THAI AGRICULTURAL STANDARD

TAS 9000-2003

ORGANIC AGRICULTURE

PART 1: THE PRODUCTION, PROCESSING, LABELLING AND MARKETING OF ORGANIC AGRICULTURE

National Bureau of Agricultural Commodity and Food Standards
Ministry of Agriculture and Cooperatives

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Part 1: The Production, Processing, Labelling and Marketing of Organic Agriculture

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Thailand is the world major food producer and exporter. It has high potential to conduct a production of organic produce and products, which are highly demanded by consumers who take into consideration their health and safety in food consumption as well as the preservation of environment.

Therefore, it is deemed necessary for the Ministry of Agriculture and Cooperatives to establish a standard on organic agriculture that includes organic production systems for plants and products and for aquaculture.

The establishment of this standard is based on the following documents:

FAO/WHO. 2001 Guidelines for the Production, Processing, Labeling and Marketing of Organically Produced Foods; GL 32-1999, Rev.1-2001. Joint FAO/WHO Food Standards Programme, Rome, 2001.

Department of Agriculture. B.E. 2543 (2000). Thai Standards for Organic Crop Production. Ministry of Agriculture and Cooperatives.

Department of Fisheries. B.E. 2545 (2002). Thai Standards for Organic Aquaculture. Ministry of Agriculture and Cooperatives.

Office of Organic Agriculture Certification Thailand (ACT). B.E. 2544 (2001) Organic Agriculture Standards.

Panyakul, Vitoon. B.E. 2532 (1989). Basic Organic Agriculture Standards of the IFOAM (International Federation of Organic Agriculture Movements). Natural Food Cooperative. Bangkok, 22 p.

***Remark*:**

The standard title has been revised from “Thai Agricultural Commodity and Food Standard (TACFS)” to “Thai Agricultural Standard (TAS)” in accordance with the enforcement of the Agricultural Standards Act B.E. 2551 (2008).

NOTIFICATION OF THE NATIONAL COMMITTEE ON AGRICULTURAL COMMODITY AND FOOD STANDARDS
SUBJECT: THAI AGRICULTURAL COMMODITY AND FOOD STANDARD: ORGANIC AGRICULTURE
PART 1: THE PRODUCTION, PROCESSING, LABELLING AND MARKETING OF ORGANIC AGRICULTURE
B.E.2546 (2003)

Whereas it is deemed appropriate to establish the Thai Agricultural Commodity and Food Standard on Organic Agriculture: Part 1: The Production, Processing, Labelling and Marketing of Organic Agriculture, for the benefit of quality improvement, trade facilitation and consumer protection, the National Committee on Agricultural Commodity and Food Standard issues the Notification on Thai Commodity and Food Standard entitled Organic Agriculture: Part 1: The Production, Processing, Labelling and Marketing of Organic Agriculture, for application as voluntary standard, the details of which are attached herewith.

Notified on 21 May B.E.2546 (2003)

Sora-at Klinpratoom

Minister of Agriculture and Cooperatives
Chairperson of the National Committee on Agricultural Commodity and Food Standards

THAI AGRICULTURAL STANDARD

ORGANIC AGRICULTURE
PART 1: THE PRODUCTION, PROCESSING, LABELLING AND MARKETING OF ORGANIC AGRICULTURE

1 SCOPE

1.1 This standard has been established for the purpose of providing the requirements which underpin production of, processing of, the labelling and claims for, and marketing of organic produce and products.

1.2 This standard applies to produces and products that are used as food or feed, that have been produced in accordance with organic agricultural production systems for plant and plant products, livestock and livestock products and fish and fishery products. The organic production requirements for production and processing of organic livestock and its products shall follow the requirements which are established in the Thai Agricultural Commodity and Food Standard for Organic Agriculture Part 2: Organic Livestock (TAS 9000).

1.3 Produce and products which can be certified according to this standard shall also comply with the national regulations and laws relating to safety of food and feed.

2 DEFINITIONS

For the purpose of this standard:

2.1 **Organic agriculture** means a holistic production management system which promotes and enhances agroecosystem health, including biodiversity and biological cycles. It emphasizes the use of natural materials and avoids the use of synthetic materials and also plants, animals or microorganisms that are derived from using genetic modification or genetic engineering technique. An organic production system is designed to handle agricultural products with emphasis on careful processing methods in order to maintain the organic integrity and vital qualities of the product at all stages.

2.2 **Holistic** means placing emphasize upon all things and activities of the ecosystem.

2.3 **Synthetic chemicals** mean substances produced by chemical procedures and methods, so differing from substances from biological system that occur naturally.

2.4 **Genetic modification or Genetic engineering** means changing the genetics of living organisms in order to have new trait which is desirable by using modern biotechnology.

2.5 **Modern biotechnology** means the application of in vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or fusion of cells beyond the taxonomic family, that overcome natural physiological reproductive or recombinant barriers and that are not techniques used in traditional breeding and selection.

2.6 **Organic** means a labelling term that denotes agricultural products that have been produced in accordance with organic production standards and have been certified by a certification body which has been recognized by the Ministry of Agriculture and Cooperatives in order to market as food or feed.

2.7 **Transition to organic** means a term used to label or specify produce and products from crops, livestock, and aquaculture that are obtained through production and or processing in accordance with organic production methods and are marketed as food or feed that are in the transition period and have been certified by a certification body approved by the Ministry of Agriculture and Cooperatives.

2.8 **Transition period** means the period beginning when organic agriculture is first practiced through the time period specified according to this standard up until when the produce and products are qualified as certified organic.

2.9 **Labelling** means any written, printed or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal.

2.10 **Produce** means any agricultural or aquacultural produce that is produced according to the organic agricultural system or gathered from nature, and/ or having been handled with post-harvest management.

2.11 **Product** means products from the organic agricultural system that have been processed for use as food or feed.

2.12 **Producer/Farmer** means persons undertaking crop farming, livestock farming and aquaculture, and those taking care of harvesting, post-harvest managing, and selling produce.

2.13 **Operator** means those in charge of activities related to production, preparation, and importation of produce and products with the goal of distribution, or distributors themselves.

2.14 **Production** means the operations undertaken to supply agricultural products in the state in which they occur on the farm, including initial packaging and labelling of the product.

2.15 **Preparation** means the operations of slaughtering, processing, preserving and packaging of agricultural products and also alterations made to the labelling concerning the presentation of the organic production method.

2.16 **Livestock** means any domestic or domesticated animal raised for food or in the production of food. The products of hunting or fishing of wild animals and aquatic animal shall not be considered part of this definition.

2.17 **Aquatic anima**l means animals that live in the water, or spend part of their lives living in water, or live in areas flooded by water, for example; fish, shrimp, crabs, horseshoe crabs, shellfish, turtles, frogs, sea turtles, crocodiles, and the eggs of these animals; mammals, sea cucumbers, sea sponges, coral, sea fans, and seaweed; the remains or parts of these water animals. The meaning also includes water plant species as specified by royal decree (Fisheries Act).

2.18 **Fertilizer Material** means substances that are composed of the minerals: nitrogen, phosphorus, potassium, and other substances that are the nutrients for plants and aquatic animal, either as separate substances or mixed together.

2.19 **Organic Fertilizer** means fertilizers that are made from chopping up, grinding, fermentation, composting, sifting, or that have been made from organic material, biofertilizers, and not chemical fertilizers.

2.20 **Biofertilizer** means fertilizer made by using live microorganisms to enrich and improve soil naturally; through physical and biochemical processes; also including microorganism culture starter.

2.21 **Plant Amendment** means substances used to aid growth, increase fruiting, and control the quality and character of crops.

2.22 **Soil Amendment** means materials that help to improve the chemical composition, biological, and physical nature of the soil to make it suitable for healthy growth and the yield of high quality produce.

2.23 **Aquaculture Conditioning Material** means materials that help to improve the chemical, biological, and physical condition of ponds used for aquaculture to be suitable for the healthy growth of aquatic organisms and the yield of high quality produce.

2.24 **Food Additive** means any substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, or may be reasonably expected to result, (directly or indirectly) in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods. The term does not include “contaminants” or substances added to food for maintaining or improving nutritional qualities.

2.25 **Feed Additive** means materials that are not normally used as feed or that are feed ingredients whether or not they have nutritional value, but that are added to feed for their technological benefits in production, packaging, conservation, or transportation and therefore affecting the quality, standard, or appearance of the feed.

2.26 **Ingredient** means any substance, including a food additive, used in the manufacture or preparation of a food and present in the final product although possibly in a modified form.

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

2.28 **Certification** means the procedure by which official certification bodies, or certification bodies officially recognized by Ministry of Agriculture and Cooperatives, provide written or equivalent assurance that the produce/products or the control systems of produce/products conform to requirements of this standard.

2.29 **Certification Body** means a body which is responsible for verifying that a produce/product sold or labeled as "organic" is produced, processed, prepared, handled, and imported according to this standard. This body shall have been approved by the Ministry of Agriculture and Cooper**atives.**

2.30 **Verification** means activities and work procedures, to test, or assess, beyond the monitoring process, to check/ test compliance with the standards.

2.31 **Inspection** means the examination of produce/products or systems for control of produce/products, raw materials, processing, and distribution including in-process and finished product testing, in order to verify that they conform to the requirements. For organic food, inspection includes the examination of the production and processing system.

3 LABELLING AND CLAIMS

3.1 Organic produces and products shall not be described or presented on any label or in any labelling in a manner that is false, misleading or deceptive or is likely to create an erroneous impression regarding its character in any respect. The following information shall appear on the label of organic foods:

3.1.1 The name of the produce or product;

3.1.2 The list of ingredients except for single ingredient produce or product;

3.1.3 Food or feed additives (if any);

3.1.4 Net content and drained weight shall be declared. In the case that the product is packed in a liquid medium, it shall carry a declaration of drained weight of that product;

3.1.5 The name and address of the producer, manufacturer, packer or distributor shall be declared. The registered trademark shall also be declared;

3.1.6 The country of origin of the produce or product which is produced for export;

3.1.7 Date marking shall be declared. This shall consist of the day, the month and/or the year for production; and the day, the month and/or the year of minimum durability (expiration) for consumption. Notwithstanding an indication of date of minimum durability (expiration) shall not be required for fresh fruits and vegetables, potatoes which have not been peeled, cut or similarly treated; wines; beverages containing 10% or more by volume of alcohol; bakers or pastry-cooks wares; vinegar; food grade salt; and solid sugars. The month and the year of products may be declared when a minimum durability (expiration) of that products are more than 90 days; and

3.1.8 Storage instructions (if any).

3.2 The labelling or claims of a produce or product may refer to organic production methods only where:

3.2.1 The produce must come from organic agricultural system in accordance with the requirement of Section 4;

3.2.2 All the ingredients of agricultural origin of the product are, or are derived from, products obtained in accordance with the requirements of Section 4, or imported under the arrangements laid down in Section 7;

3.2.3 The product should not contain any ingredient of non-agricultural origin not listed in

Annex 2, Table 3 (3.1 – 3.7);

3.2.4 The same ingredients shall not be derived from an organic and non-organic origin;
3.2.5 The produce or the product was prepared or imported by an operator subject to the regular inspection system as set out in Section 6 of this standard;

3.2.6 The labelling refers to the name and/or the code number of the certification body to which the operator who has carried out the most recent preparation operation is subject.

3.3 By way of derogation from Section 3.2.2, certain ingredients of agricultural origin not satisfying the requirement in that section may be used, within the limit of maximum level of 5% m/m of the total ingredients excluding salt and water in the final product. Nevertheless these ingredients shall not have residues exceeding the levels allowed for food and feed under national law and shall conform to all other requirement in Section 3.2. The product or its ingredients have not been subject during preparation to treatments involving the use of genetic modification/genetic engineering techniques or ionizing radiation or processing aids not listed in Annex 2, Table 4.

3.4 The product containing ingredients of agricultural origin not satisfying the requirement in Section 3.2.2 more than 5% m/m but less than 30% m/m of the total ingredients excluding salt and water in the final product can not be labeled or claimed as an organic product. The labelling taking such indication with other form of words, such as “product containing ingredients of organic origin” might be accepted according to the following criteria:

3.4.1 Products shall comply with the requirements in Section 3.2.3-3.2.5;

3.4.2 The term shall appear on the label which is clearly visible and shall be declared the percentage of all ingredients including food additives but excluding salt and water.

3.4.3 The type and the amount of ingredients should only be indicated in the approximate percentage content by weight and shall be appeared in descending order.

3.4.4 Indicating list of all ingredients on the label by using the same color and with an identical style and size of lettering.

3.5 Labelling of produce or products as “Produce or products in transition to organic” may be done from the start of the organic production system during a period of 12 months for annual crops, or 18 months for perennial crops, or for one cycle for aquaculture production. This must be done following the regulations in Section 3.2 as well.

3.6 In relating to the labelling of non-retail containers of produce or product including repacked produce or product for retail sale, the operator shall allow the certification body to access to the storage, production and agricultural area as well as the accounting system of agricultural inputs, produces and products including supporting documents in order to inspection purposes. The operator shall provide the necessary information to the certification body for inspection.

3.7 The indication of any certification mark of organic produce or product shall be used in accordance with the criteria and rules of the certification body recognized by the Ministry of Agriculture and Cooperatives.

4 RULES OF PRODUCTION AND PREPARATION

4.1 Principles of Organic Production

Organic production methods are consistent with the following principles:

4.1.1 The development of the production system towards an integrated agricultural system with a diversity of plants and animals;

4.1.2 The development of the production system on the farm to be self-sufficient in organic materials and crop nutrients;

4.1.3 The rehabilitation and preservation of soil fertility and water quality with organic material such as manure, compost, and green manure, as appropriate, and through cycling use of on-farm resources for maximum benefit;

4.1.4 The preservation of the ecological balance in the farm and the sustainability of the ecology as a whole;

4.1.5 The prevention and avoidance of activities that cause environmental pollution;

4.1.6 The maintenance of the principles for post-harvesting and processing practices, being natural methods, conserving energy, and with the least negative impact on the environment;

4.1.7 The conservation of the biodiversity of the agricultural system and the surrounding ecology including the preservation of natural habitat for wild plants and animals;

4.1.8 Produce, products, and ingredients shall not be derived from genetic modification;

4.1.9 During the process of preparing products or ingredients of products, irradiatation shall not be permitted.

4.2 Requirements for Organic Production Methods

4.2.1 At least the production requirements of Annex 1 should be satisfied. The operation shall be recorded.

4.2.2 In the case where the production according to Annex 1 is not effective, substances listed in Annex 2, Tables 1 and 2 or substances approved by certification body that meet the criteria established in Section 5.1, may be used for pest and disease control for plants and aquaculture, as fertilizers or soil conditioners.

4.3 Requirements on Organic Processing Methods for the Preparation of Products

4.3.1 At least the processing requirements of Annex 1 should be satisfied.

4.3.2 Substances listed in Annex 2, Tables 3 and 4 or substances approved by certification body that meet the criteria established in Section 5.1 may be used as ingredients of non-agricultural origin or processing aids according to good manufacturing practice.

4.4 Requirements on Storage and transportation

Organic products should be stored and transported according to the requirements of Annex 1.

5 REQUIREMENTS ON PERMISSION OF OTHER SUBSTANCES NOT SPECIFIED IN ANNEX 2 IN ORGANIC AGRICULTURE PRODUCTION SYSTEM

5.1 In case that there is a need to use substances other than those specified in Annex 2, the criteria to evaluate these substances are as follows:

5.1.1 They are consistent with principles of organic production as outlined in Section 4.1;

5.1.2 The use of the substance is necessary/essential for its intended use;

5.1.3 The use and disposal of the substance does not result in, or contribute to, harmful effects on the environment;

5.1.4 They have no negative impact on human or animal health;

5.1.5 Approved alternatives are not available in sufficient quantity and/or quality.

5.2 The above criteria (5.1.1–5.1.5) are intended to be evaluated as a whole in order to protect the integrity of organic production. In addition, the following criteria are applied in the evaluation process.

5.2.1 If the substances are used for fertilizing or soil conditioning purposes, they are essential for obtaining or maintaining the fertility of the soil or to fulfill specific nutrient requirements of crops, or specific soil conditioning and rotation purposes which cannot be satisfied by the practices included in Annex 1, or other products included in Table 2 of Annex 2; and the ingredients will be of plant, animal, microbial, or mineral origin and may undergo the following processes: physical (e.g., mechanical, thermal), enzymatic and/or microbial. Their use for above purposes does not have a harmful impact on the balance of the soil ecosystem or the physical characteristics of the soil.

5.2.2 If the substances are used for controlling plant disease or pest and weed , they should be essential for the control of a harmful organism or a particular disease for which other biological, physical, or plant breeding alternatives and/or effective management practices are not available; and substances should be of plant, animal, microbial, or mineral origin and may undergo the physical (e.g. mechanical, thermal), enzymatic and/or microbial processes. In addition, chemically synthesized substances such as pheromones will be considered for addition to lists if the products are not available in sufficient quantities in their natural form, provided that the conditions for their use do not directly or indirectly result in the presence of residues of the product in the edible parts.

5.2.3 If the substances are used as food or feed additives or processing aids in the preparation or preservation of the food, these substances should be of natural origin and may have undergone mechanical/physical processes (e.g. extraction, precipitation), biological/enzymatic processes and microbial processes (e.g. fermentation) or, if these substances mentioned above are not available from such methods and technologies in sufficient quantities, then those substances that have been chemically synthesized may be considered for inclusion in exceptional circumstances. In addition, the consumer will not be deceived concerning the nature of the substance and quality of the food.

5.3 In the evaluation process of substances for inclusion on lists all stakeholders should have the opportunity to be involved.

5.4 The proposal to add new substances into Annex 2 should include the following

information/details:

5.4.1 Description of product and the conditions of its envisaged use;

5.4.2 Information demonstrating that the requirements under Section 5.1 are satisfied.

6 INSPECTION AND CERTIFICATION SYSTEMS

6.1 Inspection and certification systems are used to verify the production systems, processing, the labelling of, and claims for, organic product that produced in accordance with the organic production methods.

6.2 The inspection and certification bodies operated by government, private sector or non-governmental organization or can provide inspection and certification services under the accreditation system by the Ministry of Agriculture and Cooperatives

6.3 The inspection and certification bodies shall ensure that at least the inspection measures and other precautions specified in Annex 3 are applied in their systems.

7 IMPORTATION

7.1 Produces or products which are imported for sales can be labeled or claimed as an organic produce or product when it has been certified according to the requirements of this standard or any requirements that is equivalent to the requirements of this standard as described in 7.3 by a government authority of exporting country, or by a certification body approved by Ministry of Agriculture and Cooperatives.

7.2 The organic integrity of the produce or products shall be maintained after import through to the consumer. If imports of organic products are not in conformity with the requirements of these guidelines due to treatment required by national regulations for quarantine purposes that is not in conformity with this standard, such produce or products will loose their organic status.

7.3 An importer shall:

7.3.1 Require detailed information on the measures applied in the exporting country to enable it to make judgments and decisions on equivalency with its own rules provided that these rules of the importing country meet the requirements of this standards, and;

7.3.2 Arrange together with the exporting country for site visits to examine the rules of production and preparation, and the inspection/certification measures including production and preparation itself as applied in the exporting country.

ANNEX 1

ORGANIC PRODUCTION REQUIREMENTS

1 ORGANIC PRODUCTION REQUIREMENTS FOR PLANTS AND PLANT PRODUCTS

1.1 Organic production requirements for plants and plant products in this annex are used throughout the entire transition period of at least 12 months before planting for annual crops and 18 months before the first harvesting of organic produce for perennial crops.

1.2 In case where a whole farm is not converted to organic at one time, it may be done progressively. The holding must be split into units. The production area must be clearly separated from other any unit as well as produces from that area.

1.3 Areas in conversion as well as areas converted to organic production must not be changed back to chemicals, nor be changed back and forth conventional production using.

1.4 The fertility and biological activity of the soil should be maintained or increased, where appropriate, by:

1.4.1 Cultivation of legumes, green manures or deep-rooting plants in an appropriate multi-annual rotation programme;

1.4.2 Incorporation in the soil of organic material, composted or not, from holdings producing in accordance with this standard. By-products from livestock farming, such as farmyard manure, may be used if they come from livestock holdings producing in accordance with this standard. Substances, as specified in Annex 2, Table 1 may be applied only to the extent that adequate nutrition of the crop or soil conditioning are not possible by the methods set out in 1.4.1 and 1.4.2 above;

1.4.3 For compost activation, appropriate micro-organisms or plant-based preparations may be used;

1.4.4 Biodynamic preparations from stone meal, farmyard manure or plants may also be used for the purpose covered by maintenance or increasing of the fertility and biological activity of the soil;

1.5 Pests, diseases and weeds should be controlled by any one, or a combination, of the following measures:

1.5.1 Choice of appropriate species and varieties;

1.5.2 Appropriate rotation programs;-

1.5.3 Mechanical cultivation;

1.5.4 Conservation of natural enemies of pests through provision of favourable habitat, such as hedges and nesting sites, ecological buffer zones which maintain the original vegetation to house pest predators;

1.5.5 Maintain the ecosystems, for example, by making strip to prevent soil erosion, and through use of crop rotation;

1.5.6 Use of natural enemies including release of predators and parasites;

1.5.7 Use of biodynamic preparations from crushed rock manure or plant materials;

1.5.8 Mulching and mowing;

1.5.9 Grazing of animals;

1.5.10 Mechanical controls such as traps, light traps or use of sound to drive away pests;

1.6 Only in cases of imminent or serious threat to the crop and where the measures identified in Section 1.5 above are, or would not be effective, the substances in Annex 2 may be considered for use.-

1.7 Seeds and vegetative reproductive material must come from organic agriculture plant that meets the requirements of Section 4.2 of this standard. An exception can be granted where an operator can demonstrate that material satisfying the requirements is not available, and then material coming from conventional sources may be allowed.

1.8 Edible plants and parts of plants collected from nature and forests is considered an organic produce provided that:

1.8.1 The produce is from a clearly defined area in the case of wild harvest, that is subject to the inspection/certification measures;

1.8.2 The collection does not damage the stability of the environment, the ecology or the conservation of the species in the collection area.

2 ORGANIC PRODUCTION REQUIREMENTS FOR AQUACULTURE PRODUCE AND PRODUCTS

2.1 The following requirements for organic aquaculture production are to be used in aquaculture production with the transition period of at least one aquaculture production cycle. The transition period may be different upon the type of organism and other information such as the prior history of land use, as approved by certification body.

2.2 Selection of an area for organic aquaculture production

2.2.1 The producer/ farmer should know the history of prior use of the area in order to assess the risk of pesticide residues and other contaminants.

2.2.2 The land area must have the legal right of ownership.

2.2.3 The water and land environment must not pose a risk of contaminating produce with pesticides and contaminants.

2.3 Choice of species of aquatic organism to raise

2.3.1 It is prohibited to use species developed through genetic modification or exposed to radiation.

2.3.2 The species to be raised should come from organic aquaculture production system.

2.3.3 The appropriateness of breeds to the condition of water, climate, disease resistance, and the avoidance of damage to the biological diversity of the ecological system should be taken into consideration.

2.4 Planning, management, and improvement of an organic aquaculture farm should follow the following criteria:

2.4.1 There should be a good system for planning and management to avoid environmental contamination and damage.

2.4.2 Farm planning and management of aquaculture system may be done by the use of pest and disease resistance breeds, and selecting the suitable season and system of aquaculture. This includes selecting of materials and tools in complement with the principles of organic aquaculture in all steps of practice, from preparing pond to harvesting. All steps of aquaculture farm management must be aiming at the use of organic and natural materials that are free from contamination of prohibited substances according to this standard.

2.4.3 A list of substances below are prohibited from use in farm management:
2.4.3.1 Microorganisms and products from microorganisms that have been genetically modified
2.4.3.2 Natural contaminants or toxins, such as heavy metals, which have adverse impact on environment and human health
2.4.3.3 Municipal fertilizer or compost from municipal waste
2.4.3.4 Synthetic substances used to stimulate growth

2.4.4 Organic substances and inorganic substances that are allowed to be used in the production system are listed in Annex 2.

2.5 Feed for organic aquaculture production.

2.5.1 Feed allowed in organic aquaculture can be categorized into two types; natural feed, and artificial pellet.
2.5.1.1 Natural feed refers to living animals and plants found in the water of the area for organic aquaculture, and therefore be directly fed upon by the organic organisms. Natural feed also includes parts of plants and animals obtained from agriculture, livestock, and fishing from different areas that can be used as feed for the organic aquatic organisms.
2.5.1.2 Artificial pellet refers to artificial pellet in accordance with the Feed Quality Control Act B.E. 2525 (1982).

2.5.2 Feed used in organic aquaculture should have the following properties:
2.5.2.1 Ingredients should be either of natural or organic agricultural origin. However, during the production period for organic aquaculture there may be a time when there is insufficient in feed of natural or organic agricultural origin. Certification body may allow feed with ingredients not complying with this requirement, but having ingredients that comply with this requirement not less than 60%.
2.5.2.2 When the operator is able to demonstrate to the certification body that there is no feed in complying with Section 2.5.2.1 which may be due to factors such as; natural disaster, human-caused conditions, or weather conditions that are unforeseen, the certification body may allow a quantity of feed that does not comply with Section 2.5.2.1 in a quantity less than 60% during a limited period of time.
2.5.2.3 For feed materials obtained from natural, consideration should be taken for catching or collecting in a responsible manner to minimize negative impact on the environment.

2.5.2.4 At least 50% of the aquatic animal protein in a diet should be from by-products or other materials not suitable for human consumption.
2.5.2.5 It shall be taken into consideration the appropriate proportions and safety of the raw materials used in the feed mixture.
2.5.2.6 Vitamins and minerals to be mixed into the feed should be substances of natural origin. The use of synthetic vitamins and minerals shall be approved by the certification body or the relevant government body.
2.5.2.7 Substances and materials below are prohibited from uses in aquaculture feed:

(i) Chemical of the β-agonist group;
(ii) chloramphenicol, furazolindone, avoparcin, and nitrofurazone;
(iii) Urea;
(iv) pure amino acids;
(v) synthetic appetizers;
(vi) substances or produce that have been genetically modified;
(vii) synthetic food colorings;
(viii) substances or materials prohibited from uses in fish feed regulated under Feed Quality Control Act.

2.6 Management plan for aquatic animal health

2.6.1 The aquatic animal shall be stocked at an appropriate rate

2.6.2 Where necessary, use of natural substances and materials listed in Annex 2 table 2.2 are allowed.

2.7 Management after catching/ harvesting

2.7.1 Substances used in the post-harvest processes, such as for preserving or processing of fresh seafood shall be substances of natural origin except for the synthetic chemical substances listed in Annex 2.

2.7.2 Tools, equipment and materials used in packaging should not harm the environment.

2.7.3 Maintain a record system for harvests that allows traceability.

3 ORGANIC PRODUCTION REQUIREMENTS FOR LIVESTOCK AND LIVESTOCK PRODUCTS

Production requirements of organic produce and products from livestock are explained in Thai Agriculture Standard on Organic Agriculture Part 2: Organic Livestocks.

4 HANDLING, STORAGE, TRANSPORTATION, PROCESSING AND PACKAGING

4.1 The organic integrity of the produce or product must be maintained throughout all steps in the production and processing chain. This is achieved by the use of techniques appropriate to the specifics of the ingredients with care taken as to the processing methods, limiting the use of food additives and processing aids. Ionizing radiation should not be used on organic products for the purpose of pest control, food preservation, elimination of pathogens or sanitation.

4.2 PEST MANAGEMENT

For pest management and control, the following measures should be used:

4.2.1 Preventative methods, such as disruption and elimination of habitat and access to facilities by pest organisms, should be the primary mean of pest management;

4.2.2 If preventative methods are inadequate, the first choice for pest control should be mechanical/physical and biological methods;-

4.2.3 If mechanical/physical and biological methods are inadequate for pest control, pesticide substances appearing in Annex 2 table 2 (or other substances allowed for use by a competent authority in accordance with Section 5) may be used provided that contact with organic products is prevented.

4.2.4 Pests should be avoided by good manufacturing practice. Pest control measures within storage areas or transport containers may include physical barriers or other treatments such as sound, ultra-sound, light, ultra-violet light, traps (pheromone traps and static bait traps) controlled temperature, controlled atmosphere (carbon dioxide, oxygen, nitrogen), and diatomaceous earth.

4.2.5 Use of pesticides not listed in Annex 2 for post harvest or quarantine purposes should not be permitted on products prepared in accordance with this standard and would cause organically produced products to lose their organic status.

4.3 PROCESSING AND MANUFACTURING

4.3.1 Processing methods should be mechanical, physical or biological methods (such as fermentation and smoking) and minimize the use of non-agricultural ingredients and processing aids as listed in Annex 2, Tables 3 and 4.

4.3.2 Processing methods should be managed by follow up the principles and good manufacturing practices in accordance with the requirements of good hygienic practices in relevant standards.

4.4 PACKAGING

Packaging materials should preferably be chosen from bio-degradable, recycled or recyclable sources.

4.5 STORAGE AND TRANSPORT

4.5.1 The organic integrity of the produce or product should be maintained during any storage, transportation and handling by using of the following precautions:
4.5.1.1 Organic products shall be protected at all times from co-mingling with non-organic products; and
4.5.1.2 Organic products shall be protected at all times from contact with materials and substances not permitted for use in organic farming and handling.

4.5.2 Where only part of the unit is certified, other product not covered by these guidelines should be stored and handled separately and both types of products should be clearly identified.

ANNEX 2

PERMITTED SUBSTANCES FOR THE PRODUCTION OF ORGANIC AGRICULTURE

1 PRECAUTION

1.1 Any substances used in an organic system for soil fertilization and conditioning the improvement of aquaculture pond condition, pest and disease control, for the health and quality of livestock and aquatic organism , or for preparation, preservation and storage of the food product shall comply with the national regulations and regulations of trading partners.

1.2 Conditions for use of certain substances contained in the following lists may be specified by the certification body or authority, e.g. quantity and frequency of use for, specific purpose.

1.3 Where substances are required for primary production they should be used with care and with the knowledge that even permitted substances may be subject to misuse and may alter the ecosystem of the soil or farm.

1.4 The following lists in table 1 to 5 are lists of permitted substances for the production of organic agriculture. The addition or removal from the list might be done subject to approval by certification body in accordance with the principles specified in Section 5 of this standard.

Table 1 Agricultural inputs to be used as fertilizers and soil conditioners and aquaculture pond conditioners

Table 1.1 Agricultural inputs to be used as fertilizers and soil conditioners.

Substance	Details/ specific conditions
1.Farmyard and poultry manure	- If not from organic sources, need recognized by certification body or government authority
2. Slurry or urine	- If not from organic sources, need recognized by inspection body, preferably after controlled fermentation and/or appropriate dilution. Factory farming sources not permitted.-
3.Composted animal excrements, including poultry	- Need recognized by certification body or government authority
4.Manure and composted farmyard manure	- Factory farming sources not permitted.
5. Dried farmyard manure and dehydrated poultry manure	- Need recognized by certification body or government authority. “Factory” farming sources not permitted.
6. Fertilizers from nature (Fish fertilizer, bird guano, bat guano)	- Need recognized by certification body or government authority
7. Rice straw	- Need recognized by certification body or government authority
8. Compost from mushroom substrate	- Need recognized by the certification body or authority. The initial composition of the substrate must be limited to the products on this list
9. Compost of organic materials from household refuse	- Need recognized by certification body or government authority
10. Compost from plant residues	---
11. Processed animal products from slaughterhouses and fish industries	- Shall not use synthetic chemical substances and need recognized by certification body or government authority-
12. By-products of food and textile industries	- Must not use synthetic chemical substances and need recognized by certification body or government authority-
13. Seaweed and seaweed products	- Need recognized by certification body or government authority
14. Sawdust, bark, and wood waste	- Need recognized by certification body or government authority
15. Wood ash	- Need recognized by certification body or government authority
16. Natural phosphate rock	- Need recognized by certification body or government authority - Cadmium must not exceed 90mg/kg.P_2O_5
17. Basic Slag	- Need recognized by certification body or government authority
18. Rock potash and mined mineral salts (e.g. kainite, sylvinite)	- Must have less than 60% chlorine

Substance	Details/ specific conditions
19. Sulphate of potash (e.g. patenkali)	- Must be obtained by physical procedures but not enriched by chemical processes to increase its solubility - Need recognized by certification body or government authority
20. Calcium carbonate of natural origin (e.g. chalk, marl, limestone, phosphate chalk)	---
21. Magnesium Rock	---
22. Calcareous magnesium rock	---
23. Epsom Salt (magnesium sulphate)	---
24. Gypsum (calcium sulphate)	---
25. Stillage and stillage extract	- Ammonium stillage excluded
26. Sodium Chloride	- Only mined salt
27. Aluminum calcium phosphate	- Cadmium not exceed 90mg/kg of P_2O_5
28. Trace elements (e.g. boron, copper, manganese, molybdenum, zinc)	- Need recognized by certification body or government authority
29. Sulphur	- Need recognized by certification body or government authority
30. Stone meal	---
31. Clay (e.g. bentonite, perlite, zeolite)	---
32. Naturally occurring biological organisms (e.g. worms)	---
33. Vermiculite	---
34. Peat	- Excluding synthetic additives permitted for seed, potting module composts - Other uses as recognized by certification body or government authority
35. Humus from earthworms and insects	---
36. Zeolites	---
37. Wood charcoal	---
38. Chloride of lime	- Need recognized by certification body or government authority
39. By-products of the sugar industry	- Need recognized by certification body or government authority
40. By-products of industries processing ingredients from organic agriculture	- Need recognized by certification body or government authority
41. By-products from oil palm, coconut, and cocoa	- Need recognized by certification body or government authority
42. Human excrements	- Need recognized by certification body or government authority - It should be fermented before use, where applicable; and is not applied to crops intended for human consumption.

Table 1.2 Agricultural inputs used for fertilizers and conditioners of aquaculture pond

Substance	Details/ specific conditions
1. Lists of permitted organic substances	
1.1 Organic fertilizer made from organic materials; compost of crop residues, straw, sawdust, bark, wood waste, and other agricultural by-products 1.2 Manure	- If it is not from organic sources, need recognized by certification body or government authority - If inorganic substances are added to provide plant nutrients such as phosphate rock, then these substances must be permitted. - If it is not from organic sources, need recognized by certification body or government authority
1.3 Green manure, fresh crop residues and residual material of organic nature used in the farm	- If it is not from organic sources, need recognized by certification body or government authority
1.4 Leftover products from slaughterhouses and industries such as sugar factories, tapioca factories, and fish sauce factories	- Must not add synthetic substances and need recognized by certification body or government authority
1.5 Growth control substances for aquatic organisms, those free from synthetic substances	- If it is not from organic sources, need recognized by certification body or government authority
1.6 Bacteria, molds, and enzymes	- If it is not from organic sources, need recognized by certification body or government authority
2. Lists of permitted inorganic substances	---
2.1 Phosphate rock	---
2.2 Ground limestone (In calcite or dolomite form, it is prohibited to use baked dolomite)	---
2.3 Calcium silicate	---
2.4 Sodium silicate	---
2.5 Magnesium sulfate	---
2.6 Clay minerals such as smectite, kaolinite, chlorite, etc	---
2.7 Perlite, zeolite, and bentonite	---
2.8 Rock potash, mined, potassium salt with less than 60% chloride	---
2.9 Calcium from seaweed	---
2.10 Seashells	---
2.11 Potassium sulphate produced by physical processes	---
2.12 Mined salt	---
2.13 Oxygen	---

Table 2 Substances for plant and animal pest and disease control

Table 2.1 Substances for plant pest and disease control

Substance	Details/ specific conditions
1. Plant and Animal	
1.1 Preparations on basis of pyrethrins extracted from *Chrysanthemum cinerariaefolium*	- Need recognized by certification body or government authority
1.2 Preparations of rotenone or active substance from *Derris elliptica, Lonchocarpus, Thephrosia spp*.	- Need recognized by certification body or government authority
1.3 Preparations of *Quassia amara*	- Need recognized by certification body or government authority
1.4 Preparations of *Ryania speciosa*	- Need recognized by certification body or government authority
1.5 Preparation/products of Neem or Azadirachtin from *Azaditachta spp.*	- Need recognized by certification body or government authority
1.6 Propolis	- Need recognized by certification body or government authority
1.7 Plant and animal oils	- ---
1.8 Seaweed, seaweed meal, seaweed extracts, sea salts and salty water	- Not chemically treated
1.9 Gelatin	- ---
1.10 Lecithin	- Need recognized by certification body or government authority
1.11 Casein	- ---
1.12 Natural acids (e.g. vinegar)	- Need recognized by certification body or government authority
1.13 Fermented product from Aspergillus	- ---
1.14 Extract from mushroom (shiitake fungus)	- ---
1.15 Extract from Chlorella	- ---
1.16 Natural plant preparations, excluding tobacco	- Need recognized by certification body or government authority
1.17 Tobacco tea (except pure nicotine)	- Need recognized by certification body or government authority
2. Mineral	
2.1 Inorganic copper compounds (Bordeaux mixture, copper hydroxide, copper oxychloride)	- Need recognized by certification body or government authority
2.2 Burgundy mixture	- Need recognized by certification body or government authority
2.3 Copper salts	- Need recognized by certification body or government authority
2.4 Sulphur	- Need recognized by certification body or government authority

Substance	Details/ specific conditions
2.5 Mineral powders (stone meal, silicates)	- ---
2.6 Diatomaceous earth	- Need recognized by certification body or government authority
2.7 Silicates, clay (bentonite)	- ---
2.8 Sodium silicate	- ---
2.9 Sodium bicarbonate	- ---
2.10 Potassium permanganate	- Need recognized by certification body or government authority
2.11 Paraffin oil	- Need recognized by certification body or government authority
3. Microorganisms used for biological pest controls	-
3.1 Microorganism (bacteria, viruses, fungi) e.g. *Bacillus thuringiensis*, Granulosis virus, etc,	- Need recognized by certification body or government authority
4. Others	
4.1 Carbon dioxide and nitrogen gas	- Need recognized by certification body or government authority
4.2 Potassium soap (soft soap)	- ---
4.3 Ethyl alcohol	- Need recognized by certification body or government authority
4.4 Homeopathic and Ayurvedic preparations	- ---
4.5 Herbal and biodynamic preparations	- ---
4.6 Sterilized insect males	- Need recognized by certification body or government authority
5. Traps	
5.1 Pheromone preparations	- ---
5.2 Preparations on the basis of metaldehyde applied in traps	- Need recognized by certification body or government authority

Table 2.2 Substances for pest and disease control for aquaculture

Substances	Details/ specific conditions
1. Tea meal	---
2. Rotenone	---
3. Potassium permanganate	- Allowed only in the hatching stage and with the advise of a fishery biologist or a veterinarian
4. Hydrogen peroxide	- Allowed only in the hatching stage and with the advise of a fishery biologist or a veterinarian
5. Povidone iodine	- Allowed only in the hatching stage and with the advise of a fishery biologist or a veterinarian
6. Copper sulfate	

Substances	Details/ specific conditions
7. Benzalkonium chloride	
8. Chlorine	
9. Antibiotics	- Use only in case that the aquatic organisms have a serious infection and under the control of a fishery biologist or veterinarian

Table 3 Ingredients of non-agricultural origin referred to in Section 3 of these standards

3.1 Food additives, including carriers for plant products

INS*	Substance	Details/ specific conditions
170	Calcium carbonates	---
220	Sulfur dioxide	- For wine products
270	Lactic acid	-For fermented vegetable products
290	Carbon dioxide	---
296	Malic acid	---
300	Ascorbic acid	- If not available in natural form
306	Tocopherols, mixed natural concentrates	---
322	Lecithin	- Obtained without the use of bleaches and organic solvents
330	Citric acid	-For fruit and vegetable products
335	Sodium tartrate	-For cakes, desserts and confectionery
336	Potassium tartrate	-For cakes, desserts and confectionery
400	Alginic acid	---
401	Sodium alginic	---
402	Potassium alginic	---
406	Agar	---
407	Carrageenan	---
410	Locust bean gum	---

INS*	Substance	Details/ specific conditions
412	Guar gum	---
413	Tragacanth gum	---
414	Gum arabic	- For milk, fat, and confectionary products
415	Xantan gum	- For fat products, fruit and vegetables, cakes, biscuits, and salads
416	Karaya gum	---
440	Pectins	---
500	Sodium carbonates (unmodified)	- For cakes, biscuits, and confectionary
501	Potassium carbonates	- For cereals/ cakes & biscuits/ desserts and confectionery
503	Ammonium carbonates	---
504	Magnesium carbonates	---
508	Potassium chloride	- For frozen fruit and vegetables/ canned fruit and vegetables vegetable sauces/ tomato sauce and mustard
511	Magnesium chloride	- For soybean products
516	Calcium sulphate	-For cakes & biscuits, soybean products/ bakers yeast
524	Sodium hydroxide	-For cereal products
938	Argon	-----
941	Nitrogen	-----
948	Oxygen	-----

*INS = International Numbering System

3.2 FLAVORINGS

Substances and products labeled as natural flavoring substances or natural flavoring preparations can be used in accordance with national legislation.

3.3 WATER AND SALTS

3.3.1 Drinking water

3.3.2 Salts with sodium chloride or potassium chloride as basic components generally used

in food processing.

3.4 PREPARATIONS FROM MICROORGANISMS AND ENZYMES

Any preparations of microorganisms and enzymes normally used in food processing, with the exception of genetically modified/engineered microorganisms or enzymes derived from genetic engineering

3.5 MINERALS INCLUDING TRACE ELEMENTS, VITAMINS, ESSENTIAL FATTY AND AMINO ACIDS, AND OTHER NITROGEN COMPOUNDS.

Only approved in so far as their used is legally required in the food products in which they are incorporated.

3.6 SUBSTANCES USED FOR PROCESSED SEAFOOD PRODUCTS

INS	Substance
509	Calcium chloride
526	Calcium hydroxide
170	Calcium carbonate
516	Calcium sulfate
500	Sodium carbonate
503	Ammonium carbonate
504	Magnesium carbonate
508	Potassium chloride
511	Magnesium chloride
220	Sulfur Dioxide
338	Phosphoric acid
300	
301, 303	Ascorbic acid, Sodium ascorbate, Potassium ascorbate (sodium and potassium salts)
304	Tartaric acid and salts
270	Lactic acid
296	Malic acid
330	Citric acid and salts
260	Acetic acid
181	Tannic acid
	Sodium hydroxide
	Potassium hydroxide
	Carbon dioxide
	Argon
	Nitrogen
	Oxygen
	Hydrogen peroxide
	Gelatin
	Casein
	Aluminum- free leavening agent

3.7 SUBSTANCES USED FOR PROCESSED LIVESTOCK AND BEE PRODUCTS

INS	Substance	Details/ specific conditions
170	Calcium carbonates	- For milk products. Not as a coloring agent
270	Lactic acid	- For sausage casings
290	Carbon dioxide	---
322	Lecithin	- Obtained without the use of bleaches or organic solvents. Milk products and milk based infant formula, fat products and mayonnaise
406	Agar	---
407	Carrageenan	- For milk products
410	Locust bean gum	For milk products/ meat products
412	Guar gum	For milk products/ canned meat/ egg products
413	Tragacanth gum	---
440	Pectin, unmodified	- For milk products
509	Calcium chloride	For milk products/ meat products
938	Argon	---
941	Nitrogen	---
948	Oxygen	---

Table 4 Processing aids which may be used for the preparation of products of agricultural origin, referred to Section 3 of this standard

4.1 FOR PLANT PRODUCTS

Substance	Details/ specific conditions
Calcium chloride	- Coagulation agent
Calcium carbonate	---
Calcium hydroxide	---
Calcium sulphate	- Coagulation agent
Magnesium chloride or nigari	- Coagulation agent
Potassium carbonate	- Drying of grape raisins
Carbon dioxide	---
Nitrogen	---
Ethanol	- Solvent
Tannic acid	- Filtration aid
Egg white albumin	---
Casein	---
Gelatine	---
Isinglass	---
Vegetable oils	- Greasing or releasing agent
Silicon Dioxide	- As gel or colloidal solution
Activated Carbon	---
Talc	---
Bentonite clay	---
Kaolin	---
Diatomaceous earth	---
Perlite	---

Substance	Details/ specific conditions
Hazelnut shells	---
Beeswax	- Releasing agent
Sulphuric acid	- pH adjustment of extraction water in sugar production
Sodium hydroxide	- pH adjustment in sugar production
Tartaric acid and salts	- ---
Sodium carbonate	- Sugar production
Preparations of bark components	- ---
Potassium hydroxide	pH adjustment in sugar production
Citric acid	pH adjustment in sugar production

4.2 PREPARATIONS OF MICROORGANISMS AND ENZYMES

Any preparations of microorganisms and enzymes normally used as processing aids in food processing, with the exception of genetically modified microorganisms or enzymes derived from genetic engineering

4.3 SUBSTANCES FOR THE PURPOSES OF PROCESSING LIVESTOCK AND BEE PRODUCTS

INS	Substance	Details/ specific conditions
170i	Calcium carbonate	---
509	Calcium chloride	- Firming, coagulation agent in cheese making
559	Kaolin	- Extraction of propolis
270	Lactic acid	- Coagulation agent for milk products and pH regulation in cheese making
500i	Sodium carbonate	- Neutralizing substance for milk products

Table 5 Cleaning agents

Substance	Specific conditions
Jawel water	- Need recognized by certification body or government authority
Biodegradable detergents	- Need recognized by certification body or government authority
Vegetable and fruit vinegar	- Need recognized by certification body or government authority
Sodium bicarbonate	- Need recognized by certification body or government authority
Hydrogen peroxide	- Need recognized by certification body or government authority
Iodine	- Need recognized by certification body or government authority
Potassium permanganate solution	- Need recognized by certification body or government authority

Substance	Specific conditions
Alkali water	- Need recognized by certification body or government authority
Caustic potash	- Need recognized by certification body or government authority
Limestone	- Need recognized by certification body or government authority
Bleach up to 10%	- Need recognized by certification body or government authority
Phosphoric acid	- Need recognized by certification body or government authority

ANNEX 3

MINIMUM INSPECTION REQUIREMENTS AND PRECAUTIONARY MEASURES UNDER THE INSPECTION AND CERTIFICATION SYSTEM

1 INSPECTION MEASURES

Inspection measures are necessary across the whole of the food chain to verify product labeled according to Section 3 of this standard. The official or officially recognized certification body or authority and the competent authority should establish policies and procedures in accordance with this standard.

2 ACCESSIBILITY TO DOCUMENTATION

Access by the inspection body to all written and/or documentary records and to the establishment under the inspection scheme is essential. The operator under an inspection should also give access to the competent or designated authority and provide any necessary information for third party audit purposes.-

3 PRODUCTION UNITS

3.1. Production according to is standard should take place in a unit where the land parcels, production areas, farm buildings and storage facilities for crop and livestock are clearly separate from those of any other unit which does not produce according to these guidelines; preparation and/or packaging workshops may form part of the unit, where its activity is limited to preparation and packaging of its own agricultural produce.-

3.2. When the inspection arrangements are first implemented, the operator and the certification body or authority should draw up and sign a document which includes:

3.2.1. A full description of the unit and/or collection areas, showing the storage and production premises and land parcels and, where applicable, premises where certain preparation and/or packaging operations take place;-

3.2.2. , In the case of collection of wild plants, the guarantees given by third parties, if appropriate, which the producer can provide to ensure that the provisions of Annex 1 are satisfied;-

3.2.3. The appropriate measures to be taken at the level of the unit to ensure compliance with this standard;

3.2.4. The date of the last application on the land parcels and/or collection areas concerned of products the use of which is not compatible with Section 4 of this standard;

3.2.5. Operational activities undertaken by the operator in accordance with Sections 3 and 4 and to accept, in event of infringements, implementation of the measures as referred to in this standard;-

3.3. Each year, before the date indicated by the certification body or authority, the operator should notify the official or officially recognized certification body or authority of its schedule of production of crop products and livestock, giving a breakdown by land parcel/herd, flock or hive.-

3.4. The operator shall maintain a logbook and documented accounting system of production inputs, produce, and or products that allow the certification body to trace back to the source, type, and quantity of all raw materials purchased; and the use of those materials. In addition, the operator should keep documentation from the receivers of all produce and or products sold. This should be done as a daily account showing the quantity sold directly to consumers. If the operator has a processing unit, the accounting system shall include the information listed in section 4.2 of this Annex.

3.5. All livestock must be identified individually or, in the case of small mammals or poultry, by herd or flock or in the case of bees by hive. Written and/or documentary accounts should be kept to enable tracking of livestock and bee colonies within the system at all times and to provide adequate traceback for audit purpose. The operator should maintain detailed and up-to-date records of:-

3.5.1. Breeding and/or source of livestock;

3.5.2. Registration of any purchases;

3.5.3. The health plan to be used in the prevention and management of disease, injury and reproductive problems;

3.5.4. Treatments and medicines administered for any purpose, including quarantine periods and identification of treated animals or hives;

3.5.5. Feed provided and the source of the feedstuffs;

3.5.6. Stock movements within the unit and hive movements within designated forage areas as identified on maps;

3.5.7. Transportation, slaughter and/or sales.

3.5.8. Extraction, processing and storing of all bee products.

3.6. Storage of input substances, other than those whose use is with paragraph 4.2.2 of this standard is prohibited.

3.7. The certification body or authority should ensure that a full physical inspection is undertaken, at least once a year, of the unit. Samples for testing of products not listed in this standard may be taken where their use is suspected. An inspection report should be drawn up after each visit. Additional occasional unannounced visits should also be undertaken according to need or at random.

3.8. The operator shall allow the certification body or authority, for inspection purposes, access to the storage and production premises and to the parcels of land, as well as to the accounts and relevant supporting documents. The operator should also provide the inspection body with any information deemed necessary for the purposes of the inspection.

3.9. Organic produce or products referred to in Section 1 of these guidelines which are not in their packaging for the end consumer should be transported in a manner which should

prevent contamination or substitution of the content with substances or product not compatible with this standard and the following information:

3.9.1. The name and address of the person responsible for the production or preparation of the product;-

3.9.2. The name of the products and

3.9.3. Information stating that the produce or product is of organic status.

3.10. Where an operator runs several production units in the same area, including parallel cropping, all units should be subject to the inspection arrangement plants of visual indistinguishable varieties as those produced at the unit referred to in Section 3.1 above should not be produced at these units:

3.10.1. If derogations are allowed by the certification body or government authority, the authority shall specify the types of production and circumstances for which derogations are granted and the supplementary inspection requirements, such as unannounced site visits; extra inspections during harvest; additional documentary requirements; assessment of an operation's ability to prevent co-mingling-

3.11. In organic livestock production, all livestock on one and the same production unit shall be reared in accordance with the rules laid down in this standard. However, livestock not reared in accordance with this standard may be present on the organic holding provided that they are separated clearly from livestock produced in accordance with this standard. The competent authority can prescribe more restrictive measures, such as different species.

3.12. The government authority may allow livestocks raised in accordance with the provisions of this standard to be grazed in other land provided that:

3.12.1. This land has not been treated with substances other than those allowed in accordance with Section 4.2.1 and 4.2.2 of this standard, for at least three years;

3.12.2. A clear segregation between the animals reared in accordance with the provisions of this standard, and the other animals can be organized.

3.13. For livestock production, the government authority should ensure, that the inspections related to all stages of production and preparation up to the sale to the consumer ensure, as far as technically possible, the traceability of livestock and livestock products from the livestock production unit through processing and any other preparation until final packaging and/or labelling.

4. PREPARATION AND PACKAGING UNITS

4.1 The producer or operator should provide the following information:

4.1.1 A full description of the unit, showing the facilities used for the, preparation, packaging and storage of agricultural products before and after the operations concerning them;

4.1.2 All practical measures to be taken at the level of the unit to ensure compliance this standard;-

4.1.3 The description and the measures concerned should be signed by the person responsible for production and the certification body.

4.1.4 The report should include detail of actions undertaken by the operator to perform the operations in such a way as to comply with the rules in section 4 (Rules of Production and Preparation) of this standard, and report on the corrective action taken for deficiencies and non-conformance, and in cases of major non-conformance or deficiencies that cannot be rectified by corrective action to comply with these standards. This report shall be countersigned by both parties.

4.2 Written accounts should be kept enabling the certification body or authority to trace:

4.2.1 The origin, nature and quantities of agricultural products which have been delivered to the unit. The source, type, and quantity of organic produce and or products that have been sent to this unit;

4.2.2 The nature, quantities and consignees of products which have left the unit; The type, quantity, and person in charge for organic produce and or products that was sent from this production unit;

4.2.3 Other information such as the origin, nature and quantities of ingredients, additives and manufacturing aids delivered to the unit and the composition of processed products, that is required by the certification body or authority for the purposes of proper inspection of the operations.

4.3 In case that non-organic produce and product is brought-in for processing, packaging or storage in the related unit:

4.3.1 The unit should have separate areas within the premises for the storage of organic produce or products before and after the operations;

4.3.2 Operations should be continuously carried out until completion and ensure that there is separation by place or time from non-organic produce and product operations;

4.3.3 If such operations are not carried out frequently, they should be announced in advance, with a deadline agreed by the certification body or authority;

4.3.4 Measure should be taken to ensure identification of lots and to avoid mixtures with products not obtained in accordance with the requirements of this standard.

4.4 The certification body or government authority should ensure a full physical inspection, at least once a year, of the unit. Samples for testing of products not listed in these guidelines may be taken where their use is suspected. An inspection report shall be drawn up after each visit countersigned by the person responsible for the unit inspected. Additional occasional unannounced visits should also be undertaken as needed or at random.

4.5 The operator should provide the certification body or government authority, for inspection purposes, access to the unit and to written accounts and relevant supporting documents. This includes other documentation and information necessary for the inspection purposes.

4.6 The requirements in respect to the transport as laid down in item 3.8 of this Annex.

4.7 In the case of receiving organic produce or products the operator shall check the

followings:

4.7.1 The container, package or box is in a sealed condition (if required to be sealed);

4.7.2 There is the documentation as described in Section 3.8 of this Annex. The result of this verification shall be explicitly mentioned in the accounts referred to in Section 4.2. When there is any doubt that the product cannot be verified according to the production system provided for in Section 6 (Inspection and Certification System) of this standard, it shall not be claimed as organic production.