

GUIDELINES FOR THE PRODUCTION, PROCESSING, LABELLING AND MARKETING OF ORGANICALLY PRODUCED FOODS

GL 32-1999

PREFACE

The **Codex Alimentarius Commission** is an intergovernmental body with over 180 members, within the framework of the Joint Food Standards Programme established by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO), with the purpose of protecting the health of consumers and ensuring fair practices in the food trade. The Commission also promotes coordination of all food standards work undertaken by international governmental and non governmental organizations.

The Codex Alimentarius (Latin, meaning Food Law or Code) is the result of the Commission's work: a collection of internationally adopted food standards, guidelines, codes of practice and other recommendations. The texts in this publication are part of the Codex Alimentarius.

Food labelling is the primary means of communication between the producer and seller of food on one hand, and the purchaser and consumer of the other. The Codex Alimentarius standards and guidelines on food labelling are published in a specific volume: *Food Labelling – Complete Texts*. In addition to the general recommendations, the Codex Committee on Food Labelling also provides guidance for certain claims commonly found in the market in order to provide clear information to the consumer.

The Codex Committee on Food Labelling developed the *Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods* in view of the growing production and international trade in organically produced foods with a view to facilitating trade and preventing misleading claims. The *Guidelines* are intended to facilitate the harmonization of requirements for organic products at the international level, and may also provide assistance to governments wishing to establish national regulations in this area.

The *Guidelines* include general sections describing the organic production concept and the scope of the text; description and definitions; labelling and claims (including products in transition/conversion); rules of production and preparation, including criteria for the substances allowed in organic production; inspection and certification systems; and import control.

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FOREWORD

1. These guidelines have been prepared for the purpose of providing an agreed approach to the requirements which underpin production of, and the labelling and claims for, organically produced foods.
2. The aims of these guidelines are:
 - to protect consumers against deception and fraud in the market place and unsubstantiated product claims;
 - to protect producers of organic produce against misrepresentation of other agricultural produce as being organic;
 - to ensure that all stages of production, preparation, storage, transport and marketing are subject to inspection and comply with these guidelines;
 - to harmonize provisions for the production, certification, identification and labelling have organically grown produce;
 - to provide international guidelines for organic food control systems in order to facilitate recognition of national systems as equivalent for the purposes of imports; and
 - to maintain and enhance organic agricultural systems in each country so as to contribute to local and global preservation.
3. These guidelines are at this stage a first step into official international harmonization of the requirements for organic products in terms of production and marketing standards, inspection arrangements and labelling requirements. In this area the experience with the development of such requirements and their implementation is still very limited. Moreover, consumer perception on the organic production method may, in certain detailed but important provisions, differ from region to region in the world. Therefore, the following is recognized at this stage:
 - the guidelines are a useful instrument in assisting countries to develop national regimes regulating production, marketing and labelling of organic foods;
 - the guidelines need regular improvement and updating in order to take into account technical progress and the experience with their implementation;
 - the guidelines do not prejudice the implementation of more restrictive arrangements and more detailed rules by member countries in order to maintain consumer credibility and prevent fraudulent practices, and to apply such rules to products from other countries on the basis of equivalency to such more restrictive provisions.
4. These guidelines set out the principles of organic production at farm, preparation, storage, transport, labelling and marketing stages, and provides an indication of accepted permitted inputs for soil fertilizing and conditioning, plant pest and disease control and, food additives and processing aids. For labelling purposes, the use of terms inferring that organic production methods have been used are restricted to products derived from operators under the supervision of a certification body or authority.
5. Organic agriculture is one among the broad spectrum of methodologies which are supportive of the environment. Organic production systems are based on specific and precise standards of production which aim at achieving optimal agroecosystems which are socially, ecologically and economically sustainable. Terms such as "biological" and "ecological" are also used in an effort to describe the organic system more clearly. Requirements for organically produced foods differ from those for other agricultural products in that production procedures are an intrinsic part of the identification and labelling of, and claim for, such products.
6. "Organic" is a labelling term that denotes products that have been produced in accordance with organic production standards and certified by a duly constituted certification body or authority. Organic agriculture is based on minimizing the use of external inputs, avoiding the use of synthetic fertilizers and pesticides. Organic agriculture practices cannot ensure that products are completely free of residues, due to general environmental pollution. However, methods are used to minimize pollution of air, soil and water. Organic food handlers, processors and retailers adhere to standards to maintain the integrity of organic agriculture products. The primary goal of organic agriculture is to optimize the health and productivity of interdependent communities of soil life, plants, animals and people.

7. Organic agriculture is a holistic production management system which promotes and enhances agroecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, cultural, biological and mechanical methods, as opposed to using synthetic materials, to fulfil any specific function within the system. An organic production system is designed to:
 - a) enhance biological diversity within the whole system;
 - b) increase soil biological activity;
 - c) maintain long-term soil fertility;
 - d) recycle wastes of plant and animal origin in order to return nutrients to the land, thus minimizing the use of non-renewable resources;
 - e) rely on renewable resources in locally organized agricultural systems;
 - f) promote the healthy use of soil, water and air as well as minimize all forms of pollution thereto that may result from agricultural practices;
 - g) 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;
 - h) become established on any existing farm through a period of conversion, the appropriate length of which is determined by site-specific factors such as the history of the land, and type of crops and livestock to be produced.
8. The concept of close contact between the consumer and the producer is a long established practice. Greater market demand, the increasing economic interests in production, and the increasing distance between producer and consumer has stimulated the introduction of external control and certification procedures.
9. An integral component of certification is the inspection of the organic management system. Procedures for operator certification are based primarily on a yearly description of the agricultural enterprise as prepared by the operator in cooperation with the inspection body. Likewise, at the processing level, standards are also developed against which the processing operations and plant conditions can be inspected and verified. Where the inspection process is undertaken by the certification body or authority, there must be clear separation of the inspection and certification function. In order to maintain their integrity, certification bodies or authorities which certify the procedures of the operator should be independent of economic interests with regard to the certification of operators.
10. Apart from a small portion of agricultural commodities marketed directly from the farm to consumers, most products find their way to consumers via established trade channels. To minimize deceptive practices in the market place, specific measures are necessary to ensure that trade and processing enterprises can be audited effectively. Therefore, the regulation of a process, rather than a final product, demands responsible action by all involved parties.
11. Import requirements should be based on the principles of equivalency and transparency as set out in the *Principles for Food Import and Export Inspection and Certification*.¹ In accepting imports of organic products, countries would usually assess the inspection and certification procedures and the standards applied in the exporting country.
12. Recognizing that organic production systems continue to evolve and that organic principles and standards will continue to be developed under these guidelines, the Codex Committee on Food Labelling (CCFL) shall review these guidelines on a regular basis. The CCFL shall initiate this review process by inviting member governments and international organizations to make proposals to the CCFL regarding amendments to these guidelines prior to each CCFL meeting.

SECTION 1. SCOPE

- 1.1 These guidelines apply to the following products which carry, or are intended to carry, descriptive labelling referring to organic production methods:
 - a) unprocessed plants and plant products, livestock and livestock products to the extent that the principles of production and specific inspection rules for them are introduced in Annexes 1 and 3; and

¹ CAC/GL 20-1995.

- b) processed agricultural crop and livestock products² intended for human consumption derived from (a) above.
- 1.2 A product will be regarded as bearing indications referring to organic production methods where, in the labelling or claims, including advertising material or commercial documents, the product, or its ingredients, is described by the terms “organic”, “biodynamic”, “biological”, “ecological”, or words of similar intent including diminutives which, in the country where the product is placed on the market, suggests to the purchaser that the product or its ingredients were obtained according to organic production methods.
- 1.3 Paragraph 1.2 does not apply where these terms clearly have no connection with the method of production.
- 1.4 These guidelines apply without prejudice to other Codex Alimentarius Commission (CAC) provisions governing the production, preparation, marketing, labelling and inspection of the products specified in paragraph 1.1.
- 1.5 All materials and/or the products produced from genetically engineered/modified organisms (GEO/GMO) are not compatible with the principles of organic production (either the growing, manufacturing, or processing) and therefore are not accepted under these guidelines.

SECTION 2. DESCRIPTION AND DEFINITIONS

2.1 Description

Foods should only refer to organic production methods if they come from an organic farm system employing management practices which seek to nurture ecosystems which achieve sustainable productivity, and provide weed, pest and disease control through a diverse mix of mutually dependent life forms, recycling plant and animal residues, crop selection and rotation, water management, tillage and cultivation. Soil fertility is maintained and enhanced by a system which optimizes soil biological activity and the physical and mineral nature of the soil as the means to provide a balanced nutrient supply for plant and animal life as well as to conserve soil resources. Production should be sustainable with the recycling of plant nutrients as an essential part of the fertilizing strategy. Pest and disease management is attained by means of the encouragement of a balanced host/predator relationship, augmentation of beneficial insect populations, biological and cultural control and mechanical removal of pests and affected plant parts. The basis for organic livestock husbandry is the development of a harmonious relationship between land, plants and livestock, and respect for the physiological and behavioural needs of livestock. This is achieved by a combination of providing good quality organically grown feedstuffs, appropriate stocking rates, livestock husbandry systems appropriate to behavioural needs, and animal management practices that minimize stress and seek to promote animal health and welfare, prevent disease and avoid the use of chemical allopathic veterinary drugs (including antibiotics).

2.2 Definitions

For the purpose of these guidelines:

Agricultural product/product of agricultural origin means any product or commodity, raw or processed, that is marketed for human consumption (excluding water, salt and additives) or animal feed.

Audit is a systematic and functionally independent examination to determine whether activities and related results comply with planned objectives.³

Certification is the procedure by which official certification bodies, or officially recognized certification bodies, provide written or equivalent assurance that foods or food control systems conform to requirements. Certification of food may be, as appropriate, based on a range of inspection activities which may include continuous on-line inspection, auditing of quality assurance systems and examination of finished products.⁴

Certification body means a body which is responsible for verifying that a product sold or labelled as “organic” is produced, processed, prepared handled, and imported according to these guidelines.

Competent authority means the official government agency having jurisdiction.

Genetically engineered/modified organisms. The following provisional definition is provided for genetically/modified organisms.⁵ Genetically engineered/modified organisms, and products thereof, are

² Until lists of ingredients of non agricultural origin and processing aids permitted in the preparation of products of livestock origin are elaborated, competent authorities should develop their own lists.

³ CAC/GL 20-1995.

⁴ CAC/GL 20-1995.

⁵ In the absence of a definition of genetically engineered/modified organisms agreed by the Codex Alimentarius Commission, this definition has been developed in order to provide initial guidance for governments in the application of these guidelines. This definition is therefore to remain under review in the light of other considerations by the Commission and its Committees. In the interim, member countries may also apply national definitions.

produced through techniques in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination.

Techniques of genetic engineering/modification include, but are not limited to: recombinant DNA, cell fusion, micro and macro injection, encapsulation, gene deletion and doubling. Genetically engineered organisms will not include organisms resulting from techniques such as conjugation, transduction and hybridization.

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.⁶

Inspection is the examination of food or systems for control of food, raw materials, processing, and distribution including in-process and finished product testing, in order to verify that they conform to requirements.⁷ For organic food, inspection includes the examination of the production and processing system.

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.⁸

Livestock means any domestic or domesticated animal including bovine (including buffalo and bison), ovine, porcine, caprine, equine, poultry and bees raised for food or in the production of food.⁹ The products of hunting or fishing of wild animals shall not be considered part of this definition.

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

Official accreditation is the procedure by which a government agency having jurisdiction formally recognizes the competence of an inspection and/or certification body to provide inspection and certification services. For organic production the competent authority may delegate the accreditation function to a private body.

Officially recognized inspection systems/officially recognized certification systems are systems which have been formally approved or recognized by a government agency having jurisdiction.¹⁰

Operator means any person who produces, prepares or imports, with a view to the subsequent marketing thereof, products as referred to in Section 1.1, or who markets such products.

Plant protection product means any substance intended for preventing, destroying, attracting, repelling, or controlling any pest or disease including unwanted species of plants or animals during the production, storage, transport, distribution and processing of food, agricultural commodities, or animal feeds.

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.

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.

Veterinary drug means any substance applied or administered to any food-producing animal, such as meat or milk-producing animals, poultry, fish or bees, whether used for therapeutic, prophylactic or diagnostic purposes or for modification of physiological functions or behaviour.¹¹

SECTION 3. LABELLING AND CLAIMS

General provisions

- 3.1 Organic products should be labelled in accordance with the Codex *General Standard for the Labelling of Prepackaged Foods*.¹²
- 3.2 The labelling and claims of a product specified in Section 1.1(a) may refer to organic production methods only where:
- such indications show clearly that they relate to a method of agricultural production;
 - the product was produced in accordance with the requirements of Section 4 or imported under the requirements laid down in Section 7;
 - the product was produced or imported by an operator who is subject to the inspection measures laid down in Section 6, and
 - the labelling refers to the name and/or code number of the officially recognized inspection or certification body to which the operator who has carried out the production or the most recent processing operation is subject.
- 3.3 The labelling and claims of a product specified in paragraph 1.1(b) may refer to organic production methods only where:

⁶ *General Standard for the Labelling of Prepackaged Foods*, Section 4 – Labelling of Prepackaged Foods (CODEX STAN 1-1985).

⁷ CAC/GL 20-1995.

⁸ CODEX STAN 1-1985.

⁹ Provisions for aquaculture will be elaborated at a future date.

¹⁰ CAC/GL 20-1995.

¹¹ *Codex Alimentarius Commission Procedural Manual*, Definitions.

¹² CODEX STAN 1-1985.

- a) such indication show clearly that they relate to a method of agricultural production and are linked with the name of the agricultural product in question, unless such indication is clearly given in the list of ingredients;
 - b) 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;
 - c) the product should not contain any ingredient of non-agricultural origin not listed in Annex 2, Table 3;
 - d) the same ingredients shall not be derived from an organic and non-organic origin;
 - e) the product or its ingredients have not been subjected during preparation to treatments involving the use of ionizing radiation or substances not listed in Annex 2, Table 4;
 - f) the product was prepared or imported by an operator subject to the regular inspection system as set out in Section 6 of these guidelines; and
 - g) the labelling refers to the name and/or the code number of the official or officially recognized certification body or authority to which the operator who has carried out the most recent preparation operation is subject.
- 3.4 By way of derogation from paragraph 3.3(b),
- certain ingredients of agricultural origin not satisfying the requirement in that paragraph 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, in the preparation of products as referred to in paragraph 1.1(b);
 - where such ingredients of agricultural origin are not available, or in sufficient quantity, in accordance with the requirements of Section 4 of these guidelines;
- 3.5 Pending further review of the guidelines, Member Countries can consider the following with regard to products referred to in paragraph 1.1(b) marketed in their territory:
- the development of specific labelling provisions for products containing less than 95% ingredients of agricultural ingredients;
 - the calculation of the percentages in 3.4 (5%) and in 3.5 (95%) on the basis of the ingredients of agricultural origin (instead of all ingredients excluding only salt and water);
 - the marketing of product with in transition/conversion labelling containing more than one ingredient of agricultural origin.
- 3.6 In developing labelling provisions from products containing less than 95% of organic ingredients in accordance with the paragraph above, member countries may consider the following elements in particular for products containing 95% and 70% of organic ingredients:
- a) the product satisfies the requirements of paragraphs 3.3(c), (d) (e), (f) and (g);
 - b) the indications referring to organic production methods should only appear on the front panel as a reference to the approximate percentage of the total ingredients including additives but excluding salt and water;
 - c) the ingredients, appear in descending order (mass/mass) in the list of ingredients;
 - d) indications in the list of ingredients appear in the same colour and with an identical style and size of lettering as other indications in the list of ingredient.
- Labelling of products in transition/conversion to organic**
- 3.7 Products of farms in transition to organic production methods may only be labelled as “transition to organic” after 12 months of production using organic methods providing that:
- a) the requirements referred to in paragraphs 3.2 and 3.3 are fully satisfied;
 - b) the indications referring to transition/conversion do not mislead the purchaser of the product regarding its difference from products obtained from farms and/or farm units which have fully completed the conversion period;
 - c) such indication take the form of words, such as “product under conversion to organic farming”, or similar words or phrase accepted by the competent authority of the country where the product is marketed, and must appear in a colour, size and style of lettering which is not more prominent than the sales description of the product;
 - d) foods composed of a single ingredient may be labelled as “transition to organic” on the principal display panel;
 - e) the labelling refers to the name and/or the code number of the official or officially approved certification body or authority to which the operator who has carried out the most recent preparation is subject.
- Labelling of non-retail containers**
- 3.8 The labelling of non-retail containers of product specified in paragraph 1.1 should meet the requirements set out in Annex 3, paragraph 10.

SECTION 4. RULES OF PRODUCTION AND PREPARATION

- 4.1 Organic production methods require that for the production of products referred to in paragraph 1.1(a):
- at least the production requirements of Annex 1 should be satisfied;
 - in the case where (a) (above) is not effective, substances listed in Annex 2, Tables 1 and 2 or substances approved by individual countries that meet the criteria established in Section 5.1, may be used as plant protection products, fertilizers, soil conditioners, insofar as the corresponding use is not prohibited in general agriculture in the country concerned in accordance with the relevant national provisions.
- 4.2 Organic processing methods require that for the preparation of products referred to in paragraph 1.1(b):
- at least the processing requirements of Annex 1 should be satisfied;
 - substances listed in Annex 2, Tables 3 and 4 or substances approved by individual countries that meet the criteria established in Section 5.1 may be used as ingredients of non-agricultural origin or processing aids insofar as the corresponding use is not prohibited in the relevant national requirements concerning the preparation of food products and according to good manufacturing practice.
- 4.3 Organic products should be stored and transported according to the requirements of Annex 1.
- 4.4 By derogation of the provisions of paragraphs 4.1 (a) and 4.2 (a), the competent authority may, with regard to the provisions on livestock production at Annex 1, provide for more detailed rules as well as for derogations for implementation periods in order to permit gradual development of organic farming practices.

SECTION 5. REQUIREMENTS FOR INCLUSION OF SUBSTANCES IN ANNEX 2 AND CRITERIA FOR THE DEVELOPMENT OF LISTS OF SUBSTANCES BY COUNTRIES

- 5.1 At least the following criteria should be used for the purposes of amending the permitted substance lists referred to in Section 4. In using these criteria to evaluate new substances for use in organic production, countries should take into account all applicable statutory and regulatory provisions and make them available to other countries upon request.

Any proposals for the inclusion in Annex 2 of new substances must meet the following general criteria:

- they are consistent with principles of organic production as outlined in these Guidelines;
- use of the substance is necessary/essential for its intended use;
- manufacture, use and disposal of the substance does not result in, or contribute to, harmful effects on the environment;
- they have the lowest negative impact on human or animal health and quality of life; and
- approved alternatives are not available in sufficient quantity and/or quality.

The above criteria are intended to be evaluated as a whole in order to protect the integrity of organic production. In addition, the following criteria should be applied in the evaluation process:

- if they are used for fertilization, soil conditioning purposes:
 - they are essential for obtaining or maintaining the fertility of the soil or to fulfil specific nutrition 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, microbial (e.g., composting, fermentation); only when the above processes have been exhausted, chemical processes may be considered and only for the extraction of carriers and binders;¹³ and
 - their use does not have a harmful impact on the balance of the soil ecosystem or the physical characteristics of the soil, or water and air quality; and
 - their use may be restricted to specific conditions, specific regions or specific commodities;
- if they are used for the purpose of plant disease or pest and weed control:
 - 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
 - their use should take into account the potential harmful impact on the environment, the ecology (in particular non-target organisms) and the health of consumers, livestock and bees; and
 - substances should be of plant, animal, microbial, or mineral origin and may undergo the following processes: physical (e.g. mechanical, thermal), enzymatic, microbial (e.g. composting, digestion);
 - however, if they are products used, in exceptional circumstances, in traps and dispensers such as pheromones, which are chemically synthesized they will be considered for addition to lists if the

¹³ The use of chemical processes in the context of these Criteria is an interim measure and should be reviewed.

- 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;
- their use may be restricted to specific conditions, specific regions or specific commodities;
- c) if they are used as additives or processing aids in the preparation or preservation of the food :
- these substances are used only if it has been shown that, without having recourse to them, it is impossible to:
 - produce or preserve the food, in the case of additives, or
 - produce the food, in the case of processing aids
 in the absence of other available technology that satisfies these Guidelines;
 - these substances are found in nature 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;
 - their use maintains the authenticity of the product;
 - the consumer will not be deceived concerning the nature, substance and quality of the food;
 - the additives and processing aids do not detract from the overall quality of the product.

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

- 5.2 Countries should develop or adopt a list of substances that meet the criteria outlined in Section 5.1.

SECTION 6. INSPECTION AND CERTIFICATION SYSTEMS¹⁴

- 6.1 Inspection and certification systems are used to verify the labelling of, and claims for, organically produced foods. Development of these systems should take into account the *Principles for Food Import and Export Inspection and Certification*¹⁵, the *Guideline for the Design, Operation, Assessment and Accreditation of Food Import and Export Inspection and Certification Systems*.^{16,17}
- 6.2 Competent authorities should establish an inspection system operated by one or more designated authorities and/or officially recognized inspection/certification¹⁸ bodies to which the operators producing, preparing or importing products as referred to in paragraph 1.1 should be subject.
- 6.3 The officially recognized inspection and certification systems should comprise at least the application of the measures and other precautions set out in Annex 3.
- 6.4 For the application of the inspection system operated by the official or officially recognized certification body or authority, countries should identify a competent authority responsible for the approval and supervision of such bodies:
- the identified competent authority may delegate, while maintaining the responsibility for the decisions and actions taken, the assessment and supervision of private inspection and certification bodies to a private or public third party hereafter referred to as its "designate". If delegated, the private or public third party should not be engaged in inspection and/or certification;
 - for this purpose an importing country may recognize a third party accrediting body when the exporting country lacks an identified competent authority and a national program.
- 6.5 In order to attain approval as an officially recognized certification body or authority, the competent authority, or its designate, when making its assessment should take into account the following:
- a) the standard inspection/certification procedures to be followed, including detailed description of the inspection measures and precautions which the body undertakes to impose on operators subject to inspection;
 - b) the penalties which the body intends to apply where irregularities and/or infringements are found;

¹⁴ The systems conducted by certification bodies may in some countries be equivalent to those systems conducted by inspection bodies.

Therefore, the term "inspection and certification" has been used wherever these systems may be synonymous.

¹⁵ CAC/GL 20-1995.

¹⁶ CAC/GL 26-1997.

¹⁷ See also other agreed international standards, e.g. ISO65.

¹⁸ In organic approval processes reference is frequently made to certification performed by either a 'certification body' or an 'inspection body'. Where these functions are conducted by the same body there must be clear separation of the inspection and certification roles.

- c) the availability of appropriate resources in the form of qualified staff, administrative and technical facilities, inspection experience and reliability;
 - d) the objectivity of the body vis-à-vis the operators subject to inspection.
- 6.6 The competent authority or its designate should:
- a) ensure that the inspections carried out on behalf of the inspection or certification body are objective;
 - b) verify the effectiveness of inspections;
 - c) take cognizance of any irregularities and/or infringements found and penalties applied;
 - d) withdraw approval of the certification body or authority where it fails to satisfy the requirements referred to in (a) and (b) or, no longer fulfils the criteria indicated in paragraph 6.5 or, fails to satisfy the requirements laid down in paragraphs 6.7 to 6.9.
- 6.7 Official and/or officially recognized certification bodies or authority referred to in paragraph 6.2 should:
- a) ensure that at least the inspection measures and precautions specified in Annex 3 are applied to undertakings subject to inspection; and
 - b) not disclose confidential information and data obtained in their inspection or certification activities to persons other than the person responsible for the undertaking concerned and the competent authorities.
- 6.8 Official or officially recognized inspection and/or certification bodies or authority should:
- a) give the competent authority or its designate, for audit purposes, access to their offices and facilities and, for random audit of its operators, access to the facilities of the operators, together with any information and assistance deemed necessary by the competent authority or its designate for the fulfilment of its obligations pursuant to these guidelines;
 - b) send to the competent authority or its designate each year a list of operators subject to inspection for the previous year and present to the said authority a concise annual report.
- 6.9 The designated authority and the official or officially recognized certification body or authority referred to in paragraph 6.2 should:
- a) ensure that, where an irregularity is found in the implementation of Sections 3 and 4, or of the measures referred to in Annex 3, the indications provided for in paragraph 1.2 referring to the organic production method are removed from the entire lot or production run affected by the irregularity concerned;
 - b) where a manifest infringement, or an infringement with prolonged effects is found, prohibit the operator concerned from marketing products with indications referring to the organic production method for a period to be agreed with the competent authority or its designate.
- 6.10 The requirements of the *Guidelines for the Exchange of Information between Countries on Rejections of Imported Food*¹⁹ should apply where the competent authority finds irregularities and/or infringements in the application of these guidelines.

SECTION 7. IMPORTS

- 7.1 Products as specified in paragraph 1.1 which are imported may be marketed only where the competent authority or designated body in the exporting country has issued a certificate of inspection stating that the lot designated in the certificate was obtained within a system of production, preparation, marketing and inspection applying at least the rules provided for in all sections and annexes of these guidelines and satisfy the decision on equivalency referred to under 7.4.
- 7.2 The certificate referred to in paragraph 7.1 above should accompany the goods, in the original copy, to the premises of the first consignee; thereafter the importer should keep the transactional certificate for not less than two years for inspection/audit purposes.
- 7.3 The authenticity of the product should 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 these guidelines they lose their organic status.
- 7.4 An importing country may:
- a) require detailed information, including reports established by independent experts mutually agreed between competent authorities of the exporting and importing countries, on the measures applied in the exporting country to enable it to make judgements and decisions on equivalency with its own rules provided that these rules of the importing country meet the requirements of these guidelines, and/or

¹⁹ CAC/GL 25-1997.

- b) 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.
- c) require, in order to avoid any confusion to the consumer, that the product is labelled in accordance with the labelling requirements applied, in accordance with the provisions of section 3, in the importing country for the products concerned.

ANNEX 1 PRINCIPLES OF ORGANIC PRODUCTION

A. PLANTS AND PLANT PRODUCTS

1. The principles set out in this Annex should have been applied on the parcels, farm or farm units during a conversion period of at least two years before sowing, or in the case of perennial crops other than grassland, at least three (3) years before the first harvest of products as referred to in paragraph 1.1(a) of these guidelines. The competent authority, or where delegated, the official or officially recognized certification body or authority may decide in certain cases (such as idle use for two years or more) to extend or reduce that period in the light of previous parcel use but the period must equal or exceed 12 months.
2. Whatever the length of the conversion period it may only begin once a production unit has been placed under an inspection system as required by 6.2 and once the unit has started the implementation of the production rules referred to in Section 4 of these Guidelines.
3. In cases where a whole farm is not converted at one time, it may be done progressively whereby these guidelines are applied from the start of conversion on the relevant fields. Conversion from conventional to organic production should be effected using permitted techniques as defined in these guidelines. In cases where a whole farm is not converted at the same time, the holding must be split into units as referred to in Annex 3, part A, paragraphs 3 and 11.
4. Areas in conversion as well as areas converted to organic production must not be alternated (switched back and forth) between organic and conventional production methods.
5. The fertility and biological activity of the soil should be maintained or increased, where appropriate, by:
 - a) cultivation of legumes, green manures or deep-rooting plants in an appropriate multi-annual rotation programme;
 - b) incorporation in the soil of organic material, composted or not, from holdings producing in accordance with these guidelines. By-products from livestock farming, such as farmyard manure, may be used if they come from livestock holdings producing in accordance with these guidelines;

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 5(a) and (b) above or, in the case of manures, they are not available from organic farming.

 - c) for compost activation, appropriate micro-organisms or plant-based preparations may be used;
 - d) biodynamic preparations from stone meal, farmyard manure or plants may also be used for the purpose covered by paragraph 5.
6. Pests, diseases and weeds should be controlled by any one, or a combination, of the following measures:
 - choice of appropriate species and varieties;
 - appropriate rotation programs;
 - mechanical cultivation;
 - protection 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;
 - diversified ecosystems. These will vary between geographical locations. For example, buffer zones to counteract erosion, agro-forestry, rotating crops, etc.
 - flame weeding;
 - natural enemies including release of predators and parasites;
 - biodynamic preparations from stone meal, farmyard manure or plants;
 - mulching and mowing;
 - grazing of animals;
 - mechanical controls such as traps, barriers, light and sound;
 - steam sterilization when proper rotation of soil renewal cannot take place.
7. Only in cases of imminent or serious threat to the crop and where the measures identified in 6. (above) are, or would not be effective, recourse may be had to products referred to in Annex 2.
8. Seeds and vegetative reproductive material should be from plants grown in accordance with the provisions of Section 4.1 of these guidelines for at least one generation or, in the case of perennial crops, two growing

seasons. Where an operator can demonstrate to the official or officially recognized certification body or authority that material satisfying the above requirements is not available, the certification body or authority may support:

- a) in the first instance, use of untreated seeds or vegetative reproductive material, or
- b) if (a) is not available, use of seeds and vegetative reproductive material treated with substances other than those included in Annex 2.

The competent authority may establish criteria to limit the application of the derogation in 8 above.

9. The collection of edible plants and parts thereof, growing naturally in natural areas, forests and agricultural areas, is considered an organic production method provided that:
 - the products are from a clearly defined collection area that is subject to the inspection/certification measures set out in Section 6 of these guidelines;
 - those areas have received no treatments with products other than those referred to in Annex 2 for a period of three years before the collection;
 - the collection does not disturb the stability of the natural habitat or the maintenance of the species in the collection area;
 - the products are from an operator managing the harvesting or gathering of the products, who is clearly identified and familiar with the collection area.

B. LIVESTOCK AND LIVESTOCK PRODUCTS

General principles

1. Where livestock for organic production are maintained, they should be an integral part of the organic farm unit and should be raised and held according to these guidelines.
2. Livestock can make an important contribution to an organic farming system by:
 - a) improving and maintaining the fertility of the soil;
 - b) managing the flora through grazing;
 - c) enhancing biodiversity and facilitating complementary interactions on the farm; and
 - d) increasing the diversity of the farming system.
3. Livestock production is a land related activity. Herbivores must have access to pasture and all other animals must have access to open-air runs; the competent authority may allow exceptions when the animals' physiological state, inclement weather conditions, and state of the land so permit, or the structure of certain 'traditional' farming systems restrict access to pasture, providing the welfare of the animals can be guaranteed.
4. Stocking rates for livestock should be appropriate for the region in question taking into consideration feed production capacity, stock health, nutrient balance, and environmental impact.
5. Organic livestock management should aim to utilize natural breeding methods, minimize stress, prevent disease, progressively eliminate the use of chemical allopathic veterinary drugs (including antibiotics), reduce the feeding of animals with products of animal origin (e.g. meat meal), and maintain animal health and welfare.

Livestock sources/origin

6. The choice of breeds, strains and breeding methods shall be consistent with the principles of organic farming, taking into account in particular:
 - a) their adaptation to the local conditions;
 - b) their vitality and resistance to disease;
 - c) the absence of specific diseases or health problems associated with some breeds and strains (porcine stress syndrome, spontaneous abortion etc).
7. Livestock used for products satisfying Section 1.1 (a) of these guidelines must come, from birth or hatching, from production units complying with these guidelines, or have been the offspring of parents raised under the conditions set down in these guidelines. They must be raised under this system throughout their life.
 - Livestock may not be transferred between organic and non-organic units. The competent authority can establish detailed rules for the purchase of livestock from other units complying with these Guidelines.
 - Livestock existing on the livestock production unit, but not complying with these Guidelines, may be converted.

8. When an operator can demonstrate to the satisfaction of the official or officially recognized inspection/certification body that livestock satisfying the requirements indicated in the previous paragraph are not available, the official or officially recognized inspection/ certification body may allow livestock not raised according these guidelines under circumstances such as:
- for considerable expansion of the farm, when a breed is changed or when new livestock specialization is developed;
 - for the renewal of a herd, e.g., high mortality of animals caused by catastrophic circumstances;
 - males for breeding.

The competent authority may set the specific conditions under which livestock from non-organic sources may be allowed or not allowed, taking into account that animals be brought in as young as possible as soon as they are weaned.

9. These livestock qualified by the derogations indicated in the previous paragraph must comply with the conditions set out in paragraph 12. These conversion periods must be observed if the products are to be sold as organic according to Section 3 of these guidelines.

Conversion

10. The conversion of the land intended for feeding crops or pasture must comply with the rules set out in Part A paragraphs 1, 2, and 3 of this Annex.
11. The competent authority may reduce the conversion periods or conditions established in paragraph 10 (for the land) and/or paragraph 12 (for livestock and livestock products) in the following cases:
- pasture, open-air runs and exercise areas used by non-herbivore species;
 - for bovine, equine, ovine and caprine coming from extensive husbandry during an implementation period established by the competent authority or dairy herds converted for the first time;
 - if there is simultaneous conversion of livestock and land used only for feeding within the same unit, the conversion period for both livestock, pasture and/or land used for animal feed, may be reduced to two years only in the case where the existing livestock and their offspring are fed mainly with products from the unit.
12. Once the land has reached organic status and livestock from a non-organic source is introduced, and if the products are to be sold as organic, such livestock must be reared according to these Guidelines for at least the following compliance periods:

Bovine and equine

Meat products: 12 months and at least $\frac{3}{4}$ of their life span in the organic management system;

Calves for meat production: 6 months when brought in as soon as they are weaned and less than 6 months old;

Milk products: 90 days during the implementation period established by the competent authority, after that, six months.

Ovine and caprine

Meat products: six months;

Milk products: 90 days during the implementation period established by the competent authority, after that, six months.

Porcine

Meat products: Six months.

Poultry/laying hens

Meat products: whole of life span as determined by the competent authority;

Eggs: six weeks.

Nutrition

13. All livestock systems should provide the optimum level of 100% of the diet from feedstuffs (including 'in conversion' feedstuffs) produced to the requirements of these guidelines.
14. For an implementation period to be set by the competent authority, livestock products will maintain their organic status providing feed, consisting of at least 85% for ruminants and 80% for non-ruminants and calculated on a dry matter basis, is from organic sources produced in compliance with these Guidelines.
15. Notwithstanding the above, where an operator can demonstrate to the satisfaction of the official or officially recognized inspection/certification body that feedstuffs satisfying the requirement outlined in paragraph 13 above are not available, as a result of, for example, unforeseen severe natural or manmade events or extreme

climatic weather conditions, the inspection/certification body may allow a restricted percentage of feedstuffs not produced according to these guidelines to be fed for a limited time, providing it does not contain genetically engineered/modified organisms or products thereof. The competent authority shall set both the maximum percentage of non-organic feed allowed and any conditions relating to this derogation.

16. Specific livestock rations should take into account:
- the need of young mammals for natural, preferably maternal, milk;
 - that a substantial proportion of dry matter in the daily rations of herbivores needs to consist of roughage, fresh or dried fodder, or silage;
 - that polygastric animals should be not fed silage exclusively;
 - the need for cereals in the fattening phase of poultry;
 - the need for roughage, fresh or dried fodder or silage in the daily ration for pigs and poultry.
17. All livestock must have ample access to fresh water to maintain the full health and vigour of the livestock.
18. If substances are used as feedstuffs, nutritional elements, feed additives or processing aids in the preparation of feedstuffs, the competent authority shall establish a positive list/s of substances in compliance with the following criteria:
- General criteria**
- a) substances are permitted according to national legislation on animal feeding;
 - b) substances are necessary/essential to maintain animal health, animal welfare and vitality; and
 - c) such substances:
 - contribute to an appropriate diet fulfilling the physiological and behavioural needs of the species concerned; and
 - do not contain genetically engineered/modified organisms and products thereof; and
 - are primarily of plant, mineral or animal origin.
- Specific criteria for feedstuffs and nutritional elements**
- a) feedstuffs of plant origin from non-organic sources can only be used, under the conditions of paragraphs 14 and 15, if they are produced or prepared without the use of chemical solvents or chemical treatment;
 - b) feedstuffs of mineral origin, trace elements, vitamins, or provitamins can only be used if they are of natural origin. In case of shortage of these substances, or in exceptional circumstances, chemically well-defined analogic substances may be used;
 - c) feedstuffs of animal origin, with the exception of milk and milk products, fish, other marine animals and products derived therefrom should generally not be used or, as provided by national legislation. In any case, the feeding of mammalian material to ruminants is not permitted with the exception of milk and milk products;
 - d) synthetic nitrogen or non-protein nitrogen compounds shall not be used.
- Specific criteria for additives and processing aids**
- a) binders, anti-caking agents, emulsifiers, stabilizers, thickeners, surfactants, coagulants: only natural sources are allowed;
 - b) antioxidants: only natural sources are allowed;
 - c) preservatives: only natural acids are allowed;
 - d) colouring agents (including pigments), flavours and appetite stimulants: only natural sources are allowed;
 - e) probiotics, enzymes and micro-organisms are allowed;
 - f) antibiotics, coccidiostatics, medicinal substances, growth promoters or any other substance intended to stimulate growth or production shall not be used in animal feeding.
19. Silage additives and processing aids may not be derived from genetically engineered/modified organisms or products thereof, and may be comprised of only:
- sea salt;
 - coarse rock salt;
 - yeasts;
 - enzymes;
 - whey;
 - sugar; or sugar products such as molasses;
 - honey;
 - lactic, acetic, formic and propionic bacteria, or their natural acid product when the weather conditions do not allow for adequate fermentation, and with approval of the competent authority.

Health care

20. Disease prevention in organic livestock production shall be based on the following principles:

- a) the choice of appropriate breeds or strains of animals as detailed in paragraph 6 above;
 - b) the application of animal husbandry practices appropriate to the requirements of each species, encouraging strong resistance to disease and the prevention of infections;
 - c) the use of good quality organic feed, together with regular exercise and access to pasture and/or open-air runs, having the effect of encouraging the natural immunological defence of the animal;
 - d) ensuring an appropriate density of livestock, thus avoiding overstocking and any resulting animal health problems.
21. If, despite the above preventative measures, an animal becomes sick or injured it must be treated immediately, if necessary in isolation and in suitable housing. Producers should not withhold medication where it will result in unnecessary suffering of the livestock, even if the use of such medication will cause the animal to lose its organic status.
22. The use of veterinary medicinal products in organic farming shall comply with the following principles:
- a) where specific disease or health problems occur, or may occur, and no alternative permitted treatment or management practice exists, or, in cases required by law, vaccination of livestock, the use of parasiticides, or therapeutic use of veterinary drugs are permitted;
 - b) phytotherapeutic (excluding antibiotics), homeopathic or ayurvedic products and trace elements shall be used in preference to chemical allopathic veterinary drugs or antibiotics, provided that their therapeutic effect is effective for the species of animal and the condition for which the treatment is intended;
 - c) if the use of the above products is unlikely to be effective in combating illness or injury, chemical allopathic veterinary drugs or antibiotics may be used under the responsibility of a veterinarian; withholding periods should be the double of that required by legislation with, in any case, a minimum of 48 hours;
 - d) the use of chemical allopathic veterinary drugs or antibiotics for preventative treatments is prohibited.
23. Hormonal treatment may only be used for therapeutic reasons and under veterinary supervision.
24. Growth stimulants or substances used for the purpose of stimulating growth or production are not permitted.
- Livestock husbandry, transport and slaughter**
25. Maintenance of livestock should be guided by an attitude of care, responsibility and respect for living creatures.
26. Breeding methods should be in compliance with the principles of organic farming taking into account:
- a) the breeds and strains suitable for raising under local conditions and under an organic system;
 - b) the preference for reproduction through natural methods, although artificial insemination may be used;
 - c) that embryo transfer techniques and the use of hormonal reproductive treatment shall not be used;
 - d) that breeding techniques employing genetic engineering must not be used.
27. Operations such as attaching elastic bands to the tails of sheep, tail-docking, cutting of teeth, trimming of beaks and dehorning are generally not allowed in the organic management system. Some of these operations may, however, be authorized in exceptional circumstances by the competent authority or its delegate, for reasons of safety (e.g. dehorning in young animals) or if they are intended to improve the health and welfare of the livestock. Such operations must be carried out at the most appropriate age and any suffering to the animals must be reduced to a minimum. Anaesthetic should be used where appropriate. Physical castration is allowed in order to maintain the quality of products and traditional production practices (meat-type pigs, bullocks, capons, etc) but only under these conditions.
28. The living conditions and the management of the environment should take into account the specific behavioural needs of the livestock and provide for:
- sufficient free movement and opportunity to express normal patterns of behaviour;
 - company of other animals, particularly of like kind;
 - the prevention of abnormal behaviour, injury and disease;
 - arrangements to cover emergencies such as the outbreaks of fire, the breakdown of essential mechanical services and the disruption of supplies.
29. The transport of living stock should be managed in a calm and gentle way and in a manner which avoids stress, injury and suffering: the competent authority should establish specific conditions in order to meet these objectives and may establish maximum transport periods. In transporting livestock, the use of electric stimulation or allopathic tranquilizers is not permitted.

30. The slaughter of livestock should be undertaken in a manner which minimizes stress and suffering, and in accordance with national rules.

Housing and free-range conditions

31. Housing for livestock will not be mandatory in areas with appropriate climatic conditions to enable animals to live outdoors.
32. Housing conditions should meet the biological and behavioural needs of the livestock by providing:
- easy access to feeding and watering;
 - insulation, heating, cooling and ventilation of the building to ensure that air circulation, dust level, temperature, relative air humidity and gas concentration are kept within limits which are not harmful to the livestock;
 - plentiful natural ventilation and light to enter.
33. Livestock may be temporarily confined during periods of inclement weather, when their health, safety or well being could be jeopardized, or to protect plant, soil and water quality.
34. The stocking density in buildings should:
- provide for the comfort and well being of the livestock having regard for the species, the breed and the age of the livestock;
 - take into account the behavioural needs of the livestock with respect to the size of the group and the sex of the livestock;
 - provide them with sufficient space to stand naturally, lie down easily, turn round, groom themselves, and assume all natural postures and movements such as stretching and wing flapping.
35. Housing, pens, equipment and utensils should be properly cleaned and disinfected to prevent cross infection and the build-up of disease carrying organisms.
36. Free-range, open-air exercise areas, or open-air runs should, if necessary, provide sufficient protection against rain, wind, sun and extreme temperatures, depending on the local weather conditions and the breed concerned.
37. The outdoor stocking density of livestock kept on pasture, grassland, or other natural or semi-natural habitats, must be low enough to prevent degradation of the soil and over-grazing of vegetation.

Mammals

38. All mammals must have access to pasture or an open-air exercise area or run which may be partially covered, and they must be able to use those areas whenever the physiological condition of the animal, the weather conditions and the state of the ground permit.
39. The competent authority may grant exceptions for :
- the access of bulls to pasture or, in case of cows to an open-air exercise area or run during the winter period;
 - the final fattening phase.
40. Livestock housing must have smooth, but not slippery floors. The floor must not be entirely of slatted or grid construction.
41. The housing must be provided with a comfortable, clean and dry laying/rest area of sufficient size, consisting of a solid construction. Ample dry bedding strewn with litter material must be provided in the rest area.
42. The housing of calves in individual boxes and the tethering of livestock are not permitted without the approval of the competent authority.
43. Sows must be kept in groups, except in the last stages of pregnancy and during the suckling period. Piglets may not be kept on flat decks or in piglet cages. Exercise areas must permit dunging and rooting by the animals.
44. The keeping of rabbits in cages is not permitted.

Poultry

45. Poultry must be reared in open-range conditions and have free access to open-air run whenever the weather conditions permit. The keeping of poultry in cages is not permitted.
46. Water fowl must have access to a stream, pond or lake whenever the weather conditions permit.

47. Housing for all poultry should provide an area of solid construction covered with litter material such as straw, wood shavings, sand or turf. A sufficiently large part of the floor area must be available to laying hens for the collection of droppings, Perches/higher sleeping areas of a size and number commensurate with the species and size of the group and of the birds and exit/entry holes of an adequate size must be provided.
48. In the case of laying hens, when natural day length is prolonged by artificial light, the competent authority shall prescribe maximum hours respective to species, geographical considerations and general health of the animals.
49. For health reasons, between each batch of poultry reared buildings should be emptied, and runs left empty to allow the vegetation to grow back.

Manure management

50. Manure management practices used to maintain any area in which livestock are housed, penned or pastured should be implemented in a manner that:
 - a) minimizes soil and water degradation;
 - b) does not significantly contribute to contamination of water by nitrates and pathogenic bacteria;
 - c) optimizes recycling of nutrients; and
 - d) does not include burning or any practice inconsistent with organic practices.
51. All manure storage and handling facilities, including composting facilities should be designed, constructed and operated to prevent contamination of ground and/or surface water.
52. Manure application rates should be at levels that do not contribute to ground and/or surface water contamination. The competent authority may establish maximum application rates for manure or stocking densities. The timing of application and application methods should not increase the potential for run-off into ponds, rivers and streams.

Record keeping and identification

53. The operator should maintain detailed and up-to-date records as set out in Annex 3, paras 7–15.

Species specific requirements

Beekeeping and bee products

General principles

54. Bee keeping is an important activity that contributes to the enhancement of the environment, agriculture and forestry production through the pollination action of bees.
55. The treatment and management of hives should respect the principles of organic farming.
56. Collection areas must be large enough to provide adequate and sufficient nutrition and access to water.
57. The sources of natural nectar, honeydew and pollen shall consist essentially of organically produced plants and/or spontaneous (wild) vegetation.
58. The health of bees should be based on prevention such as adequate selection of breeds, favourable environment, balanced diet and appropriate husbandry practices.
59. The hives shall consist basically of natural materials presenting no risk of contamination to the environment or the bee products.
60. When bees are placed in wild areas, consideration should be given to the indigenous insect population.

Siting of hives

61. Hives for beekeeping shall be placed in areas where cultivated and/or spontaneous vegetation comply with the rules of production as set out in Section 4 of these Guidelines.
62. The official certification body or authority shall approve the areas which ensure appropriate sources of honeydew, nectar and pollen based on information provided by the operators and/or through the process of inspection.
63. The official certification body or authority may designate a specific radius from the hive within which the bees have access to adequate and sufficient nutrition that meets the requirements of these Guidelines.

64. The certification body or authority must identify zones where hives, that meet these requirements, should not be placed due to potential sources of contamination with prohibited substances, genetically modified organisms or environmental contaminants.

Feed

65. At the end of the production season hives must be left with reserves of honey and pollen sufficiently abundant for the colony to survive the dormancy period.
66. The feeding of colonies can be undertaken to overcome temporary feed shortages due to climatic or other exceptional circumstances. In such cases, organically produced honey or sugars should be used if available. However the certification body or authority may permit the use of non-organically produced honey or sugars. Time-limits should be set for such derogations. Feeding should be carried out only between the last honey harvest and the start of the next nectar or honeydew flow period.

Conversion period

67. Bee products can be sold as organically produced when these Guidelines have been complied with for at least one year. During the conversion period the wax must be replaced by organically produced wax. In cases where all the wax cannot be replaced during a one-year period, the certification body or authority may extend the conversion period. By way of derogation when organically produced beeswax is not available, wax from sources not complying with these Guidelines may be authorized by the certification body or authority, provided it comes from the cap or from areas where no prohibited materials have been used.
68. Where no prohibited products have been previously used in the hive, replacement of wax is not necessary.

Origin of bees

69. Bee colonies can be converted to organic production. Introduced bees should come from organic production units when available.
70. In the choice of breeds, account must be taken of the capacity of bees to adapt to local conditions, their vitality and their resistance to disease.

Health of the bees

71. The health of bee colonies should be maintained by good agricultural practice, with emphasis on disease prevention through breed selection and hive management. This includes:
- a) the use of hardy breeds that adapt well to the local conditions;
 - b) renewal of queen bees if necessary;
 - c) regular cleaning and disinfecting of equipment;
 - d) regular renewal of beeswax;
 - e) availability in hives of sufficient pollen and honey;
 - f) systematic inspection of hives to detect any anomalies;
 - g) systematic control of male broods in the hive;
 - h) moving diseased hives to isolated areas, if necessary; or
 - i) destruction of contaminated hives and materials.
72. For pest and disease control the following are allowed:
- lactic, oxalic, acetic acid
 - formic acid
 - sulphur
 - natural etheric oils (e.g. menthol, eucalyptol, camphor)
 - *Bacillus thuringiensis*
 - steam and direct flame.

73. Where preventative measures fail, veterinary medicinal products may be used provided that:
- a) preference is given to phytotherapeutic and homeopathic treatment, and
 - b) if allopathic chemically synthesized medicinal products are used, the bee products must not be sold as organic. Treated hives must be placed in isolation and undergo a conversion period of one year. All the wax must be replaced with wax which is in accordance with these Guidelines, and
 - c) every veterinary treatment must be clearly documented.

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

Management

75. The foundation comb shall be made from organically produced wax.
76. The destruction of bees in the combs as a method of harvesting of bee products is prohibited.
77. Mutilations, such as clipping of the wings of queen bees, are prohibited.

78. The use of chemical synthetic repellents is prohibited during honey extraction operations.
79. Smoking should be kept to a minimum. Acceptable smoking materials should be natural or from materials that meet the requirements of these Guidelines.
80. It is recommended that temperatures are maintained as low as possible during the extraction and processing of products derived from beekeeping.
- Record keeping**
81. The operator should maintain detailed and up-to-date records as set out in Annex 3, paragraph 7. Maps should be maintained depicting the location of all hives.

C. HANDLING, STORAGE, TRANSPORTATION, PROCESSING AND PACKAGING

82. The integrity of the organic product must be maintained throughout the processing phase. This is achieved by the use of techniques appropriate to the specifics of the ingredients with careful processing methods limiting refining and the use of 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.

Ethylene may be used for ripening of kiwifruit and bananas.

Pest management

83. For pest management and control the following measures, in order of preference, should be used:
- Preventative methods, such as disruption and elimination of habitat and access to facilities by pest organisms, should be the primary methodology of pest management;
 - If preventative methods are inadequate, the first choice for pest control should be mechanical/physical and biological methods;
 - If mechanical/physical and biological methods are inadequate for pest control, pesticidal substances appearing in Annex 2 table 2 (or other substances allowed for use by a competent authority in accordance with Section 5.2) may be used provided that they are accepted for use in handling, storage, transportation or processing facilities by the competent authority and so that contact with organic products is prevented.
84. 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.
85. Use of pesticides not listed in Annex 2 for post harvest or quarantine purposes should not be permitted on products prepared in accordance with these guidelines and would cause organically produced foods to lose their organic status.

Processing and manufacturing

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

Packaging

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

Storage and transport

88. Product integrity should be maintained during any storage and transportation and handling by use of the following precautions:
- Organic products must be protected at all times from co-mingling with non-organic products; and
 - Organic products must be protected at all times from contact with materials and substances not permitted for use in organic farming and handling.
89. 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.
90. Bulk stores for organic product should be separate from conventional product stores and clearly labelled to that effect.
91. Storage areas and transport containers for organic product should be cleaned using methods and materials permitted in organic production. Measures should be taken to prevent possible contamination from any pesticide or other treatment not listed in Annex 2 before using a storage area or container that is not dedicated solely to organic products.

ANNEX 2

PERMITTED SUBSTANCES FOR THE PRODUCTION OF ORGANIC FOODS

PRECAUTIONS

1. Any substances used in an organic system for soil fertilization and conditioning, pest and disease control, for the health of livestock and quality of the animal products, or for preparation, preservation and storage of the food product should comply with the relevant national regulations.
2. Conditions for use of certain substances contained in the following lists may be specified by the certification body or authority, e.g. volume, frequency of application, specific purpose, etc.
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.
4. The following lists do not attempt to be all inclusive or exclusive, or a finite regulatory tool but rather provide advice to governments on internationally agreed inputs. A system of review criteria as detailed in Section 5 of these Guidelines for products to be considered by national governments should be the primary determinant for acceptability or rejection of substances.

TABLE 1

SUBSTANCES FOR USE IN SOIL FERTILIZING AND CONDITIONING

Substances	Description; compositional requirements; conditions of use
Farmyard and poultry manure	Need recognized by certification body or authority if not sourced from organic production systems. "Factory" farming ²⁰ sources not permitted.
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.
Composted animal excrements, including poultry	Need recognized by the certification body or authority
Manure and composted farmyard manure	"Factory" farming sources not permitted.
Dried farmyard manure and dehydrated poultry manure	Need recognized by the certification body or authority. "Factory" farming sources not permitted.
Guano	Need recognized by the certification body or authority.
Straw	Need recognized by the certification body or authority.
Compost and spent mushroom and Vermiculite substrate	Need recognized by the certification body or authority. The initial composition of the substrate must be limited to the products on this list
Sorted, composted or fermented home refuse	Need recognized by the certification body or authority.
Compost from plant residues	
Processed animal products from slaughterhouses & fish industries	Need recognized by the certification body or authority.
By-products of food & textile industries not treated with synthetic additives.	Need recognized by the certification body or authority.
Seaweeds and seaweed products	Need recognized by the certification body or authority.

Substances	Description; compositional requirements; conditions of use
Sawdust, bark and wood waste	Need recognized by the certification body or authority, wood not chemically treated after felling.
Wood ash and wood charcoal	Need recognized by the certification body or authority, from wood not chemically treated after felling.
Natural phosphate rock.	Need recognized by the certification body or authority. Cadmium should not exceed 90mg/kg P ₂ O ₅
Basic slag	Need recognized by the certification body or authority.
Rock potash, mined potassium salts (e.g. kainite, sylvinite)	Less than 60% chlorine
Sulphate of potash (e.g. patenkali)	Obtained by physical procedures but not enriched by chemical processes to increase its solubility. Need recognized by the certification body or authority.
Calcium carbonate of natural origin (e.g. chalk, marl, maerl, limestone, phosphate chalk)	
Magnesium rock	
Calcareous magnesium rock	
Epsom salt (magnesium-sulphate)	
Gypsum (calcium sulphate)	Only from natural sources/origin.
Stillage and stillage extract	Ammonium stillage excluded
Sodium chloride	Only mined salt
Aluminium calcium phosphate	Cadmium should not exceed 90mg/kg P ₂ O ₅
Trace elements (e.g. boron, copper, iron, manganese, molybdenum, zinc)	Need recognized by the certification body or authority.
Sulphur	Need recognized by the certification body or authority.
Stone meal	
Clay (e.g. bentonite, perlite, zeolite)	
Naturally occurring biological organisms (e.g. worms)	
Vermiculite	
Peat	Excluding synthetic additives; permitted for seed, potting module composts. Other use as recognized by certification body or authority. Not permitted as a soil conditioner.
Humus from earthworms and insects	
Chloride of lime	Need recognized by the certification body or authority.
Human excrements	Need recognized by the certification body or authority. The source is separated from household and industrial wastes that pose a risk of chemical contamination. It is treated sufficiently to eliminate risks from pests, parasites, pathogenic micro-organisms, and is not applied to crops intended for human consumption or to the edible parts of plants.
By-products of the sugar industry (e.g. Vinasse)	Need recognized by the certification body or authority.

Substances	Description; compositional requirements; conditions of use
By-products from oil palm, coconut and cocoa (including empty fruit bunch, palm oil mill effluent (pome), cocoa peat and empty cocoa pods)	Need recognized by the certification body or authority.
By-products of industries processing ingredients from organic agriculture	Need recognized by the certification body or authority.
Calcium chloride solution	Leaf treatment in case of proven calcium deficiency.

TABLE 2
SUBSTANCES FOR PLANT PEST AND DISEASE CONTROL

Substance	Description; compositional requirements; conditions for use
I. PLANT AND ANIMAL	
Preparations on basis of pyrethrins extracted from <i>Chrysanthemum cinerariaefolium</i> , containing possibly a synergist	Need recognized by the certification body or authority. Exclusion of Piperonyl butoxide after 2005 as a synergist.
Preparations of Rotenone from <i>Derris elliptica</i> , <i>Lonchocarpus</i> , <i>Thephrosia</i> spp.	Need recognized by the certification body or authority. The substance should be used in such a way as to prevent its flowing into waterways.
Preparations from <i>Quassia amara</i>	Need recognized by the certification body or authority.
Preparations from <i>Ryania speciosa</i>	Need recognized by the certification body or authority.
Commercial preparations/ products of Neem (Azadirachtin) from <i>Azadirachta indica</i>	Need recognized by the certification body or authority.
Propolis	Need recognized by the certification body or authority.
Plant and animal oils	
Seaweed, seaweed meal, seaweed extracts, sea salts and salty water	Need recognized by the certification body or authority. Not chemically treated.
Gelatine	
Lecithin	Need recognized by the certification body or authority.
Casein	
Natural acids (e.g. vinegar)	Need recognized by the certification body or authority.
Fermented product from <i>Aspergillus</i>	
Extract from mushroom (Shiitake fungus)	Need recognized by certification body or authority
Extract from <i>Chlorella</i>	
Chitin nematicides	Natural origin
Natural plant preparations, excluding tobacco	Need recognized by certification body or authority.
Tobacco tea (except pure nicotine)	Need recognized by certification body or authority.
Sabadilla	
Beeswax	
Spinosad	Spinosad should only be used where measures are taken to minimize the risk to non-target species and to minimize the risk of development of resistance.
II. MINERAL	
Copper in the form of copper hydroxide, Copper octanoate, copper oxychloride, (tribasic) copper sulphate, cuprous oxide, Bordeaux mixture and Burgundy mixture	Need, prescription and application rates recognized by certification body or authority. As a fungicide on condition that the substance be used in such a way as to minimize copper accumulation in the soil.
Sulphur	Need recognized by certification body or authority.

Substance	Description; compositional requirements; conditions for use
Mineral powders (stone meal, silicates)	
Diatomaceous earth	Need recognized by certification body or authority.
Silicates, clay (bentonite)	
Sodium silicate	
Sodium bicarbonate	
Potassium permanganate	Need recognized by certification body or authority.
Iron phosphates	As molluscicide.
Paraffin oil	Need recognized by certification body or authority.
Potassium hydrogen carbonate	
III. MICRO-ORGANISMS USED FOR BIOLOGICAL PEST CONTROLS	
Micro-organisms (bacteria, viruses, fungi) e.g. <i>Bacillus thuringiensis</i> , Granulosis virus, etc.	Need recognized by certification body or authority.
IV. OTHER	
Carbon dioxide and nitrogen gas	Need recognized by certification body or authority.
Potassium soap (soft soap)	
Ethyl alcohol	Need recognized by certification body or authority.
Homeopathic and Ayurvedic preparations	
Herbal and biodynamic preparations	
Sterilized insect males	Need recognized by certification body or authority.
Rodenticides	Products for pest control in livestock buildings and installations. Need recognized by certification body or authority.
Ethylene	<p data-bbox="686 1395 1394 1462">For degreening of citrus for fruit fly prevention and as a flowering agent for pineapples.</p> <p data-bbox="686 1485 1394 1630">As sprouting inhibitor for potatoes and onions: Need recognized by the certification body or authority for sprout inhibition of stored potatoes and onions where varieties that have long dormancy characteristics are not available, or these varieties are not suited to local growing conditions. Must be used in a manner that minimizes exposure to operators and workers</p>
V. TRAPS	
Pheromone preparations	
Preparations on the basis of metaldehyde containing a repellent to higher animal species and as far as applied in traps.	Need recognized by certification body or authority.
Mineral oils	Need recognized by the certification body or authority.
Mechanical control devices such as e.g., crop protection nets, spiral barriers, glue-coated plastic traps, sticky bands.	

TABLE 3
**INGREDIENTS OF NON-AGRICULTURAL ORIGIN REFERRED TO IN SECTION 3
 OF THESE GUIDELINES**

3.1 Additives permitted for use under specified conditions in certain organic food categories or individual food items

The following table provides a list of those food additives including carriers which are allowed for use in organic food production. The functional uses and food categories and individual food items for each food additive in the following table are governed by the provisions in Tables 1–3 of the *General Standard for Food Additives* and other standards which have been adopted by the Codex Alimentarius Commission.

The table is an indicative list for the purpose of processing organic food only. Countries may develop a list of substances for national purposes that satisfy the requirements as recommended in Section 5.2 of these Guidelines.

Food additives in this Table can be used to perform the function indicated in the specified food products.

INS no.	Additive name	Functional use allowed in organic production	Permitted for use in food categories	
			Food of plant origin	Food of animal origin
170i	Calcium Carbonate	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.0
220	Sulphur Dioxide	All	14.2.2 Cider and perry 14.2.3 Grape wines 14.2.4 Wines (other than grapes)	14.2.5 Mead
270	Lactic Acid (L- D- and DL-)	All	04.2.2.7 Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10	01.0 Dairy products and analogues, excluding products of food category 02.008.4 Edible casings (e.g. sausage casings)
290	Carbon Dioxide	All	Permitted, although exclusions of the GSFA still apply.	Permitted, although exclusions of the GSFA still apply.
296	Malic Acid (DL-)	All	Permitted, although exclusions of the GSFA still apply.	Not permitted.
300	Ascorbic Acid	All	Provided insufficient natural sources are available. Permitted, although exclusions of the GSFA still apply.	Provided insufficient natural sources are available. 08.2 Processed meat, poultry, and game products in whole pieces or cuts 08.3 Processed comminuted meat, poultry, and game products 08.4 Edible casings (e.g., sausage casings)
307	Tocopherols (mixed natural concentrates)	All	Permitted, although exclusions of the GSFA still apply.	All mixed products allowed under the General Standard for Food Additives and Standards adopted by the Codex Alimentarius Commission
322	Lecithins (obtained without bleaches and organic solvents.)	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.002.0 Fats and oils, and fat emulsions 12.6.1 Emulsified sauces (e.g. mayonnaise, salad dressing) 13.1 Infant formulae and follow-on formulae 13.2 Complementary foods for infants and young children
327	Calcium Lactate	All	Not permitted.	01.0 Dairy products and analogues, excluding products of food category 02.0

INS no.	Additive name	Functional use allowed in organic production	Permitted for use in food categories	
			Food of plant origin	Food of animal origin
330	Citric Acid	All	04.0 Fruits and vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	As a coagulation agent for specific cheese products and for cooked eggs 01.6 Cheese and analogues 02.1 Fats and oils essentially free from water 10.0 Egg and egg products
331i	Sodium Dihydrogen Citrate	All	Not permitted.	01.1.1.2 Butter milk (plain) (Stabilizer only) 01.1.2 Dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks) 01.2.1.2 Fermented milks (plain), heat-treated after fermentation (Stabilizer only) 01.2.2 Renneted milk (Stabilizer only) 01.3 Condensed milk and analogues (plain) (Stabilizer only) 01.4 Cream (plain) and the like (Stabilizer only) 01.5.1 Milk powder and cream powder (plain) (Stabilizer only) 01.6.1 Unripened cheese (Stabilizer only) 01.6.4 Processed cheese (Emulsifier only) 01.8.2 Dried whey and whey products, excluding whey cheeses 08.3 Processed comminuted meat, poultry, and game products, restricted to sausages To be used in pasteurization of egg whites only in the following: 10.2 Egg Products
332i	Potassium Dihydrogen Citrate	All	Not permitted.	Permitted, although exclusions of the GSFA still apply.
333	Calcium Citrates	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.0
334	Tartaric Acid	All	Permitted, although exclusions of the GSFA still apply.	Not permitted.
335i 335ii	Monosodium Tartrate Disodium Tartrate	All	05.0 Confectionery 07.2.1 Cakes	Not permitted.
336i 336ii	Monopotassium Tartrate Dipotassium Tartrate	All	05.0 Confectionery 06.2 Flours and starches 07.2.1 Cakes	Not permitted.
341i	Monocalcium Orthophosphate	All	06.2.1 Flours	Not permitted.
400	Alginic Acid	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.0
401	Sodium Alginate	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.0 All mixed products allowed under the <i>General Standard for Food Additives</i> and Standards adopted by the Codex Alimentarius Commission
402	Potassium Alginate	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.0 All mixed products allowed under the <i>General Standard for Food Additives</i> and Standards adopted by the Codex Alimentarius Commission

INS no.	Additive name	Functional use allowed in organic production	Permitted for use in food categories	
			Food of plant origin	Food of animal origin
406	Agar	All	Permitted, although exclusions of the GSFA still apply.	Permitted, although exclusions of the GSFA still apply.
407	Carrageenan	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.0
410	Carob Bean Gum	All	Permitted, although exclusions of the GSFA still apply	01.1 Milk and dairy-based drinks 01.2 Fermented and renneted milk products (plain), excluding food category 01.1.2 (dairy-based drinks) 01.3 Condensed milk and analogues (plain) 01.4 Cream (plain) and the like 01.5 Milk powder and cream powder and powder analogues (plain)
410	Carob Bean Gum (cont'd)	All	Permitted, although exclusions of the GSFA still apply.	01.6 Cheese and analogues 01.7 Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt) 01.8.1 Liquid whey and whey products, excluding whey cheeses 08.1.2 Fresh meat, poultry and game, comminuted 08.2 Processed meat, poultry, game products in whole pieces or cuts 08.3 Processed comminuted meat, poultry, and game products 08.4 Edible casings (e.g. sausage casings)
412	Guar Gum	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.0 08.2.2 Heat-treated processed meat, poultry, and game products in whole pieces or cuts 8.3.2 Heat-treated processed comminuted meat, poultry, and game products 10.2 Egg products
413	Tragacanth Gum	All	Permitted, although exclusions of the GSFA still apply.	Permitted, although exclusions of the GSFA still apply.
414	Gum Arabic	All	02.0 Fats and oils, and fat emulsions 05.0 Confectionery	01.0 Dairy products and analogues, excluding products of food category 02.0 02.002.0 Fats and oils, and fat emulsions 05.0 Confectionery
415	Xanthan Gum	All	02.0 Fats and oils, and fat emulsions 04.0 Fruits and vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds 07.0 Bakery wares 12.7 Salads (e.g. macaroni salad, potato salad)	Not permitted.
416	Karaya Gum	All	Permitted, although exclusions of the GSFA still apply.	Not permitted.
422	Glycerol	All	Obtained from plant origin; used as a carrier for plant extracts 04.1.1.1 Untreated fresh fruit 04.1.1.2 Surface-treated fresh fruit 04.1.2 Processed fruit 04.2.1.2 Surface-treated fresh vegetables, (including mushrooms and fungi, roots and tubers, pulses and legumes, and	Not permitted.

INS no.	Additive name	Functional use allowed in organic production	Permitted for use in food categories	
			Food of plant origin	Food of animal origin
			<p>aloe vera), seaweeds and nuts and seeds</p> <p>04.2.2.2 Dried vegetables, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds</p> <p>04.2.2.3 Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds in vinegar, oil, brine, or soy sauce</p> <p>04.2.2.4 Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds</p> <p>04.2.2.5 Vegetable, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)</p> <p>04.2.2.6 Vegetable, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5</p> <p>04.2.2.7 Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweed products, excluding fermented soybean products of food category 12.10</p> <p>12.2 Herbs, spices, seasonings, and condiments (e.g., seasoning for instant noodles)</p>	
440	Pectins (non-amidated)	All	Permitted, although exclusions of the GSFA still apply.	01.0 Dairy products and analogues, excluding products of food category 02.0
500ii 500ii i	Sodium hydrogen carbonate Sodium Sesquicarbonate	All	05.0 Confectionery 07.0 Bakery Wares	01.0 Dairy products and analogues, excluding products of food category 02.0
501i	Potassium Carbonate	All	05.0 Confectionery 06.0 Cereals and cereal products, derived from cereal grains, from roots and tubers, pulses and legumes, excluding bakery wares of food category 07.0 07.2 Fine Bakery wares (sweet, salty, savoury) and mixes	Not permitted.
503i 503ii	Ammonium carbonate Ammonium Hydrogen Carbonate	Acidity Regulator Raisin Agent	Permitted, although exclusions of the GSFA still apply.	Not permitted.
504i 504ii	Magnesium Carbonate Magnesium Hydrogen	All	Permitted, although exclusions of the GSFA still apply.	Not permitted.

INS no.	Additive name	Functional use allowed in organic production	Permitted for use in food categories	
			Food of plant origin	Food of animal origin
	Carbonate			
508	Potassium Chloride	All	04.0 Fruits and vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds 12.4 Mustards 12.6.2 Non-emulsified sauces (e.g. ketchup, cheese sauces, cream sauces, brown gravy)	Not permitted.
509	Calcium chloride	All	04.0 Fruits and vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds 06.8 Soybean products (excluding soybean products of food category 12.9 and fermented soybean products of food category 12.10) 12.9.1 Soybean protein products 12.10 Fermented soybean products	01.0 Dairy products and analogues, excluding products of food category 02.008.2 08.2 Processed meat, poultry, and game products in whole pieces or cuts 08.3 Processed comminuted meat, poultry and game products 08.4 Edible casings (e.g. sausage casings)
511	Magnesium chloride	All	06.8 Soybean products (excluding soybean products of food category 12.9 and fermented soybean products of food category 12.10) 12.9.1 Soybean protein products 12.10 Fermented soybean products	Not permitted.
516	Calcium sulphate	All	06.8 Soybean products (excluding soybean products of food category 12.9 and fermented soybean products of food category 12.10) 07.2.1 Cakes, cookies and pies (e.g. fruit-filled or custard type) 12.8 Yeast and like products 12.9.1 Soybean protein products 12.10 Fermented soybean products	Not permitted.
524	Sodium Hydroxide	All	06.0 Cereals and cereal products, derived from cereal grains, from roots and tubers, pulses and legumes, excluding bakery wares of food category 07.007.1.1.1 yeast-leavened breads and specialty breads	Not permitted.
551	Silicon Dioxide (Amorphous)	All	12.2 Herbs, spices, seasonings, and condiments (e.g. seasonings for instant noodles)	Not permitted.
941	Nitrogen	All	Permitted, although exclusions of the GSFA still apply	Permitted, although exclusions of the GSFA still apply

3.2 Flavourings

Substances and products labelled as natural flavouring substances or natural flavouring preparations are defined in the *General Requirements for Natural Flavourings* (CAC/GL 29-1987).

3.3 Water and salts

Drinking water.

Salts (with sodium chloride or potassium chloride as basic components generally used in food processing).

3.4 Preparations of micro-organisms and enzymes

Any preparation of micro-organisms and enzymes normally used in food processing, with the exception of micro-organisms genetically engineered/modified 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 use is legally required in the food products in which they are incorporated.

Table 4
**PROCESSING AIDS WHICH MAY BE USED FOR THE PREPARATION OF
 PRODUCTS OF AGRICULTURAL ORIGIN REFERRED TO IN SECTION 3
 OF THESE GUIDELINES**

Substance	Specific conditions
FOR PLANT PRODUCTS	
Water	
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	
Kaolin	
Diatomaceous earth	
Perlite	
Hazelnut shells	
Beeswax	releasing agent
Carnauba wax	releasing agent
Sulphuric acid	pH adjustment of extraction water in sugar production

Substance	Specific conditions
Sodium hydroxide	pH adjustment in sugar production
Tartaric acid and salts	
Sodium carbonate	sugar production
Preparations of bark components	
Potassium hydroxide	pH adjustment for sugar processing
Citric acid	pH adjustment

Preparations of micro-organisms and enzymes

Any preparations of micro-organisms and enzymes normally used as processing aids in food processing, with the exception of genetically engineered/modified organisms and enzymes derived from genetically engineered/modified organisms.

For livestock and bee products

The following is a provisional list for the purposes of processing livestock and bee products only. Countries may develop a list of substances for national purposes that satisfy the requirements of these Guidelines as recommended in Section 5.2.

INS	Name	Specific conditions
	Calcium carbonates	
	Calcium chloride	Firming, coagulation agent in cheese making.
	Kaolin	Extraction of propolis.
	Lactic acid	Milk products: coagulation agent, pH regulation of salt bath for cheese.
	Sodium carbonate	Milk products: neutralizing substance.
	Water	

ANNEX 3

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

1. Inspection measures are necessary across the whole of the food chain to verify product labelled according to Section 3 of these guidelines conforms to internationally agreed practices. The official or officially recognized certification body or authority and the competent authority should establish policies and procedures in accordance with these guidelines.
2. 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.

A. PRODUCTION UNITS

3. Production according to these guidelines 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.
4. When the inspection arrangements are first implemented, the operator and the official or officially recognized certification body or authority should draw up and sign a document which includes:
 - a) 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;
 - b) and, 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, para 10 are satisfied;
 - c) all the practical measures to be taken at the level of the unit to ensure compliance with these guidelines;
 - d) 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 these guidelines;
 - e) an undertaking by the operator to carry out operations in accordance with Sections 3 and 4 and to accept, in event of infringements, implementation of the measures as referred to in Section 6, paragraph 9 of these guidelines.
5. 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.
6. Written and/or documentary accounts should be kept which enable the official or officially recognized certification body or authority to trace the origin, nature and quantities of all raw materials bought, and the use of such materials; in addition, written and/or documentary accounts should be kept of the nature, quantities and consignees of all agricultural products sold. Quantities sold directly to the final consumer should preferably be accounted for on a daily basis. When the unit itself processes agricultural products, its accounts must contain the information required in B2, third dash point of this Annex.
7. All livestock should 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:
 - a) breeding and/or origins of livestock;
 - b) registration of any purchases;
 - c) the health plan to be used in the prevention and management of disease, injury and reproductive problems;
 - d) all treatments and medicines administered for any purpose, including quarantine periods and identification of treated animals or hives;
 - e) feed provided and the source of the feedstuffs;
 - f) stock movements within the unit and hive movements within designated forage areas as identified on maps;

- g) transportation, slaughter and/or sales.
 - h) extraction, processing and storing of all bee products.
8. Storage, on the unit, of input substances, other than those whose use is with paragraph 4.1(b) of these guidelines is prohibited.
 9. The official or officially recognized 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 these guidelines 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.
 10. The operator should give 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.
 11. 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 these guidelines and the following information, without prejudice to any other indications required by law:
 - the name and address of the person responsible for the production or preparation of the product;
 - the name of the product; and
 - that the product is of organic status.
 12. Where an operator runs several production units in the same area (parallel cropping), units in the area producing crop, crop products not covered by Section 1 should also be subject to the inspection arrangements as regards the dash points of paragraph 4 and paragraphs 6 and 8 above. Plants of indistinguishable varieties as those produced at the unit referred to in paragraph 3 above should not be produced at these units:
 - If derogations are allowed by the competent authority, the authority must 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, etc., which are to be implemented.
 - Pending further review of these guidelines, member countries can accept parallel cropping of the same variety, even if it is not distinguishable, subject to adequate inspection measures being applied.
 13. In organic livestock production, all livestock on one and the same production unit must be reared in accordance with the rules laid down in these Guidelines. However, livestock not reared in accordance with these Guidelines may be present on the organic holding provided that they are separated clearly from livestock produced in accordance with these Guidelines. The competent authority can prescribe more restrictive measures, such as different species.
 14. The competent authority may accept that animals reared in accordance with the provisions of these Guidelines may be grazed on common land, provided that:
 - a) this land has not been treated with products other than those allowed in accordance with Section 4.1 (a) and (b) of these Guidelines, for at least three years;
 - b) a clear segregation between the animals reared in accordance with the provisions of these Guidelines, and the other animals can be organized.
 15. For livestock production, the competent authority should ensure, without prejudice to the other provisions in this Annex, 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.

B. PREPARATION AND PACKAGING UNITS

1. The producer and/or operator and should provide:
 - 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;
 - all the practical measures to be taken at the level of the unit to ensure compliance these guidelines.

This description and the measures concerned should be signed by the responsible person of the unit and the certification body.

The report should include an undertaking by the operator to perform the operations in such a way as to comply with Section 4 of these guidelines and to accept, in the event of infringements, the implementation of measures as referred to in paragraph 6.9 of these guidelines and be countersigned by both parties.

2. Written accounts should be kept enabling the certification body or authority to trace:
 - the origin, nature and quantities of agricultural products as referred to in Section 1 of these guidelines which have been delivered to the unit;
 - the nature, quantities and consignees of products as referred to in Section 1 of these guidelines which have left the unit;
 - any 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.
3. Where products not referred to in Section 1 of these guidelines are also processed, packaged or stored in the unit concerned:
 - the unit should have separate areas within the premises for the storage of products as referred to in Section 1 of these guidelines, before and after the operations;
 - operations should be carried out continuously until the complete run has been dealt with, separated by place or time from similar operations performed on products not covered by Section 1 of these guidelines;
 - if such operations are not carried out frequently, they should be announced in advance, with a deadline agreed on with the certification body or authority;
 - every measure should be taken to ensure identification of lots and to avoid mixtures with products not obtained in accordance with the requirements of these guidelines.
4. The official or officially recognized certification body or authority should ensure that 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 must be drawn up after each visit countersigned by the person responsible for the unit inspected. Additional occasional unannounced visits should also be undertaken according to need or at random.
5. The operator should give the official or officially recognized certification body or authority, for inspection purposes, access to the unit and to written accounts and relevant supporting documents. The operator should also provide the inspection body with any information necessary for the purposes of inspection.
6. The requirements in respect to the transport as laid down in paragraph A.10 of this Annex are applicable.
7. On receipt of a product referred to in Section 1 of these Guidelines, the operator shall check:
 - the closing of the packaging or contained where it is required;
 - the presence of the indications referred to in A.10 of this Annex. The result of this verification shall be explicitly mentioned in the accounts referred to in point B.2. When there is any doubt that the product cannot be verified according to the production system provided for in Section 6 of this Guidelines, it must be placed on the market without indication referring to the organic production method.

C. IMPORTS

Importing countries should establish appropriate inspection requirements for the inspection of importers and of imported organic products.