



**CAN/CGSB-32.310-99**

**Canadian  
General  
Standards  
Board**

# **Organic Agriculture**

**National Standard of Canada**

**Canada**



The CANADIAN GENERAL STANDARDS BOARD (CGSB), under whose auspices this National Standard of Canada has been developed is a government agency within Public Works and Government Services Canada. CGSB is engaged in the production of voluntary standards in a wide range of subject areas through the media of standards committees and the consensus process. The standards committees are composed of representatives of relevant interests including producers, consumers and other users, retailers, governments, educational institutions, technical, professional and trade societies, and research and testing organizations. Any given standard is developed on the consensus of views expressed by such representatives.

CGSB has been accredited by the Standards Council of Canada as a national standards-development organization. The standards that it develops and offers as National Standards of Canada conform to the criteria and procedures established for this purpose by the Standards Council of Canada. In addition to standards it publishes as national standards, CGSB produces standards to meet particular needs, in response to requests from a variety of sources in both the public and private sectors. Both CGSB standards and CGSB national standards are developed in conformance with the policies described in the CGSB Policy Manual for the Development and Maintenance of Standards.

CGSB standards are subject to review and revision to ensure that they keep abreast of technological progress. Suggestions for their improvement, which are always welcome, should be brought to the notice of the standards committees concerned. Changes to standards are issued either as separate amendment sheets or in new editions of standards.

An up-to-date listing of CGSB standards, including details on latest issues and amendments, and ordering instructions, is found in the CGSB Catalogue, which is published annually and is available without charge upon request. An electronic version, ECAT, is also available. More information is available about CGSB products and services at our Web site — <http://www.pwgsc.gc.ca/cgsb>.

Although the intended primary application of this standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.

The testing and evaluation of a product against this standard may require the use of materials and/or equipment that could be hazardous. This document does not purport to address all the safety aspects associated with its use. Anyone using this standard has the responsibility to consult the appropriate authorities and to establish appropriate health and safety practices in conjunction with any applicable regulatory requirements prior to its use. CGSB neither assumes nor accepts any responsibility for any injury or damage that may occur during or as the result of tests, wherever performed.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. CGSB shall not be held responsible for identifying any or all such patent rights. Users of this standard are expressly advised that determination of the validity of any such patent rights are entirely their own responsibility.

Further information on CGSB and its services and standards may be obtained from:

The Manager  
Standardization Information Division  
Canadian General Standards Board  
Ottawa, Canada  
K1A 1G6

The STANDARDS COUNCIL OF CANADA is the co-ordinating body of the National Standards System, a federation of independent, autonomous organizations working towards the further development and improvement of voluntary standardization in the national interest.

The principal objectives of the Council are to foster and promote voluntary standardization as a means of advancing the national economy, benefiting the health, safety and welfare of the public, assisting and protecting the consumer, facilitating domestic and international trade, and furthering international co-operation in the field of standards.

A National Standard of Canada is a standard which has been approved by the Standards Council of Canada and one which reflects a reasonable agreement among the views of a number of capable individuals whose collective interests provide, to the greatest practicable extent, a balance of representation of producers, users, consumers and others with relevant interests, as may be appropriate to the subject in hand. It normally is a standard that is capable of making a significant and timely contribution to the national interest.

Approval of a standard as a National Standard of Canada indicates that a standard conforms to the criteria and procedures established by the Standards Council of Canada. Approval does not refer to the technical content of the standard; this remains the continuing responsibility of the accredited standards-development organization.

Those who have a need to apply standards are encouraged to use National Standards of Canada whenever practicable. These standards are subject to periodic review; therefore, users are cautioned to obtain the latest edition from the organization preparing the standard.

The responsibility for approving National Standards of Canada rests with the:

Standards Council of Canada  
270 Albert Street  
Suite 200  
Ottawa, Ontario  
K1P 6N7

## How to order **CGSB** Publications:

- by telephone —(819) 956-0425 *or*  
—1-800-665-CGSB  
(Canada only)
- by fax —(819) 956-5644
- by mail —CGSB Sales Centre  
Ottawa, Canada  
K1A 1G6
- in person —Place du Portage  
Phase III, 6B1  
11 Laurier Street  
Hull, Quebec
- by email —[ncr.cgsb-ongc@pwgsc.gc.ca](mailto:ncr.cgsb-ongc@pwgsc.gc.ca)
- on the Web —<http://www.pwgsc.gc.ca/cgsb>

# **ORGANIC AGRICULTURE**

**Prepared by the**  
Canadian General Standards Board 

**Approved by the**  
Standards Council of Canada 

Published June 1999 by the  
**Canadian General Standards Board**  
Ottawa, Canada K1A 1G6

© HER MAJESTY THE QUEEN IN RIGHT OF CANADA,  
as represented by the Minister of Public Works and Government Services,  
the Minister responsible for the Canadian General Standards Board, (1999).

No part of this publication may be reproduced in any form without the prior permission of the publisher.

**CANADIAN GENERAL STANDARDS BOARD**  
**COMMITTEE ON ORGANIC AGRICULTURE**

*(Membership at date of approval)*

Lynch, G.	<i>Chairperson</i>	Consultant
Barbolet, H.		Farm Folk/City Folk Society
Beauchemin, R.		La Table filière biologique du Québec
Boyle, D.		Pro Organics Marketing Inc.
Buchler, H.		Park Hill Vineyards
Campbell, C.		Industry Canada
Cassel, P.		Soy City Food
Chalifour, F.		Centre d'Agriculture biologique de la Pocatière
Chan, A.		Knives and Forks
Charpentier, F.		Organic Crop Improvement Association – Quebec
Cloud, J.		Cloud Mountain Inc.
Cooper, J.		Professional Agrologist Consultant
Dolinski, M.		Alberta Ministry of Agriculture
Doyer, C.		Agence de certification des aliments biologiques – Quebec
Everts, K.		Producers of the Diamond Willow Range Ltd.
Fearon, K.		Peace River Organic Producers Association
Forsyth, S.		National Agriculture Environment Committee
Gaudet, P.		Fédération de l'Agriculture biologique du Québec
Geddry, A.		Organic Crop Improvement Association – New Brunswick
Graff, A.		Organic Crop Improvement Association – Alberta
Gravelle, F.		Certification Garantie Bio
Hamblin, G.		Canadian Organic Advisory Board/ Organic Crop Improvement Association – The Chapters of Saskatchewan
Hamm, W.		Pro-Cert Organic Systems Inc.
Harrison, J.		Saskatchewan Organic Development Council
Henning, J.		MacDonald Campus of McGill University
Horner, D.		Westglen Milling
Hymers, K.		Canadian Organic Certification Cooperative Ltd.
Jolicoeur, M.		Shady Maple Farm
King, L.		Canadian Health Food Association
L'Esperence, L.		Certification Québec Vrai
Laing, K.		Ecological Farmers Association of Ontario
Lashyn, L.		Saskatchewan Food Processors Association

**CANADIAN GENERAL STANDARDS BOARD**  
**COMMITTEE ON ORGANIC AGRICULTURE — (*Continued*)**

*(Membership at date of approval)*

Lenhardt, L.	Organic Crop Producers and Processors – Pro-Cert Canada Inc.
Macey, A.	Canadian Organic Growers Inc.
Massong, F.	Agriculture and Agri-Food Canada – Canadian Food Inspection Agency
Mennell, B.	Organic Producers Association of Cawston & Keromeos
Mihailuk, I.	Mihailuk Farms
Morcinek, N.	Faunus Herbs
Nimmo, T.	Quality Assurance International – Canada
Oldenburg, E.	Food Institute of Canada
Orton, N.	Ports West International
Phelon, R.	Organic Crop Improvement Association – PEI
Pippy, H.	Newfoundland Blueberry Growers Association
Potash, B.	Certified Organic Association of British Columbia
Reibling, D.	Organic Crop Producers & Processors Ontario
Reynolds, B.	Consultant
Rutherford, S.	The Canadian Federation of Agriculture
Schoepp, J.	Homegrown Food and Agri Products
Scholz, M.	Certification Agent
Scott, A.	Organic Producers Association of Manitoba
Shambrock, D.	Manitoba Food Processors Association
Smillie, J.	Organic Trade Association of USA and Canada
Stephens, A.	Nature’s Path Foods Inc.
Stonehouse, P.	University of Guelph
Turner, A.	Similkameen Okanagan Organic Producers Association
Warman, P.	Nova Scotia Agriculture College
Windhein (Bensason), R.	The Organic Kitchen
Gaucher, M.L./ <i>Secretary</i>	Canadian General Standards Board
Dolhan, P.	

*Acknowledgment is made for the translation of this National Standard of Canada by the Translation Bureau of Public Works and Government Services Canada.*

## CANADIAN GENERAL STANDARDS BOARD

## ORGANIC AGRICULTURE

## TABLE OF CONTENTS

	<b>Page</b>
<b>INTRODUCTION</b>	
<b>DESCRIPTION</b> .....	iii
<b>GENERAL PRINCIPLES OF ORGANIC PRODUCTION</b> .....	iv
<b>1. SCOPE</b> .....	1
<b>2. REFERENCED PUBLICATION</b> .....	1
<b>3. DEFINITIONS AND TERMINOLOGY</b> .....	1
<b>4. PERIOD OF CONVERSION TO ORGANIC AGRICULTURE</b> .....	3
<b>5. ORGANIC PRODUCTION PLAN AND RECORDS</b> .....	4
5.1 <b>Production Plan</b> .....	4
5.2 <b>Handling and Processing Plan</b> .....	5
5.3 <b>Waste Management</b> .....	7
<b>6. CROP PRODUCTION</b> .....	7
6.1 <b>Environmental Factors</b> .....	7
6.2 <b>Variety Selection</b> .....	7
6.3 <b>Rotations</b> .....	8
6.4 <b>Soil Management</b> .....	8
6.5 <b>Disease and Pest Management</b> .....	9
6.6 <b>Weed Management</b> .....	9
6.7 <b>Growth Regulators</b> .....	9
6.8 <b>Plastic Materials</b> .....	9
6.9 <b>Buffer Zones</b> .....	9
<b>7. LIVESTOCK PRODUCTION</b> .....	10
7.1 <b>Living Conditions</b> .....	10
7.2 <b>Feed</b> .....	10
7.3 <b>Livestock Sources</b> .....	11
7.4 <b>Health</b> .....	11
7.5 <b>Breeding</b> .....	12
7.6 <b>Handling</b> .....	12
<b>8. SPECIFIC PRODUCTION REQUIREMENTS</b> .....	12
8.1 <b>Honey</b> .....	12
8.2 <b>Maple Products</b> .....	13
8.3 <b>Mushrooms</b> .....	14
8.4 <b>Organic Sprouts</b> .....	14
8.5 <b>Greenhouse Crops</b> .....	14
8.6 <b>Wild and Natural Products</b> .....	15
<b>9. STORAGE, TRANSPORTATION, AND PROCESSING OF ORGANIC PRODUCTS</b> .....	16
9.1 <b>Integrity</b> .....	16
9.2 <b>Storage</b> .....	16
9.3 <b>Transportation</b> .....	16
9.4 <b>Processing</b> .....	16
9.5 <b>Packaging Materials</b> .....	16
9.6 <b>Pest Management</b> .....	16

TABLE OF CONTENTS — *(Continued)*

<b>10.</b>	<b>LABELLING .....</b>	<b>17</b>
<b>11.</b>	<b>REQUIREMENTS FOR INCLUSION OF SUBSTANCES ON THE LIST OF ACCEPTABLE INPUTS (PERMITTED SUBSTANCES LIST) .....</b>	<b>17</b>
<b>12.</b>	<b>NOTES.....</b>	<b>19</b>
<b>APPENDIX A</b>	<b>PERMITTED SUBSTANCES LIST (PSL) FOR CROP PRODUCTION .....</b>	<b>A1</b>
<b>APPENDIX B</b>	<b>PERMITTED SUBSTANCES LIST (PSL) FOR LIVESTOCK PRODUCTION .....</b>	<b>B1</b>
<b>APPENDIX C</b>	<b>PERMITTED SUBSTANCES LIST (PSL) FOR PROCESSING.....</b>	<b>C1</b>
<b>APPENDIX D</b>	<b>PERMITTED SUBSTANCES LIST (PSL) FOR PACKAGING AND SANITATION.....</b>	<b>D1</b>

## INTRODUCTION

### DESCRIPTION

Organic agriculture is a holistic system of production designed to optimize the productivity, and fitness of diverse communities within the agroecosystem, including soil organisms, plants, livestock, and people. The principle goal of organic agriculture is to develop productive enterprises that are sustainable and harmonious with the environment.

Management-intensive practices are carefully selected with the intent to restore and then sustain ecological stability within the enterprise and the surrounding environment. The fertility of soil is maintained and enhanced by a system that promotes optimal biological activity within the soil and conservation of soil resources. Weed, pest and disease management is attained by an integration of biological, cultural and mechanical control methods that include minimized tillage and cultivation, crop selection and rotation, recycling of plant and animal residues, water management, augmentation of beneficial insects to encourage a balanced predator-prey relationship, and the promotion of biological diversity.

Under a system of organic production, livestock are provided with living conditions and stocking rates appropriate to their behavioral requirements, high-quality diet of organically-produced feed, and ethical animal husbandry that facilitates low stress, promotes good health, and prevents disease.

Organic agricultural foods are produced and processed under a system that strives to preserve the integrity of the principles outlined within this standard<sup>1</sup>. Neither this standard, nor foods labelled to identify this standard, represent specific claims to the health, safety, and/or nutrition of such foods.

By themselves, organic practices can not ensure that organic products are entirely free of residues of prohibited substances and other contaminants, since exposure to such compounds from the atmosphere, soil, ground water and other sources may be well beyond the control of the operator.

---

<sup>1</sup> References throughout this document to “standard” refer specifically to the document CAN/CGSB-32.310, *Organic Agriculture*.

## GENERAL PRINCIPLES OF ORGANIC PRODUCTION

The following principles are the foundation of organic production.

- 1. Protect the environment, minimize soil degradation and erosion, decrease pollution, optimize biological productivity and promote a sound state of health** — The main goals of organic production systems are to optimize biological productivity, environmental quality, and community wellness. Operators of organic enterprises strive to reduce or eliminate reliance on practices using natural- or synthetically-based compounds that harm beneficial organisms within the soil, deplete non-renewable resources, compromise water and air quality, or which, through misuse, could endanger the health of agricultural workers, the agricultural community, or the consumer.
- 2. Replenish and maintain long-term soil fertility by optimizing conditions for biological activity within the soil** — The health of the soil is an integral component to the soundness of the agroecosystem. A balance of physical, chemical and biological inputs must be addressed in practices to optimize the quantity and diversity of soil organisms and to improve soil fertility. Enhancement of the quality of soil includes, but is not limited to, such practices as the use or incorporation of cover crops, crop rotation, inter-cropping, green manure, recycled plant refuse and animal manure, rotational grazing of livestock, tillage, and the judicious application of supplemental nutrients as permitted by this standard.
- 3. Maintain diversity within and surrounding the enterprise and protect and enhance the biological diversity of native plants and wildlife** — Biological diversity is essential for the stability and the sustainability of agroecosystems. Diversity is promoted and enhanced during all aspects of organic production, through the selection of relevant crop varieties, livestock breeds, rotation cycles, strategies for pest management, among other inputs and practices permitted by this standard.
- 4. Recycle materials and resources to the greatest extent possible within the enterprise** — Operators of organic systems intensively manage the individual enterprise and use biologically based inputs in place of synthetically based inputs. Soil nutrients depleted from crop production and natural leaching are replenished by nutrient sources from within the enterprise, and when this is not practical, then the source may be from the surrounding community. Efforts to conserve energy during the transportation, manufacturing and handling of agricultural inputs and products are encouraged to the greatest possible extent.
- 5. Provide attentive care that promotes the health and behavioral needs of livestock** — Organically raised livestock are managed to prevent disease and promote wellness through a combination of organically produced diet, adequate housing, ethical animal husbandry, handling practices that minimize stress, and regular monitoring.
- 6. Maintain the integrity of organic food and processed products from initial handling to point of sale** — Organic agricultural foods, and their ingredients, additives and processing aids, are produced, processed, manufactured and handled in accordance with the principles of the organic system of production and processing. Genetically engineered and/or modified organisms (GEO/GMO), or their products, are not compatible with the principles of organic production and are prohibited from use in any aspect of organic production, processing or manufacturing. Furthermore, the use of ionizing radiation on organic food products (i.e. food irradiation) or their inputs is not compatible with the principles of organic processing and is prohibited.

## CANADIAN GENERAL STANDARDS BOARD

## ORGANIC AGRICULTURE

**1. SCOPE**

- 1.1 This standard outlines principles for organic agriculture that endorse sound production and management practices to enhance the quality and sustainability of the environment and ensure the ethical treatment of livestock.
- 1.2 This document specifies the minimum criteria that must be met when food products, inputs and other products used in organic production are defined as organic, or comparable wording described in this standard.
- 1.3 The scope of this standard includes, but is not limited to, the period of conversion to organic agriculture, production plans and records, crop and livestock production, production requirements for maple products, honey, greenhouse crops, mushrooms, sprouted plants, and wild and natural products, the production, and processing of organic products, packaging, labelling, storage and distribution of organic food products, and the Permitted Substances List.
- 1.4 The testing and evaluation of an organic product, or other component, against this standard may require the use of materials and/or equipment that may be hazardous to the health and safety of the evaluator. This document does not purport to address any safety aspects associated with use of test materials or equipment. It is the responsibility of individuals employing this standard to consult with appropriate authorities and to adopt appropriate health and safety practices in conjunction with any applicable regulatory requirements before use.
- 1.5 This standard does not, in any way, absolve any product, individual, corporation, association or organization from complying with any federal, provincial or municipal act.

**2. REFERENCED PUBLICATION**

- 2.1 The following publication is referenced in this standard:
- 2.1.1 Codex Alimentarius Commission, Alinorm 99/22, Draft Guidelines for the Production, Processing, Labelling and Marketing of Organically Produced Foods.
- 2.1.2 A reference to a regulation is always to the latest issue. A dated reference is to the issue specified. An undated reference is to the latest issue, unless otherwise specified by the authority applying this standard. The sources are given in the Notes Section.

**3. DEFINITIONS AND TERMINOLOGY**

- 3.1 For the purposes of this standard, the terms organic (biologique), organically grown, organically raised, organically produced, and biodynamic, and the translation in any language of these words, refers to products produced under a system that meets this standard. For the purposes of this standard, the terms certified organic (certifié biologique), certified organically grown, certified organically raised, certified organically produced, and certified biodynamic, and the translation in any language of these words, refers to products whose certification attests to conformance with this standard.
- 3.2 For the purpose of this standard, the following definitions and terms apply:

**Agroecosystem** (Agroécosystème)

A system consisting of the form, function, interaction, and equilibrium of the biotic and abiotic elements present within the environment of a given agricultural enterprise.

**Allopathic treatment** (Traitement allopathique)

A method of treating disease with substance(s) that produce a reaction or effects different from those caused by the disease itself.

**Audit Trail** (Piste de vérification)

A documentation control procedure that is sufficient to determine the origin, transfer of ownership and transportation process (i.e. supply chain) of any product labelled as organic or containing organic ingredients.

**Buffer Zone** (Zone tampon)

A clearly defined and identifiable boundary area bordering an organic production unit that is established to limit inadvertent application or contact of prohibited substances from adjacent non-organic areas.

**Certification** (Certification)

The procedure by which a third party gives written assurance that a product, process or service conforms to specified requirements.

**Certified Enterprise** (Entreprise certifiée)

An operation or establishment engaged in the production and/or processing of agricultural products that are certified organic by a certification body as conforming to this standard.

**Certification Body** (Organisme de certification)

A body that conducts certification.

**Certified Organic Product** (Produit certifié biologique)

Any product whose certification attests to conformance with this standard.

**Commingling** (Mélange)

Physical contact between bulk, unbound, or otherwise unpackaged organic food products and non-organic products during production, processing, transportation, storage, or handling of organic food products, with the exception of processing containing both ingredients.

**Compost** (Compost)

A stabilized product of controlled decomposition of an appropriate mixture of nitrogen- and carbon-bearing materials that have been piled, periodically mixed, subjected to heating above 55°C, then cured for an extended period of time (in a process designed to mitigate environmental damage) to produce humus as a soil amendment or fertilizer.

**Enterprise** (Entreprise)

A production or processing business or establishment.

**Food Irradiation** (Irradiation des aliments)

A sanitation or preservative method for packaged or bulk foodstuffs to destroy contaminants by ionizing radiation from gamma-radiation from a Cobalt-60- or Cesium-137 source, X-rays generated from a machine source operated at or below an energy level of 5 MeV, and electrons generated from a machine source operated at or below an energy level of 10 MeV.

**Genetically Engineered and/or Modified Organisms (GEO/GMO)** (Organismes génétiquement modifiés (OGM))

All organisms, and products thereof, produced through techniques of genetic engineering and modification including, but not restricted to recombinant DNA, cell fusion, encapsulation, macro and micro injection, gene deletion or magnification, and other techniques for altering the genetic composition of living organisms in ways, or with results, that do not occur in nature through mating or through traditional breeding techniques such as conjugation, hybridization, or transduction.

**Homeopathic treatment** (Traitement homéopathique)

A treatment of disease based on the administration of minute doses of a substance that in massive amounts produce symptoms in healthy animals similar to those of the disease itself.

**Ingredient** (Ingrédient)

Any substance or food additive used in the processing, manufacturing, or preparation of a food product, including modified substances used in the final product.

**Inspection** (Inspection)

A conformity evaluation of the extent to which a product, process or system fulfils specified requirements.

**Labelling** (Étiquetage)

Any display of printed or written wording, or graphic symbology that is present on a food product, or is associated with a food product, for the purpose of its sale or disposal.

**Livestock** (Bétail)

All animals used for food or in the production of food including, but not limited to, cattle, equines, goats, poultry, sheep, swine and wild or domesticated game.

**Marketing** (Commercialisation)

The holding or display of product for sale, including, but not limited to, offers for sale, selling, delivering, or placing on the market in any form.

**Non-organic** (Non biologique)

All livestock and agricultural crops including, but not limited to, their produce, processed products, and production and management practices, that do not conform with the prescribed requirements of this standard.

**Operator** (Exploitant)

Any person, firm or organization that produces, handles, or processes with a view to the subsequent marketing thereof, products referred to as organic (biologique), organically grown, organically raised, organically produced, certified organic or biodynamic in accordance with this standard.

**Organic Integrity** (Intégrité biologique)

The maintenance of the inherent organic qualities of a product from production through to point of sale, in accordance with the requirements of this standard.

**Organic Product** (Produit biologique)

Any commodity or output that has been produced under a system that meets this standard.

**Parallel Production** (Production parallèle)

The simultaneous production of organic and non-organic crops and/or livestock, or their products, within an enterprise.

**Permitted Substances List** (Liste des substances permises)

The list of compounds, inputs or other actions permitted for use by an operator as specified in Appendices A to D of this standard.

**Principle Display Panel** (Support d'affichage principal)

A label or other identification mark affixed to a food product that is intended to be predominantly viewed by the consumer under normal conditions.

**Prohibited Substance** (Substance interdite)

A compound, input, or other action whose use in any aspect of organic production, processing, manufacturing, or handling that is prohibited or not provided for in the Permitted Substances List as specified in Appendices A to D of this standard.

**Production Unit** (Unité de production)

A portion of an enterprise that produces an agricultural product under a specific management plan.

**Sewage Sludge** (Boues d'épuration)

A semisolid material formed as a precipitate from the treatment of liquid and solid human waste, among other compounds, accumulated predominantly in municipal and/or industrial sewage treatment facilities, sewers and drains.

**Synthetic** (Synthétique)

A man-made substance formulated or manufactured by a chemical process or by a process that chemically alters compounds extracted from naturally occurring plant, animal or mineral sources. This term does not apply to compounds synthesized or produced by naturally occurring biological processes, including heat and mechanical processing.

**Third Party** (Tierce partie)

A person or body that is recognized as being independent of the parties involved as concerns the issue in question.

**Transitional Product** (Produit de transition)

A product from an enterprise under the supervision of a certification body and in the process of completing its transitional period toward becoming a certified enterprise.

#### 4. PERIOD OF CONVERSION TO ORGANIC AGRICULTURE

- 4.1 Conversion to an organic system of production involves the total steps required for a production unit or an enterprise to fully comply with this standard.

- 4.2 **Conversion Period for Crop Production** — Crop products shall not be labelled or marketed as certified organic in accordance with this standard until this standard has been fully applied, on a production unit for at least 24 months, and the enterprise has not used prohibited substances, for at least 36 months prior to crop harvest. Where an enterprise can document that a relevant production unit has been managed in accordance with the requirements of this standard for 24 months prior to seeking certification, the certification body may reduce the required conversion period by 12 months. During the final 12 months of the conversion period for a production unit, the enterprise shall be under the supervision and inspection of a certification body.
- 4.3 **Conversion Period for Livestock Products** — Livestock products shall be labelled or marketed as products certified organic in accordance with this standard provided that the following conditions have been met:
- a. **Livestock Health and Living Conditions** — The conditions governing veterinary care and animal well-being (par. 7.1 and 7.4) shall be complied with for no less than 90 days. Such conditions shall be maintained as long as the animal is in the care of the operator.
  - b. **Feed** — Organically raised livestock shall be fed feeds that are certified organic in accordance with this standard.
    - i. for eggs, laying hens shall be fed organically certified feed for at least 30 days
    - ii. for milk, milking livestock shall be fed organically certified feeds for at least 12 months (par. 7.3.2); rendered animal feed products are prohibited
    - iii. for slaughter purposes, livestock shall be fed only organically certified plant-based feeds; rendered animal feed products are prohibited
    - iv. for other livestock, conversion feed requirements for other livestock shall be consistent with the husbandry of the animals as per above requirements.
  - c. **Conversion** — An enterprise may simultaneously convert livestock and crops into organic production. In such cases, the feed requirements (par. 4.3b) may be met with feed from the second transitional year of the crop conversion.
- 4.4 A certification body may set more stringent conversion periods for some enterprises owing to the conditions of the land, the case history, or the need to ensure compliance with the underlying principles of this standard.
- 4.5 In cases where an enterprise does not fully convert to organic agriculture, conversion may be accomplished on a production unit basis, provided that each production unit that is converted meets the requirements of this standard.
- 4.6 An operator in the process of converting an enterprise, or a production unit, to this standard shall provide a written conversion plan to a certification body. The certification body shall assess the plan and recommend any necessary amendments or changes, following application for certification and inspection.
- 4.7 The conversion plan shall include a comprehensive history of the production unit that provides, but is not limited to, records of the plant variety or breed of livestock used, methods of production, and the form, method, and quantity of fertilizer and pest management measures applied. The conversion plan shall also include an assessment of the current system of production with respect to variation from this standard, a listing of changes to be made during conversion (e.g. crop rotation, animal waste management, disease and weed control), and the conversion schedule.
- 4.8 Production units shall not be rotated into and out of organic production.

## 5. ORGANIC PRODUCTION PLAN AND RECORDS

### 5.1 Production Plan

- 5.1.1 An operator of an enterprise seeking organic certification shall prepare a production plan outlining the details of soil management practices, rotations, fertilization, crop protection, harvest, post-harvest treatments and livestock practices (if applicable) in compliance with this standard. The production plan must be prepared annually to address changes to the plan or management system, problems encountered in executing the production plan, and measures taken to overcome such problems.
- 5.1.2 The production plan shall include the following elements:
- a. detailed map of the enterprise, a description of the rotation plan and the production plan, a description of changes in the general condition of the soil, and ongoing monitoring of the soil condition

- b. a detailed description of the sources of seed, including seed inoculants, germplasm, scions, rootstock and other propagules, production methods, and related problems with production
- c. for livestock, a detailed description of the sources of livestock, production methods including a description of livestock management plans for diet, disease, pests, breeding, and related problems with production
- d. a description of the cultivation techniques and types of machinery and equipment used, a profile of erosion risks and proposed corrective measures
- e. a description of the fertilization program, including origin and source of manure, storage and handling techniques, quantity applied, application period, and composting methods; a description of other production methods aimed at increasing organic matter, such as green manure crops and harvest residue management; a plan to prevent the leaching of breakdown products of liquid and solid manure; and environmental protection measures
- f. a detailed listing of all production inputs permitted by this standard and the justification for their use
- g. a description of the watershed on the enterprise and measures to prevent contamination by prohibited substances or other pollutants; a description of the sources and quality of water used for irrigation
- h. a description of crop protection issues and management strategies; a description of problem trends with past practices
- i. a description of potential sources of contamination by prohibited substances or other pollutants; concerns associated with neighboring areas and buffer zones; in cases where the enterprise is not fully converted to organic production, a description of the management system to maintain organic integrity
- j. a description of the facility's management plan for the storage and handling of organic inventory, and the steps or procedures taken to prevent the commingling of organic and any non-organic stocks that may be present
- k. for wild plants, a detailed plan of the harvest areas of wild plant species and a history of the last 36 months of compliance with this standard, including a description of the harvesting methods used and proposed measures for protection of wild plant species.

### 5.1.3 ***Parallel Production***

- 5.1.3.1 Enterprises with organic and non-organic production units in parallel production must provide adequate separation and/or an identification system for distinguishing organic and non-organic crops and livestock (i.e. general appearance, colour, variety, types, etc.) and/or their products.
- 5.1.3.2 In cases where organic production units or their products, in parallel production, cannot be clearly distinguished (e.g. crop products), approval may be granted by a certification body, provided that an inspection on the unit(s) under production is performed at an appropriate time to prevent commingling.

### 5.1.4 ***Records and Record Keeping***

- a. The certified enterprise shall maintain records of inputs and production and make them available to a certification body. Separate records shall be kept for organic and non-organic production units. Records shall detail all the information needed to demonstrate adherence to this standard.
- b. A certification body shall establish record keeping requirements for its member or client enterprises. These requirements shall be sufficient to establish an audit trail.

## 5.2 **Handling and Processing Plan**

- 5.2.1 The enterprise shall have an organic handling and processing plan containing provisions designed to ensure that agricultural products labelled and marketed as organic are handled and processed in accordance with the requirements of this standard.
- 5.2.2 ***Requirements*** — The organic handling and processing plan of the enterprise shall include the following components that pertain to the specific handling operation or the agents, licensees, employees, contractors and subcontractors

who handle the organic products of the enterprise. The format of the handling and processing plan shall be determined by the certification body.

a. *Organic Handling and Processing System Description*

- i. A description of all specifications and steps under the control of the enterprise including, but not limited to, the harvesting, preparation, packaging, labelling, processing, storage and distribution of organic product, and shall include measures required to communicate the appropriate control measures required at other levels of processing and/or handling (in the supply chain) in order to maintain the status of certified organic in accordance with the requirements of this standard.
- ii. A schematic flow chart or written description with sufficient information for a general understanding of the flow of organic products during handling and processing. All equipment, machinery and storage areas used in handling and processing shall be identified in the flow chart.

b. *Assurance of Organic Integrity* — A description of a control system<sup>2</sup>, that addresses for the handling operation the following areas of potential contamination (i.e. hazards) of the organic product:

- i. commingling of a certified organic product with a non-organic product
- ii. containers and packaging
- iii. sanitizers, boiler chemicals, processing aids and prohibited substances
- iv. transportation and storage
- v. pest control substances
- vi. enzymes
- vii. prohibited handling and processing procedures, including, but not limited to, the use of food irradiation.

c. *Material Inputs*

- i. A listing of all ingredients and substances used in handling and processing of organic and non-organic products, including ingredients used for curing and smoking.
- ii. For each product labelled organic that contains one or more non-organic agricultural products as ingredients, a written description of:
  - efforts made in good faith to locate or develop a source of the form of the ingredient certified organic in accordance with this standard
  - progress made over the previous year(s) to eliminate non-organic agricultural products as ingredients.
- iii. For each non-organic agricultural product used as an ingredient, a description of the rationale for not using ingredients certified organic in accordance with this standard
- iv. A list of all processing aids used.
- v. A description of water usage in the handling operation is required. An analysis of the quality of the water, verified by test results from an analytical laboratory, may be requested.

d. *Audit Trail and Record Keeping System* — A description of the system of internal record keeping with documents sufficient to meet requirements of par. 5.2.3.

e. *Pest Management*

- i. A description of the pest problems encountered in the handling operation and pest monitoring techniques employed.
- ii. A description of non-chemical pest control methods used in the handling operation.
- iii. A description of chemical pest control methods used in the handling operation.

f. *Livestock Care*

- i. A description of handling methods used to minimize stress in livestock.

---

<sup>2</sup> A system by which operators of a certified organic enterprise can evaluate the potential sources of commingling with non-organic products or prohibited substances, institute controls necessary to prevent these occurrences, monitor the performance of these controls, and maintain records of such monitoring as a matter of routine practice.

- ii. A description of arrangements made at the packing plant for supplying livestock with fresh water.
- iii. A description of arrangements made at the packing plant for feeding livestock held for greater than 24 hours.

5.2.3 A certified enterprise engaged in processing and/or handling shall retain sufficient records to demonstrate adherence to this standard. Without restricting the foregoing, such records shall:

- a. be sufficient to establish an audit trail and a record of the management practices including deviations from the plan for organic and non-organic production,
- b. include a list of all known operators that sell, transport or store the products of the organic handling operation, up to the end of retail packaging.

### 5.3 **Waste Management**

5.3.1 The enterprise shall include a written description of:

- a. efforts taken to reduce solid and/or liquid waste, and airborne emissions produced by the handling operation,
- b. recycling efforts, including, but not limited to, the use of recycled materials and efforts to reduce packaging in the handling operation.

## 6. **CROP PRODUCTION**

### 6.1 **Environmental Factors**

6.1.1 Measures shall be taken to minimize spray drift and/or other risks of contamination of substances prohibited in this standard, from neighboring areas. Operators of organic enterprises must inform operators of non-organic areas adjacent to organic production areas of the risk of contamination from prohibited substances. The specifications of a certification body shall include these measures.

6.1.2 If there is a reasonable likelihood that a production unit is subject to contamination from soil-borne, water-borne, or airborne compounds not allowed in the Permitted Substances List, (such as when the production unit is located near a major source of pollution) then a certification body must require chemical residue analyses by an analytical laboratory to confirm organic integrity.

6.1.3 Measures shall be taken to monitor the quality of irrigation water, especially if there are sources of contamination from prohibited substances in adjacent areas or upstream. The specifications of a certification body shall include these measures.

6.1.4 Soil erosion shall be controlled by good management practices including, but not limited to, measures that include appropriate cultivation practices, water drainage or other controls in accordance with the soil type, local conditions, and crop.

### 6.2 **Variety Selection**

6.2.1 Plant varieties, seed, seed inoculants, germ plasm, scions, rootstocks or other propagules developed through the use or incorporation of genetically engineered and/or modified organisms (GEO/GMO), or related technology, are prohibited from use under this standard.

6.2.2 Selection of plant species and their respective varieties within the enterprise based on their genotypic and/or phenotypic adaptation and fitness to regional soils and climate is recommended. Selection of varieties that are resistant to the predominant disease and pests in the relevant area (i.e. bioregion) in which they will be produced should be encouraged.

6.2.3 Measures to enhance genetic and biological diversity within the enterprise should be adopted. Selection of plant varieties must not compromise local or regional biological diversity.

6.2.4 Annual seedlings and transplants shall be produced in accordance with this standard. Perennial plants propagated from perennial stocks may be obtained from sources outside of this standard. The products from such perennial plants shall not be labelled or marketed as organic until a 12-month period of cultivation in compliance with this standard has expired.

6.2.5 If an operator can demonstrate that seed, and/or bulbs, tubers, cuttings and other propagules, free from prohibited substances, are not readily available from within the enterprise or from other sources, then seed (or other propagules) may be obtained outside of the enterprise subject to the approval of a certification body.

### 6.3 Rotations

6.3.1 Crop rotations should be as varied as possible and the use of green manure crops deep-rooted plants, legumes, and/or rotation pastures that include legumes is recommended.

6.3.2 In non-livestock production systems, the inclusion of legumes is recommended in the crop rotation schedule.

### 6.4 Soil Management

#### 6.4.1 *General Principles of Organic Soil Management*

6.4.1.1 The main objective of the soil management program shall be the establishment and maintenance of a fertile soil using practices that maintain or increase soil humus levels, promote an optimum balance and supply of nutrients, and stimulate biological activity within the soil.

6.4.1.2 The organic matter produced on the enterprise shall be the basis of the fertilization program with supplementation from approved off-farm sources of organic and non-organic nutrient sources (see Appendix A, section A1).

6.4.1.3 The use of genetically engineered and/or modified (GEO/GMO) soil microorganisms, or any of their related products (i.e. enzymes), is prohibited from use in soil management or composting.

6.4.1.4 The use of sewage sludge as a soil amendment in any form is prohibited under this standard.

6.4.1.5 Soil testing, to monitor soil organic matter levels, soil pH, macronutrient and micronutrient levels, cation exchange capacity and percent base saturation, by an analytical laboratory, is recommended, especially when soil nutrient deficiencies or other imbalances are in question.

6.4.1.6 The nature and frequency of tillage practices shall be directed to minimize damage to the structure and tilth of soil.

6.4.1.7 Fertilization practices must be directed towards conserving soil and plant nutrients in the production system. Addition or removal of excessive levels of nutrients should be avoided.

6.4.1.8 Soils in cultivated fields shall be covered by crop residues from tillage methods or by a cover crop within a cycle of crop rotation, wherever possible, to prevent erosion and soil degradation.

#### 6.4.2 *Recommended Practices of Organic Soil Management*

6.4.2.1 Compost should be used to improve or maintain soil humus levels and soil fertility. The production of compost must follow federal and/or provincial compost standards for maturity, foreign matter, trace elements and pathogens.

6.4.2.2 A preharvest interval of four (4) months or greater must follow the application of fresh (i.e. raw) manure from organic sources, including liquid manure and slurries on agricultural crops for human consumption. For crop plants that are known nitrate accumulators (i.e. radishes, leafy greens, members of the beet family), fresh manure shall not be applied less than four (4) months before planting. On agricultural crops or perennials not used for human consumption, fresh manure may only be applied in moderate amounts. In all cases where manure is applied, the soil must be sufficiently warm (i.e. not frozen) and moist to ensure active bio-oxidation.

6.4.2.3 The use of off-farm sources of manure is discouraged. Municipal sewage sludge is not permitted as a compost material. All sources of manure from non-organic enterprises shall be composted before use on the enterprise to maturity for a recommended period of six (6) months. Compost may be matured in shorter time periods; however, composting plans must be approved by a certification body to ensure that the appropriate process for short-term composting and determining the maturity of compost, will be completed.

6.4.2.4 Off-farm sources of compost shall only be used with the approval of a certification body. The certification body shall reserve the right to prohibit the use of municipal, industrial, commercial or institutional composts that otherwise have achieved an unrestricted use classification by federal or provincial compost quality standards, based

on an analysis by an analytical laboratory of compost or feedstock components that do not comply with this standard.

- 6.4.2.5 The use of leguminous crops (i.e. clover, alfalfa, vetches or peas) in rotation, to maximize inputs of atmospheric nitrogen to the enterprise, is recommended.
- 6.4.2.6 The use of “catch” crops (e.g. oilseed radish, buckwheat or oats) in rotation, to retain any residual nutrients in the soil after the main crop is harvested, is recommended.
- 6.4.2.7 The use of deep-rooted crops (e.g. oilseed radish, sweet clover) in rotation, to improve subsoil drainage and to take up nutrients that have leached to deeper soil horizons, is recommended.

## 6.5 **Disease and Pest Management**

- 6.5.1 Organic production methods should be aimed at minimizing losses caused by disease and pests through the use of varieties that are well adapted to the environment, balanced rotations and fertilization, biologically active soils, green manure crops, inter-plant associations, among other tactics.
- 6.5.2 Natural predators of pests should be protected and encouraged by promoting conditions within the enterprise conducive to their establishment and maintenance.
- 6.5.3 All synthetic pesticides, including fungicides, insecticides, rodenticides or other pesticides are prohibited, except where noted in Appendices A, C and D of this standard.
- 6.5.4 Application equipment, including but not limited to spray equipment, used for nutrient supplements, disease and/or pest management on the enterprise must be cleaned thoroughly between applications to remove residues of applied substances.
- 6.5.5 Thermal sterilization of soil and compost is permitted to control disease and pests if alternative methods of soil renewal or rotation are not possible.

## 6.6 **Weed Management**

- 6.6.1 All synthetic herbicides, defoliants and desiccants are prohibited, except where noted in Appendices A, C and D of this standard.
- 6.6.2 The growth and development of weeds shall be managed by cultivation techniques, including but not limited to the use of balanced rotations and fertilization, green manure crops, stale seedbeds, mulching, and/or mechanical hoeing.
- 6.6.3 All physical weeding methods, including thermal and electrical weed control, are permitted.
- 6.7 **Growth Regulators** — All synthetic growth regulators including, but not limited to synthetic hormone-based growth regulators, are prohibited.

## 6.8 **Plastic Materials**

- 6.8.1 The use of plastic mulch, tunnels, hay wrappers and other plastics used for crop production or protection is permitted. The use of plastic materials, however, shall conform to the general principles of organic production.
- 6.8.2 Plastic materials shall be re-used or recycled wherever possible.
- 6.8.3 Photodegradable plastics are prohibited.
- 6.9 **Buffer Zones** — Buffer zones must be sufficient in size or other features to prevent the possibility of unintended contact with prohibited substances and are to be set by the operator on a case-by-case basis according to local needs and conditions and recommendations by a certification body.

## **7. LIVESTOCK PRODUCTION**

### **7.1 Living Conditions**

7.1.1 Production methods shall take into account the physiological and behavioural requirements of livestock. Production methods must ensure that:

- a. all facilities used to confine livestock production units shall be conducive to their normal socialization, feeding and bedding practices. Because of seasonal climatic and environmental conditions, stocking rates of production units will be highly variable and, therefore, should be developed for each production unit with reference to local conditions, feed production capacity, stock health, nutrient balance of livestock and soils, and the environmental impact.
- b. production techniques foster the long-term health of livestock, especially in cases where animals are required to provide a high level of production or rate of growth.

7.1.2 A certification body shall establish specific parameters by which the certified enterprise will meet the following requirements. All livestock shall have an environment suited to their needs that provides:

- a. a stocking area sufficient to facilitate free movement in accordance with the needs of the animal
- b. sufficient fresh air and natural daylight in accordance with the needs of the animal
- c. regular access to pasture, free-range open air runways or other exercise areas, subject to weather and ground conditions
- d. protection from excessive exposure to sunlight, temperatures, precipitation and wind, in accordance with the needs of the animal
- e. appropriate resting and bedding areas in accordance with the needs of the animal
- f. adequate bedding materials when housed, and in cases where bedding material may be used as feed, materials should be certified organic in accordance with this standard
- g. access to fresh water and high quality foodstuffs in accordance with the needs of the animal
- h. housing facilities that lessen the potential negative effects of construction design, toxic materials (i.e. lead paint), spurious electrical discharge, noise, among other environmental factors, on animal behavior and comfort.

7.1.3 If daylight is artificially extended, the total duration of the photoperiod may not exceed 16 hours per day and artificial photoperiods must start and end with a gradual reduction in light intensity.

### **7.2 Feed**

7.2.1 The diet shall be nutritionally balanced to meet the nutritional requirements in accordance to the needs of the animal and shall be of good nutritional quality.

7.2.2 All organic feed shall be produced and processed in accordance with the following specifications. Livestock, in general, shall receive 100% of foodstuffs from organic sources. However, feeds consisting of no less than 85%, calculated on a dry matter basis, from organic sources for ruminants and no less than 80% from organic sources for non-ruminants may be used at the discretion of the certification body. When an unforeseeable major occurrence (e.g. a natural disaster or any other such as flood, drought, or extreme weather) limits the availability of organic feed, a certification body may permit a refinement in the minimum acceptable percentage of an animal's ration to come from a transitional product when available, or when a transitional product is unavailable, from non-organic sources. The latter shall be short-term only and determined on a case-by-case basis. Any animal fed non-organic feed beyond the 15-20% limits shall be identified as such if sold within six (6) months of consuming such feed.

7.2.3 The following products shall under no circumstances be included or added to a livestock animal's diet: feed medications, including all hormones and antibiotics used to promote growth, synthetic appetite modifiers, preservation agents (subject to par. 7.2.5), colouring agents, urea, animal by-products (slaughterhouse waste), dung, droppings or other animal waste, medicated feeds, genetically engineered and/or modified organisms (GEO/GMO) or their products, feeds that have been defatted using solvents (hexane, etc.), chemically-extracted feeds (soy, canola or other meals) or feeds to which other chemicals or prohibited substances have been added.

- 7.2.4 Compounds produced from genetically engineered and/or modified organisms (GEO/GMO), their products or related gene technology, are not permitted as ingredients of livestock feed. The following groups of ingredients, if obtained by a synthetic process, must have the approval of a certification body: vitamins, trace elements and pure amino acids. A certification body shall list conditions under which these ingredients may be authorized. These conditions are represented by the following categories:
- a. deficiencies that are specific to an enterprise or to a feed stock
  - b. livestock of specific type and age
  - c. specific abnormal circumstances beyond the control of the operator, and
  - d. biogeographical requirements.

7.2.5 The following silage preservation products are permitted as part of the production plan: bacterial or enzymatic additives and agricultural food by-products (e.g. molasses), with the exception that genetically engineered and/or modified organisms (GEO/GMO), or their products, are not permitted.

### 7.3 **Livestock Sources**

7.3.1 Slaughter livestock shall be born and raised in an organic production unit. However, one-day-old fowl can be obtained from non-organic operations, provided that such fowl have not been treated with antibiotics and/or other prohibited substances.

7.3.2 Dairy livestock may be obtained from non-organic operations; however, the maximum annual number stocked shall not exceed an increase of 10% of the total number of organic dairy livestock on the enterprise. Milk cannot be labelled or marketed as certified organic milk until livestock have been raised in accordance with this standard for at least twelve (12) months.

7.3.3 Breeding livestock may be obtained from non-organic operations. The annual maximum number of non-organically raised livestock, however, shall not exceed an increase of 10% of the total number of organic breeding livestock on the enterprise. Consequently, livestock from non-organic sources may not be:

- a. slaughtered and labelled or marketed as organic, or
- b. resold as organic breeding stock, if held for less than 12 months.

7.3.4 In the event of a natural disaster or any other unforeseeable major occurrence, a certification body may authorize exceptions to restocking for a limited time period.

### 7.4 **Health**

7.4.1 In cases where disease and health problems require treatment, the use of biological, cultural and physical treatments and/or practices are recommended. If no alternative treatment or management practice exists, substances for veterinary use, as described in appendix B, section B2, are permitted. If a veterinary drug treatment is used, the withdrawal period shall be at least double the permitted federal withdrawal period allowed for veterinary drugs. The withholding of necessary veterinary treatments in order to maintain the organic status of the affected animal is not permitted.

7.4.2 Vaccination of livestock and therapeutic use of veterinary drugs are permitted only when it has been documented that the targeted diseases are communicable to livestock on the enterprise and cannot be combated by other means.

7.4.3 Allopathic treatments (see Appendix B, section B2) shall be used only as a last resort and are to be aimed at preventing the needless suffering of livestock. If an allopathic treatment is used, the withdrawal period shall be at least double the permitted federal withdrawal period allowed for veterinary drugs.

7.4.4 No products from livestock treated with synthetic antibiotics, parasitides, or other synthetic veterinary compounds not permitted in this standard, with the exception of vaccines, shall be labelled or marketed as certified organic, in accordance with this standard, until an interval of time that is at least double the permitted federal withdrawal period allowed for such veterinary compounds has been exceeded for the treated animal.

7.4.5 All treatments of diseased livestock shall be recorded and individual animals clearly identified. This record shall contain details concerning all treatments, including, but not limited to, the duration of treatment and trade names of

the drugs used. Records of all treatments should be kept along with adequate animal/flock/colony identification at all stages of production, transportation, distribution, slaughter and processing. The operator shall record the method of disposal of milk, waste, or other products from treated livestock. Shipping of diseased livestock to slaughter for human consumption is not permitted.

7.4.6 The use of any synthetic compound to stimulate or retard growth and/or production is prohibited (see Appendix B, section B2).

## 7.5 **Breeding**

7.5.1 Breeding methods shall be in compliance with the principles of organic production in accordance with this standard. Operators shall note that:

- a. selection of breeds and strains suitable to the local environment and production system is recommended
- b. use of sires is recommended, but insemination by artificial means is permitted
- c. embryo transfer techniques and breeding techniques employing genetically engineered and/or modified organisms (GEO/GMO), or related technology are not permitted
- d. reproductive hormones, to trigger and synchronize estrus, are not permitted.

## 7.6 **Handling**

7.6.1 Livestock shall be managed responsibly, with ethical care and respect. Treatments such as castration or other surgical procedures, marking, or all other physical disturbances, shall be undertaken in a manner to prevent any undue animal suffering. Stress should be minimized in all handling practices.

# 8. **SPECIFIC PRODUCTION REQUIREMENTS**

## 8.1 **Honey**

### 8.1.1 *General Principles*

8.1.1.1 The operator shall husband bees to promote natural resistance against disease and pest infestation. The operator shall be knowledgeable about the life cycle and behavior of the honey bee, as well as related disease-causing organisms, parasitic mites and other pests.

8.1.1.2 Bee colonies shall be provided with a continuous supply of clean water and sufficient forage throughout the beekeeping season.

8.1.1.3 Every effort shall be made to breed and select honey bee queens for natural resistance to diseases and parasites and to take preventative measures to control disease and pest problems.

8.1.1.4 Records of the number, location, condition and management of colonies used in organic production shall be maintained as an aid in tracking and preventing disease and pest problems.

8.1.1.5 Due to the long distances that foraging bees may travel, it is impossible to limit foraging activities to organic floral sources. While placement of colonies on an organic enterprise, certified in accordance with this standard, is preferable, hives may be located in other foraging sites, provided the operator can demonstrate that the area surrounding the foraging site is not treated or exposed to prohibited substances (par. 8.1.2.4).

8.1.1.6 The operator shall preserve and protect the quality and integrity of the honey once it is harvested.

### 8.1.2 *Recommended Practices*

#### 8.1.2.1 *Bee Sources*

- a. The operator is encouraged to rear genetically diverse breeder queens to reduce the risk of re-introduction or spread of disease from package bees or nucleus colonies.
- b. When package bees or nucleus colonies are purchased from non-organic sources, the first extraction from these frames shall not be labelled and marketed as an organic product.

#### 8.1.2.2 *Hive Management*

- a. Hives shall not be constructed of pressure-treated lumber or particle board. Toxic wood preservatives shall not be used in hive construction or maintenance, and only exterior surfaces of the hive shall be painted.
- b. Comb foundation shall be obtained from beeswax of the enterprise apiary, or other organic sources, certified in accordance with the standard, where available.
- c. Honey syrup from a known source shall be the major foodstuff for adult bees. Sugar or sugar syrup is permitted between the last honey harvest and the period of dormancy for the colony, or if starvation of the hive is imminent. Supplementary feeding is not permitted during honey flow when bees are actively collecting nectar from plants, or during extraction of honey from brood chamber where sugar syrup feeding has occurred. The use of organic honey or organic sugar syrup is recommended.
- d. Bees shall be removed from hives by the use of bee escape boards, shaking, brushing, and forced air blowers.
- e. Smoking of bees should be kept to a minimum and shall be carried out with smoker fuel made only from natural, unprocessed substances.

#### 8.1.2.3 *Disease and Parasite Control and Management*

- a. The operator should promote strong colonies and unite weaker, albeit healthy, colonies wherever possible.
- b. Hives should be monitored regularly (i.e. at one- to two-week intervals, depending upon colony, weather conditions and time of year).
- c. Botanical compounds may be introduced into the hive (e.g. menthol, vegetable oils, essential oils, and herbal teas). However, such remedies shall not be used within thirty (30) days of honey flow or whenever honey supers are on the hive.
- d. The use of synthetic antibiotics in honey production is prohibited except where the imminent health of the colony is threatened. Before such treatments, the hive shall be removed from the foraging area and taken out of organic production to prevent the spread of antibiotics within the apiary. Honey extracted following the use of such antibiotics shall not be certified organic, in accordance with this standard, for the remaining season.

#### 8.1.2.4 *Foraging and Hive Location*

- a. Apiaries (i.e. bee yards) shall be placed in sites where the operator can monitor activities that may affect the organic integrity of the honey.
- b. Apiaries should be located in accordance with a buffer zone of a 3500 metre radius or greater distance from sources of non-permitted substances (i.e. sanitary landfills, golf courses, urban centres, major highway right-of-ways), or flower-bearing agricultural crops that are:
  - i. treated with pesticides not permitted by this standard,
  - ii. engineered and/or modified organisms (GEO/GMO), or their products.

#### 8.1.2.5 *Processing and Storage*

- a. Surfaces in direct contact with honey shall be constructed of food grade materials or coated with beeswax.
- b. Honey should not be heated to temperatures greater than 35°C to retain the integrity of honey quality and composition.
- c. Gravitational settling shall be used to remove debris from extracted honey.
- d. Honey shall be sealed in airtight containers and stored under roof.
- e. Honey shall be stored no greater than 24 months to prevent deterioration of quality.
- f. Cleaning products and insect-repellants shall be limited to substances included in the Permitted Substances List in Appendix A, section A5 and A3, respectively.

### 8.2 **Maple Products**

- 8.2.1 A certification body shall define specifications for tapping and sap collection techniques consistent with good sugar bush management practices. Sugar bush management techniques shall not lead to deterioration of the species.

8.2.2 The cleaning and maintenance of equipment shall be limited to substances included in the Permitted Substances List in Appendix A, section A5.

8.2.3 Techniques of reverse osmosis are permitted only if the enterprise has clearly defined methods for their use and the appropriate methods for disposal of membrane cleaning-solutions.

### 8.3 **Mushrooms**

8.3.1 In the production of organic mushrooms, the operator shall:

- a. use only wooden logs, sawdust or other organic substrates that meet the production guidelines of this standard (i.e. organic straw),
- b. use only spawn (seed) registered with, and inspected by, a seed certification agency (recognized by a certification body) that can guarantee spawn to be viable and free from prohibited substances or other contaminants,
- c. ensure that cultivation sites are free of debris from understory and diseased trees,
- d. ensure that diseased mushroom logs are either burned, moved at least 50 m from a production site (if the diseased logs are kept for study), or moved to an acceptable disposal area.

### 8.4 **Organic Sprouts**

8.4.1 In the production of organic sprouts, the operator shall:

- a. use seed produced under organic production methods as outlined in this standard,
- b. use sources of water (i.e. potable water, distilled or processed by reverse osmosis) that meet or exceed federal drinking water quality standards for levels of microbial and chemical contaminants,
- c. when using chlorinated tap water for final rinsing, either:
  - i. filter tap water through activated charcoal or
  - ii. retain tap water in a nylon-mesh covered stainless steel tank for 36 hours to remove chlorine,
- d. assess water quality regularly by an analytical laboratory to assure federal standards of water quality.

8.4.2 Seed or growing sprouts shall not be rinsed or immersed in water with chemicals capable of releasing chlorine in solution, in excess of federal water quality guidelines.

### 8.5 **Greenhouse Crops**

8.5.1 The operator shall ensure that all glazing used in the construction, or operation, of greenhouses for the production of organic crops:

- a. is composed of glass, polycarbonates, polyethylene or polyethylene greenhouse film,
- b. is coated with whitewash or is shuttered when necessary,
- c. is not constructed from biodegradable plastics.

8.5.2 Sources of supplementary heat within the greenhouse shall be properly vented to ensure crops are not contaminated with exhaust. In an emergency, such as a power failure, the operator may use portable propane, kerosene or oil heaters, only as necessary.

8.5.3 Artificial lighting is permitted.

8.5.4 In the production of crops under greenhouse conditions the operator shall:

- a. use reusable and/or recyclable pots and flats whenever possible,
- b. use growing media and wetting agents selected from the substances listed in Appendix A, section A2,
- c. disinfect holding or storage facilities and equipment using only materials listed in Appendix A, section A3.

- 8.5.5 In the production of organic crops under greenhouse conditions, the operator may use the following procedures or processes to:
- a. enrich carbon dioxide levels
    - i. flame
    - ii. fermentation
    - iii. composting
    - iv. compressed gas (CO<sub>2</sub>)
  - b. clean and disinfect plant containers, pots and flats
    - i. substances listed in Appendix D
    - ii. steam heat sterilization.
  - c. stimulate growth or development
    - i. plant-based growth regulators
    - ii. animal-based growth regulators.
  - d. prevent damping-off
    - i. low-temperature baking
    - ii. hot water treatment
    - iii. steam treatment
- 8.5.6 For the prevention and control of disease, insects or other pests, the operator shall use:
- a. methods and substances listed in Appendix A, section A3
  - b. pruning
  - c. rogueing
  - d. vacuuming.
- 8.5.7 The use of air filters, screens or other physical devices to exclude insects and other pests from the greenhouse environment is recommended.
- 8.6 Wild and Natural Products**
- 8.6.1 For the labelling and marketing of organic products from wild and natural plants the following are required:
- a. a detailed outline of the harvest areas and a history of compliance with this standard over the last 36 months. Where an enterprise can document that a relevant wild and natural production unit has been managed in accordance with the requirements of this standard for 24 months prior to seeking certification, the certification body may reduce the required conversion period by 12 months.
  - b. a description of the harvesting methods used
  - c. proposed measures for the protection of wild species.
- 8.6.2 Wild and natural products may only be certified organic in accordance with this standard if harvested from relatively undisturbed or stable natural environments. The harvesting of these products shall not have a negative impact on the ecosystem.
- 8.6.3 Wild and natural products may only be certified organic in accordance with this standard if they come from clearly delineated production zones subject to routine inspection.
- 8.6.4 The production zone shall be isolated from non-production zones by a clearly defined buffer zone.
- 8.6.5 The operator that manages the harvest of wild or natural products shall maintain an audit trail.
- 8.6.6 Harvested products produced under wild or natural production conditions, in accordance with this standard, may be combined with organic agricultural products during processing and shall be identified and labelled as such.

## **9. STORAGE, TRANSPORTATION AND PROCESSING OF ORGANIC PRODUCTS**

### **9.1 Integrity**

9.1.1 A major objective of an organic system is to maintain the inherent organic qualities of the product from production, processing, storage, handling and labelling, to the point of sale.

### **9.2 Storage**

9.2.1 Storage containers should have only approved (food grade) coatings, paints, or other coverings, on surfaces that may come into contact with food or livestock feed.

9.2.2 To prevent commingling during storage, bulk or unbound organic products shall be segregated from non-organic products.

9.2.3 Bulk storage facilities shall be free of all non-organic product residues.

9.2.4 Storage sites shall be equipped, maintained and cleaned using methods appropriate for the organic products being stored.

### **9.3 Transportation**

9.3.1 To prevent commingling of organic and non-organic foods during all classes of transportation, all organic products shall be physically segregated from non-organic products.

9.3.2 Facilities used for the transportation of organic food product shall be free of:

- a. non-organic product residues to minimize the potential for commingling
- b. invertebrate and vertebrate pests

9.3.3 Equipment used in the transportation of organic food products shall be equipped and maintained using methods appropriate to the food product being transported, and cleaned using methods appropriate with the Permitted Substances List.

### **9.4 Processing**

9.4.1 The use of food irradiation and microwaves on organic food products, or ingredients, are prohibited at any stage of processing, handling, or storage.

9.4.1.1 *Food Additives and Processing Aids* — Additives and processing aids (see Appendix C) may only be combined with a product to maintain:

- a. nutritional value
- b. food quality or stability
- c. composition, consistency and appearance

### **9.5 Packaging Materials**

9.5.1 Organic products shall be packaged in food grade packaging materials, or with such materials that will not cause a loss of organic integrity, or otherwise increase commingling, contamination and/or pest infestation.

9.5.2 A recycling and return system for packaging materials should be employed wherever possible.

### **9.6 Pest Management**

9.6.1 Good sanitation practices are recommended to prevent infestations of pests.

9.6.1.1 Treatment with pest control agents may be used when necessary (see the Permitted Substances List, Appendices A to D).

## **10. LABELLING**

- 10.1 The description organic (biologique), organically grown, organically raised, organically produced, biological, or biodynamic, and/or translation in any language, symbols, alternative spelling, word sets, and phonetic renderings of these words on food labels, shall apply to organic food products that have been produced under a system that meets this standard. The description certified organic (certifié biologique), certified organically grown, certified organically raised, certified organically produced, certified biological, or certified biodynamic, and/or translation in any language, symbols, alternative spelling, word sets, and phonetic renderings of these words on food labels, shall apply to organic food products whose certification attests to conformance with this standard.
- 10.1.1 An organic food product shall not contain the same ingredients in both organic and non-organic forms.
- 10.1.2 The use of the term organic, and similar terms having the same meaning, is permitted on the principle display panel of a food product, only if 95% or greater of ingredients, excluding added water or salt, are obtained from certified sources of organic production in conformity with this standard.
- 10.1.3 Ingredients that do not satisfy par. 10.1.1 may be used in accordance with par. 5.2.2.3b, only if such ingredients are 5% or less of total ingredients.
- 10.1.4 The trademark of the certification body of this standard shall appear only on the principle display panel if 95% or greater of the ingredients are certified organic in accordance with this standard.
- 10.1.5 Products containing 70% or greater of ingredients certified organic in accordance with this standard shall be labelled on the principle display panel as follows:
- a. "Contains X% certified organic ingredients," where the actual (X) percent of ingredients certified organic in accordance with this standard is listed or
  - b. "Contains X% certified organic 'Y'," where the actual (X) percentage of a specified ingredient (Y) constitutes 70% or greater of the ingredients listed as certified organic in accordance with this standard.
- 10.1.6 Products containing less than 70% of ingredient certified organic in accordance with this standard shall have the organic ingredient(s) labelled as organic in the list of ingredients only.
- 10.1.7 Products shall not be labelled as above unless the operator is following the process as outlined in this standard.

## **11. REQUIREMENTS FOR INCLUSION OF SUBSTANCES ON THE LIST OF ACCEPTABLE INPUTS (PERMITTED SUBSTANCES LIST)**

- 11.1 All amendments by the Canadian General Standards Board Committee on Organic Agriculture to the substances, or inputs, used in an organic system for the production of agricultural crops, livestock, fertilization and conditioning of soil, management of disease and pests, processing, handling, and storage of food products, within the Permitted Substances List in Appendices A to D, must be consistent with:
- a. criteria established in par. 1.5 and 11.2
  - b. the General Principles of Organic Production
  - c. other provisions and principles in this standard.
- 11.1.1 Each input shall be reviewed in the context of its necessity and the conditions of its envisioned usage. Each input reviewed shall be accompanied by a detailed description of the input, and all information that demonstrates compliance with the criteria of par. 11.2. All available alternatives, including inputs that may currently be in use in other production systems, may be subjected to evaluation.
- 11.1.2 Conditions for use of certain substances contained in the lists shall specify, but are not limited to, volume, frequency of application and/or designated uses.
- 11.1.3 Substances required for primary production should be reviewed with the knowledge that permitted substances may be subject to misuse and may negatively affect the agroecosystem and the environment outside of an enterprise.
- 11.1.4 A system of review criteria, as detailed in this standard, shall be the primary determinant for the acceptance or rejection of substances.

- 11.2 Further to par. 11.1, in amending the Permitted Substances List (PSL) in Appendices A to D of this standard the following criteria shall be used.
- 11.2.1 Substances, or other inputs, used for fertilization and conditioning of soils in an organic production system shall be:
- a. essential for obtaining or maintaining the fertility of the soil to fulfil specific nutritional requirements of crops, or specific soil conditioning and rotation practices that cannot be satisfied by the requirements and practices currently included in this standard,
  - b. of plant, animal, microbial or mineral origin, pertaining to the Permitted Substances List (Appendices A to D) of this standard and may undergo the following processes:
    - i. physical (e.g. mechanical or thermal)
    - ii. enzymatic
    - iii. microbial (e.g. composting or digestion)
  - c. manufactured and employed in a manner that shall not result in, or contribute to, the detriment or contamination of soil microflora and microfauna, or the related agroecosystem.
- 11.2.2 Substances, or other inputs, used in an organic production system for the management of plant diseases, pests and/or weeds shall be:
- a. essential for the control of a detrimental organism or disease for which no other biological, physical or plant breeding alternatives or management practices are available
  - b. of plant, animal, microbial or mineral origin, pertaining to the Permitted Substances List (Appendices A to D) of this standard, and may undergo the following processes:
    - i. physical (e.g. mechanical or thermal)
    - ii. enzymatic
    - iii. microbial (e.g. composting or digestion)
  - c. used under conditions that shall not directly, or indirectly, result in the presence of unacceptable product residues on edible plant parts in reference to regulations outlined in par. 1.5
  - d. manufactured and used in a manner that shall not result in, or contribute to, the detriment or contamination of the agroecosystem and surrounding environment in reference to regulations outlined in par. 1.5
  - e. products that are not available in sufficient quantities in nature, such as pheromones, or other semiochemicals compounded with synthetic chemicals; such substances will be considered for addition to the Permitted Substances List provided that other criteria within this standard are met.
- 11.2.3 Substances or other inputs used to promote the health of organically raised livestock or to ensure the quality of organically raised livestock products shall be:
- a. essential for livestock health in the event of a disease outbreak, with provisions that other organic treatments are not available, and such livestock are not labelled or marketed as certified organic in accordance with this standard until such time that is at least double the permitted federal withdrawal period allowed for of such veterinary compounds has been exceeded for the treated animal
  - b. exclusive of growth hormones
  - c. necessary for ensuring product quality and preservation, given that other biological, cultural or physical treatments are not available
  - d. employed in a manner to ensure that treated livestock, and/or related products and their by-products, will be sequestered until such time as the permitted federal withdrawal period allowed for such permissible substances (i.e. vaccines) has been exceeded for the treated animal.
- 11.2.4 Substances, or other inputs, used for the processing of organic food shall be:
- a. essential for ensuring the safety of the product,
  - b. essential to the production and/or preservation of the product,
  - c. used only when it is not possible to produce or preserve such products without having recourse to such ingredients,
  - d. equivalent as possible to substances found in nature.

- 11.3 **Equivalency and Harmonization** — Because the primary purpose of providing a list of substances is to satisfy the requirements of this standard, lists in Appendices A to D are dynamic and subject to the inclusion or removal of substances as outlined in procedures (par. 11.2) of this standard. An important component of organic production is the adoption of new technologies that provide unequivocal ecological and social benefits to the organic enterprise and the surrounding community. To reflect equivalency and harmonization in the incorporation of new practices, substances, and technologies into organic production systems, this standard references existing substances and guidelines of the Codex Alimentarius Commission for the Production, Processing, Labelling, and Marketing of Organic Food, subject to conditions and criteria outlined within this standard.

## 12. NOTES

- 12.1 The publication referenced in par. 2.1.1 may be obtained from Renouf Publishing, 5369 Canotek Road, Unit 1, Ottawa, Ontario K1J 9J3.

**PERMITTED SUBSTANCES LIST (PSL) FOR CROP PRODUCTION****A1. FERTILITY AND SOIL AMENDMENTS**

A1.1 The following products are permitted to amend and improve soil fertility when used in accordance with par. 1.5, where applicable:

Alfalfa pellets  
 Basalt  
 Biodynamic preparations  
 Biotite (iron, magnesium or aluminum silicates)  
 Blood meal (R)<sup>A1</sup> (composted and obtained from organically raised livestock certified in accordance with this standard)  
 Bone meal (R) (composted and obtained from organically raised livestock certified in accordance with this standard)  
 Borax (sodium borate, hydrated)  
 Chelates (R) (heterocyclic, metalophilic compounds)  
 Clay (bentonite, perlite)  
 Compost (off-enterprise, organic or non-organic source) (R)  
 Compost (on-enterprise, organic and non-organic sources) (R)  
 Egg shell meal (calcium carbonate)  
 Epsom salt (magnesium sulfate)  
 Feldspars (aluminum silicates with potassium, sodium or calcium)  
 Fish emulsions (R)  
 Fish meal (R) (composted)  
 Granite  
 Greensand (glauconite)  
 Gypsum (calcium sulfate, mined)  
 Iron sulphates (R)  
 Kieserite (magnesium sulphate)  
 Langbeinite (magnesium-bearing potassium sulphate)  
 Limestone, agricultural (calcitic or dolomitic composition)  
 Manure, fresh (organic source) (R)  
 Mica (related aluminum silicates)  
 Organic matter (off-enterprise sources) (R)  
 Oyster shells (calcium carbonate)  
 Peat moss (without artificial wetting agents)  
 Potassium sulfate (mined)  
 Rock phosphate  
 Sawdust  
 Seaweed and seaweed products  
 Sodium molybdate (R)  
 Straw  
 Sulphur (elemental) (R)  
 Wood ash (R)  
 Wood chips  
 Zeolite (minerals of aluminum silicate)  
 Zinc sulphates (R)

---

<sup>A1</sup> *The designation "R" after a permitted substance implies that its use has some restrictions placed on it; operators must consult with a certification body for approval before using these substances. In addition, an analysis of the permitted substance by an analytical laboratory may be required by the certification body.*

## **A2. GREENHOUSE PRODUCTION**

A2.1 The following products are permitted for use in greenhouse production when used in accordance with par. 1.5, where applicable:

Compost (non-organic source) (R)<sup>A1</sup>  
Compost (organic source)  
Compressed gas (CO<sub>2</sub>)  
Peat moss (without artificial wetting agents or additives)  
Perlite  
Sand (organic source)  
Soil (organic source)  
Sphagnum moss  
Vermiculite  
Worm castings

## **A3. PEST MANAGEMENT**

A3.1 The following products are permitted for the management of disease and pests when used in accordance with par 1.5, where applicable:

### **A3.1.1 *Disease Management***

Bordeaux mix (R)  
Copper, fixed and copper sulfate  
Lime sulphur mixtures  
Paint, latex  
Silica mineral suspensions  
Soap, cryptocidal  
Soap, fungicidal  
Sulphur, elemental (not exceeding 2% in solution)  
Vinegar (acetic acid, dilute)

### **A3.1.2 *Pest Management***

Arthropod (insect, spider and mite) predators and parasitoids  
Arthropod pathogens (including *Bacillus thuringiensis*) (R)  
Calcium chloride, naturally derived  
Controlled-atmosphere storage  
Diatomaceous earth  
Dormant oil, petroleum-based (R)  
Dormant oil, vegetable-based  
Plant-derived pesticides (R)  
Semiachemicals, (pheromones, allomones; i.e. attractants, repellants)  
Soap, insecticidal  
Sound devices, including ultra sound  
Sterile insect release  
Temperature  
Traps, (electrical, visible and ultraviolet light, physical, and visual)  
Vitamin D-3 (as a rodenticide)

### **A3.1.3 *Weed Control***

Electrical methods for weeding  
Herbicides, animal-derived (not synthetically processed)

---

<sup>A1</sup> The designation "R" after a permitted substance implies that its use has some restrictions placed on it; operators must consult with a certification body. In addition, an analysis of the permitted substance by an analytical laboratory may be required by the certification body.

Herbicides, plant derived (not synthetically processed)  
Herbivores, invertebrate and vertebrate  
Microbial herbicides (R)<sup>A1</sup>  
Plastic mulch, non-biodegradable  
Thermal weeding (flame), with liquified gases

A3.1.4 ***Other Pest Management Substances***

Animal repellents, containing no synthetic ingredients

**A4. POST-HARVEST SUBSTANCES**

A4.1 The following products and conditions are permitted for use when used in accordance with par. 1.5, where applicable:

Controlled-atmosphere storage, carbon dioxide (CO<sub>2</sub>), oxygen (O<sub>2</sub>) or nitrogen (N<sub>2</sub>)  
Diatomaceous earth  
Powdered milk (as a desiccant)  
Temperature-controlled storage  
Sound (subsonic, sonic, ultrasonic)  
Ultraviolet (UV) light

**A5. MAPLE SYRUP SUBSTANCES**

A5.1 The following products are permitted for use when used in the production and processing of maple syrup in accordance with par. 1.5, where applicable:

A5.1.1 ***Soil Amendments***

As permitted in section A1.1

A5.1.2 ***Cleaning Agents for Equipment***

Bleach (not to exceed 10% in solution)  
Detergent, biodegradable  
Ethyl alcohol (unadulterated)  
Hydrogen peroxide  
Maple and cider vinegar  
Sodium bicarbonate

---

<sup>A1</sup> The designation "R" after a permitted substance implies that its use has some restrictions placed on it; operators must consult with a certification body. In addition, an analysis of the permitted substance by an analytical laboratory may be required by the certification body.

**PERMITTED SUBSTANCES LIST (PSL) FOR LIVESTOCK PRODUCTION**

**B1. FEED AND FLAVOURING INGREDIENTS**

B1.1 The following feed ingredients for organically raised livestock are permitted only when used in accordance with par. 1.5, where applicable:

B1.1.1 Forages and roughage, silage and energy feeds shall be obtained from enterprises certified organic in accordance with this standard and may include:

- i. silage preservation products; i.e. bacterial or enzymatic additives (R)<sup>B1</sup> and food by-products (e.g. molasses) (R)<sup>B2</sup>

B1.1.2. Protein feeds may include

- i. seed from plants obtained from enterprises certified organic in accordance with this standard
- ii. seed meals obtained only by processes of heat or mechanical extraction (R)<sup>B2</sup>
- iii. any amino acid (R)<sup>B2</sup>

B1.1.3 Mineral products may include

- i. trace mineral feed salt or trace mineral feed salt blocks that do not contain medicinal ingredients (R)
- ii. any mineral from natural sources

B1.1.4 Vitamins (R) and trace elements (R)

B1.1.5 Miscellaneous products may include

- i. any naturally-derived mineral
- ii. seaweed meal (R)

B1.2 Flavouring ingredients (R)<sup>B3</sup>

B1.3 Salt (sodium chloride) is permitted

B1.4 Feeds (R)<sup>B2</sup>

**B2. LIVESTOCK HEALTH**

B2.1 The following products are permitted for use in promoting good health of livestock in accordance with par. 1.5, where applicable:

- Botanical compounds (R)<sup>B2</sup>
- Electrolyte solutions (with no added active ingredients)
- Hydrogen peroxide (food grade, for external use only)
- Iron products
- Selenium products
- Vaccines (R)<sup>B2</sup>

B2.2 Homeopathic and biotherapies must be registered with the Bureau of Veterinary Drugs, Health Canada, and are permitted only with the approval of a certification body.

<sup>B1</sup> The designation "R" after a material implies that its use has some restrictions placed on it; operators should consult with a certification body for approval before using these substances. In addition, an analysis of the material, by an analytical laboratory may be required by a certification body.

<sup>B2</sup> Not including genetically engineered and/or modified organisms (GEO/GMO), or their products, including, but not limited to, recombinant gene technology.

<sup>B3</sup> Only specific flavouring ingredients are approved by the Canadian Food Inspection Agency before use in all livestock feeds in Canada.

**PERMITTED SUBSTANCES LIST (PSL) FOR PROCESSING****C1. NON-ORGANIC ADDITIVES FOR ORGANIC FOOD PRODUCTS**

C1.1 Substances in this generic list shall be of limited use only and should be substituted with organic alternatives whenever possible.

C1.2 The following inputs are generally permitted when used in accordance with par. 1.5, where applicable:

Acetic acid bacteria (R)<sup>C1</sup>  
 Agar (water extracts)  
 Bakers' yeast, (may contain lecithin, obtained without the use of bleaches and/or organic solvents)  
 Brewers' yeast  
 Calcium carbonate  
 Calcium chloride  
 Carbon dioxide  
 Citric acid  
 Ethyl alcohol  
 Guar gum (water extracts)  
 Lactic acid  
 Lactic acidophilus bacteria (R)  
 Lecithin (obtained without the use of bleaches and synthetic solvents)  
 Locust bean gum (water extracts)  
 Modified starch (R)<sup>C2</sup>  
 Nigari (R)<sup>C2</sup>  
 Nitrogen  
 Oxygen  
 Pectin, unmodified  
 Pectolytic enzymes  
 Potassium carbonate  
 Potassium chloride  
 Seaweed (R)<sup>C2</sup>  
 Smoke flavour  
 Sodium chloride (with or without calcium carbonate as an anti-caking agent)  
 Starter cultures (R)  
 Sulphites (R)<sup>C3</sup>  
 Vegetable extracts (obtained without the use of synthetic solvents)  
 Xanthan gum (water extracts)  
 Yeast autolysate  
 Yeast, wine

**C2. CLARIFYING AGENTS**

Bentonite  
 Diatomaceous earth  
 Fish-based fining agents (isinglass)  
 Hen egg whites (preferably organic origin)  
 Kaolin  
 Non-hydrolysed bone gelatin

<sup>C1</sup> Not including genetically engineered and/or modified organisms (GEO/GMO), or their products, including, but not limited to, recombinant gene technology.

<sup>C2</sup> The designation "R" after a material implies that its use has some restrictions placed on it; operators should consult with a certification body for approval before using these substances. In addition, an analysis of the material by an analytical laboratory may be required by a certification body.

<sup>C3</sup> Only for winemaking as a preservative, minimum use of sulphur dioxide (SO<sub>2</sub>) is recommended. The maximum allowable level of SO<sub>2</sub> is 100 parts per million and 30 parts per million for total sulphites and free sulphites, respectively. The use of sulphites from SO<sub>2</sub> bottled gas or liberated from the ignition of asbestos-free sulphur wicks is acceptable.

**PERMITTED SUBSTANCES LIST (PSL) FOR PACKAGING AND SANITATION**

**D1. PACKAGING**

D1.1 Packaging material shall be of food grade quality and clean and sound.

**D2. SANITATION AGENTS**

D2.1 The following substances listed are generally permitted when used in accordance with par. 1.5, where applicable

Alkali carbonates

Bleach (not to exceed 10% solution)

Biodegradable detergents

Caustic potash

Hydrogen peroxide

Iodine (non-elemental, not to exceed 5% solution, e.g. iodophors)

Lime

Lye

Phosphoric acid

Potassium permanganate (not to exceed 1% solution)

Soaps

Sodium bicarbonate

Sodium borate

Vinegar