practical experience with PGS implementation, etc.)
- b) knowledge about the SAOSO STANDARD FOR ORGANIC PRODUCTION AND PROCESSING
- c) the system for the use of the SAOSO organic PGS Endorsed logo, the contracts, the rules for the use of the logo etc.
- d) the Criteria for the approval of PGS
- e) This procedure
- f) The relevant forms and templates provided by PGSSA

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⁴ The exact nature of how data will be made available is left open but can include posting on the internet or available as hard copies from the PGSSA office.

k. Managing the process

One person shall be responsible for the management of the whole process and each step. A file shall be kept for each PGS with all the relevant documents. The second page of the **PGS APPLICATION FORM** serves as a checklist to review the steps in the process.

I. Presenting the case to SAOSO

When the PGS is presented to SAOSO the following shall be made available:

- The PGS Group Application Form
- The PGS Assessment Form
- c. The PGS Manual or similar
 - The signed license agreement