SOUL
SOCIETY FOR ORGANIC URBAN LAND CARE

ORGANIC LAND CARE STANDARD FOR CANADA

SEVENTH EDITION

ACKNOWLEDGMENT

This standard was developed in 2001 by Jim Boughen, Glen Campbell, Michael Cowan, Dan Gordon, Rochelle Eisen, Dawn Grigor, Laurie Hardy, Erin Harper, Carolyn Herriot, Heide Hermary, Jim Holtz, Cecilia Irazuzta, Chris Kennedy, Angela Kingerlee.

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Revised in 2016 by Rochelle Eisen, Astrid Muschalla, Ken Nentwig, Michael Hermary.

This standard is subject to change in the light of further experience with Organic land care. Proposals for improvement, including detailed reasons, may be submitted to the Canadian Society for Organic Urban Land Care. info@organiclandcare.ca

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RESOURCES

The Standard Review Committee of the Society for Organic Urban Land Care gratefully acknowledges the following resources consulted in the production of this standard:

BC Landscape Standard, 2012 Edition, British Columbia Society of Landscape Architects, and BC Landscape & Nursery Association, Vancouver, Canada

Canadian Environmental Quality Guidelines, http://st-ts.ccme.ca

The IFOAM Norms for Organic Production and Processing, 2014 version, International Federation of Organic Agriculture Movements, Germany

Landscape Industry Fact Sheets, 2002, NSW Environment Protection Authority, Sydney, Australia

National Standard of Canada on "Organic production systems - General principles and management standards", CAN/CGSB-32.310-2015

National Standard of Canada on "Organic production systems - Permitted substances lists", CAN/CGSB-32.311-2015

National Standard for Organic and Bio-dynamic Produce, edition 3.6, 2015, Organic Industry Export Consultative Committee, Canberra, Australia

NOFA Standards for Organic Land Care, 5th edition, 2011, NOFA Organic Land Care Committee, Northford, U.S.A.

Oregon Tilth Organic Land Care Policies & Standards, 2nd edition, 2013, Oregon Tilth, Corvallis, USA

PMRA List of Formulants, 2010 Aug 31 edition and future editions, Pest Management Regulatory Agency, Health Canada, Canada

Soils in Urban Agriculture: Testing, Remediation and Best Management Practices, 2016, University of California, USA

GUIDE TO THE USE OF THE STANDARD

This standard was developed by the Society for Organic Urban Land Care (SOUL) in response to the need for clear guidelines for the creation and maintenance of landscapes for environmental, recreational, ornamental and food production reasons, following organic principles.

This standard aims to:

1. provide a clear definition of the practices, materials and substances employed in Organic land care;
2. provide guidance to Organic land care practitioners in their decision making processes;
3. raise the awareness of the ecological requirements of landscapes;
4. provide credibility for Organic land care professionals and to protect the public from misleading practices and claims.

This standard is not intended to provide all the information needed for successful Organic land care. Such information must be obtained through formal education and practical experience.

This standard has been drafted to address Organic land care requirements in diverse environments across many geographic regions. The requirements under this standard must be implemented with utmost sensitivity to local environmental conditions.

This 7th Edition is based on the 2015 version of the Canadian Organic Standards and the 2017 proposed amendments to those standards.

SCOPE OF THE STANDARD

This standard is the Code of Conduct adopted by Organic land care professionals accredited and certified by SOUL across Canada. This document also acts as a guideline and resource for all who are interested in Organic land care, including organic food production.

Where any requirement under this standard conflicts with a legislated requirement in any jurisdiction, the legislated requirement shall prevail.

PRINCIPAL AIMS OF ORGANIC LAND CARE

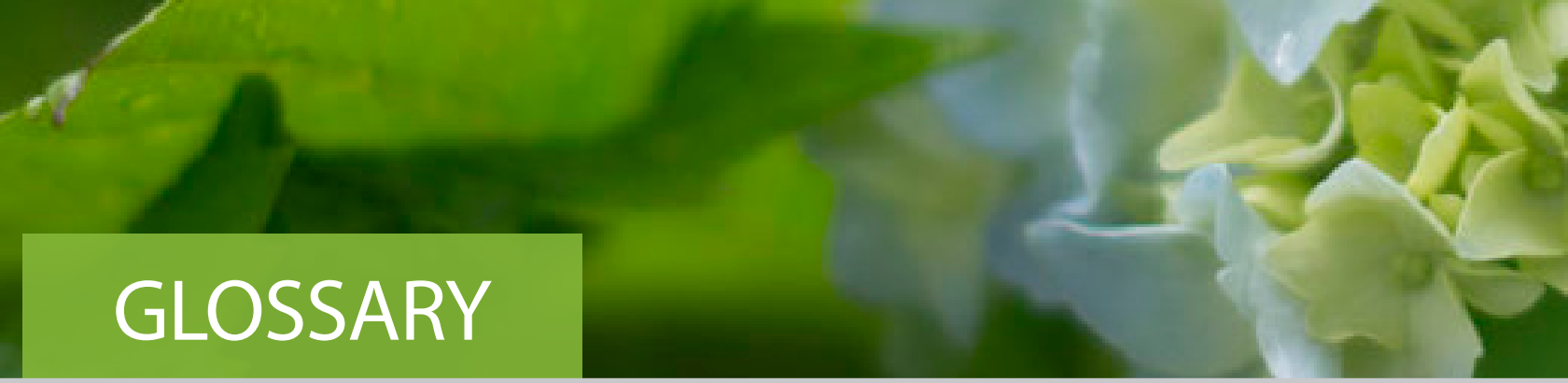
Organic land care is the design, construction and maintenance of landscapes using practices and products that preserve and support the health of ecosystems and human communities.

Landscapes include natural and created environments including home gardens, parks, campuses, woodlands etc., in urban, rural and suburban settings under human management, and includes the use of edible and ornamental plants.

The Organic Land Care Practitioner:

1. Works with natural systems and processes to encourage and enhance biological diversity and native habitats;
2. Optimizes and maintains the life supporting properties of soil, air and water;
3. Utilizes renewable, biodegradable and recycled materials from local sources and minimizes waste;
4. Considers the wider social and ecological impacts of landscapes and the practices and products used to create and maintain them.

These principles are shared by the Northeast Organic Farming Association OLC, and the Society for Organic Urban Land Care. Please reference each organization's policies and standards to learn how these principles are applied.



GLOSSARY

This is the definition of terms as used in this document.

Antibiotic
A substance containing any quantity of any chemical substance produced by a micro-organism, like penicillin, and that are used to inhibit or destroy the growth of micro-organisms to prevent or treat disease.

Biobased
A substance that is derived from a plant, animal or microbial source.

Biodegradable
Capable of biological decomposition within 24 months in soil (with the exception of plant biomass), one month in aerated water, two months in anaerobic water, with minimal impact on the environment.

Biodiversity
The number, variety and genetic variability of organisms found within a specified area.

Bio-dynamic
Agricultural practices based principally on the work of Rudolf Steiner and subsequent development derived from practical application, experience and research.

Botanical pesticide
Non-synthetic pesticide derived from plants or other organisms.

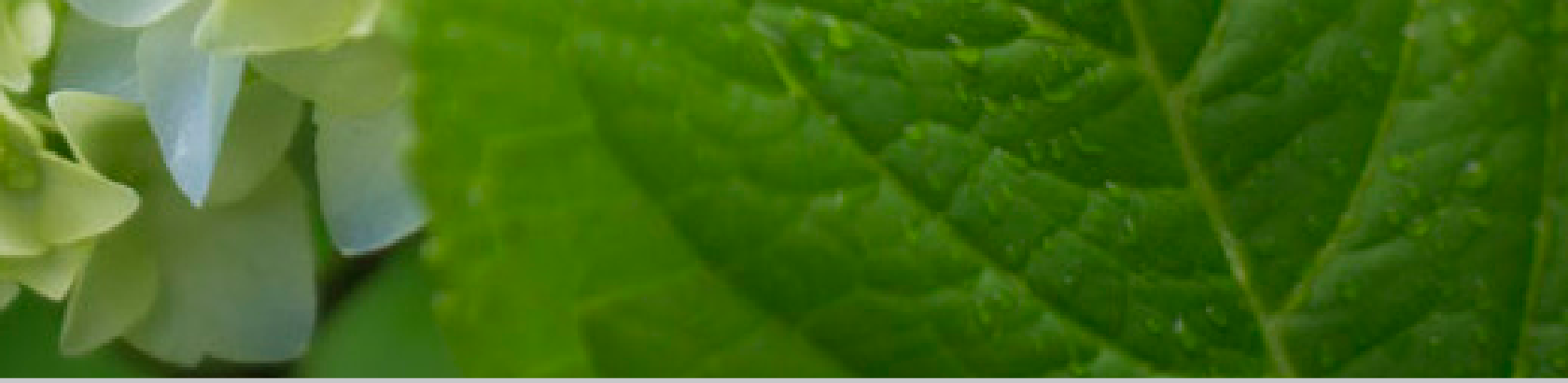
Buffer zone
An area designated to intercept or moderate adverse pressures or influences. A clearly defined and identifiable area that separates an organically managed landscape from other activities. Examples are: permanent hedgerows or plant windbreaks, solid fences, permanent roads and other adequate physical barriers.

Certification
The procedures by which a certifying agency or professional association provides written assurance that a practitioner, process or substance conforms to a standard.

Closed system
Self sustaining processes and practices within a defined area.

Commercially available
The documented ability to obtain a production input or an ingredient in an appropriate form, quality, quantity or variety, irrespective of cost, in order to fulfil an essential function in organic production or preparation.

Composting
Composting refers to the managed process by which organic materials are digested by microorganisms over sufficient time and / or with sufficient heat to effectively stabilize the nutrients, reduce pesticide residues, and kill weed seeds and plant and human pathogens. When properly composted and cured compost can suppress a range of soil and plant diseases.



Compost tea
Soil amendment or foliar feed used to promote beneficial bacterial growth that is created by aerobically steeping mature compost.

Confined livestock operation
A fully caged system where livestock are unable to turn 360o, and/or are permanently kept in the dark.

Contamination
The presence of a prohibited substance in a product or in the environment.

Derogation
An exemption from the practices in this standard.

Design
The underlying plan or conception that affects and controls the function and development of the landscape.

Ecosystem
The complex community created through the interaction of organisms, soil, water, air and other natural forces, functioning as an ecological unit.

Environment
All external factors to which an organism or ecosystem is exposed, and which ultimately determine its form and function.

EPA
Environmental Protection Agency.

Exception
A substance otherwise prohibited by this standard.

Fertilizer
A single or blended substance composed of one or more recognized plant nutrient(s).

Food-grade
A designation used to identify that a substance, (for example, a cleaning material, gas, etc.) or material (for example, a counter, containers, a conveyor, etc.) may come in contact with food, food contact surfaces and/or is safe for human consumption.

Fungicide
A substance that kills fungi, or inhibits the growth of a fungus.

Genetic engineering
Techniques that change the genetic material of an organism in a way that does not occur naturally by multiplication and/or natural recombination. Examples of the techniques used in genetic engineering include but are not limited to:

- recombinant DNA (rDNA) techniques that use vector systems
- techniques involving the direct introduction into the organism of hereditary materials prepared outside the organism
- cell fusion (including protoplast fusion) or hybridization techniques that overcome natural physiological, reproductive or recombination barriers, where the donor cells/protoplasts do not fall within the same taxonomic family

Unless the donor/recipient organism is derived from any of the above techniques, examples of techniques not covered by this definition include:

- in vitro fertilization;
- conjugation, transduction, transformation, or any other natural process;
- polyploidy induction;
- cell fusion (including protoplast fusion) or hybridization techniques where the donor cells/ protoplasts are in the same taxonomic family.

Genetically modified (GM) / Genetically modified organism (GMO)

GM stands for "genetically modified". An organism, such as a plant, animal or bacterium, is considered genetically modified if its genetic material has been altered through any method, including conventional breeding. A "GMO" is a genetically modified organism. For example, a GM product is one derived from an organism that has had some of its heritable traits changed involving: traditional techniques of crossbreeding; using chemical or radiation to alter the genetic make-up of the organism's cells in a process called mutagenesis; and/or applying recombinant DNA or genetic engineering techniques.

Genetically engineered (GE)

The manipulation of DNA to produce new types of organisms, usually by inserting or deleting genes. An organism is considered genetically engineered if it was modified using techniques that permit the direct transfer or removal of genes in that organism. Such techniques are also called recombinant DNA or rDNA techniques.

Green manure

Crops or naturally occurring plants that are incorporated into the soil for the purpose of soil improvement.

Habitat

The area over which a species naturally exists; the area where a species occurs. Also used to indicate types of habitat, e.g. seashore, riverbank, wetland, woodland, grassland.

Herbicide

A substance that kills plants or inhibits plant growth.

IFOAM

International Federation of Organic Agriculture Movements.

Ingredient

Any substance, including an additive, used in the manufacture or preparation of a product. The substance is present in the final product, possibly in a modified form.

Active ingredient

A substance in a product with an action specific to the intended purpose of the product; the portion of a pesticide formulation which is the actual toxicant.

Inert ingredient

A substance other than the active ingredient which is intentionally included in a product to make it easier to use or more efficient. Inert ingredients may have harmful or toxic effects.

Input

Substance used in production or preparation. Examples are: fertilizers, feed supplements, pesticides, and soil amendments, veterinary treatments, processing aids, sanitizing and cleaning materials.

Insecticide

A substance that kills insects or inhibits the growth of insect populations.

Invasive

Marked by the tendency to intrude or encroach.

Landscape

Natural and created environment including home garden, park, campus, woodland etc., in urban, rural and suburban settings under human management, and which includes the use of ornamental plants, and production of food for human consumption.

Landscape management plan

A written integrated plan outlining the utilitarian, ecological and aesthetic objectives for a specific landscape, and the landscape management practices and products that will be employed.

Manure
Livestock feces, urine and other excrement, and bedding used (or soiled) by livestock, and that have not been composted.

Market garden
Small commercial food garden producing primarily vegetables and fruits, with a possible animal husbandry component.

Mulch
Naturally occurring materials, such as organic matter, rocks, etc., applied to the soil surface for soil fertility enhancement, soil protection, weed suppression and water retention.

Nano-technology
Manipulation of matter at atomic, molecular, or macromolecular dimensions typically between 1 and 100 nm to create materials, devices and systems with fundamentally new properties and functions. Nanoscale chemical substances, or nanomaterials, behave differently from their macroscale counterparts, exhibiting different mechanical, optical, magnetic or electronic properties.

Non-organic mineral supplements
Substances used to correct nutrient imbalances or pH in soil or nutrient deficiencies in plants; substances containing one or more nutrients in proportions not normally found in living organisms or the products derived from them. Examples of non-organic mineral supplements allowed under this standard are calcium carbonate, dolomite lime, rock phosphate, etc.

Non-synthetic
A substance derived from mineral, plant or animal matter that has not been chemically altered.

OMRI
Organic Materials Review Institute.

Organic
Of, relating to, or derived from living organisms; a holistic approach which emphasizes the importance of relationships between living organisms and their environment.

Organic land care
See: Principal Aims of Organic land care, page 6 of this document.

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

Organic practices
An ecological management system that promotes and enhances biodiversity, biological cycles, and soil geological activity. It is based on minimal use of off-site inputs and employs practices that restore, maintain and enhance ecological harmony.

Pest
An organism causing damage to humans or to resources used by humans, such as some viruses, bacteria, fungi, weeds, parasites, arthropods, rodents and plants.

Pesticide
Any substance or mixture of substances, used directly or indirectly, intended to prevent, destroy, repel or mitigate any pests, or to alter the growth development or characteristics of plants. An umbrella term for insecticides, herbicides, fungicides, etc, and includes any organism, substance or mixture of substances and devices such as lures or traps.

Removal event
A procedure performed prior to organic production runs, batches or loads, to prevent organic product from coming into contact with prohibited substances or commingling with non-organic products. Examples of removal events are rinsing with potable water, letting surfaces drip-dry and purging a system with organic product.

Sewage sludge

Solid, liquid or semisolid residues generated by municipal or industrial sewage treatment facilities. Sewage sludge includes but is not limited to: domestic septage; scum or solids removed in primary, secondary or advanced wastewater treatment processes; or material derived from sewage sludge.

Synthetic substance

A man-made substance, including petrochemicals, formulated or manufactured by a chemical process or by a process that chemically alters compounds extracted from plant, micro-organisms, and animal or mineral sources. This term does not apply to compounds synthesized or produced by biological processes, including heat and mechanical processing. However, minerals altered through chemical reactions caused by heating or burning shall be classified as synthetic.

ORGANIC LAND CARE STANDARD

Organic land care practices

This standard classifies practices according to their ability to achieve the principal aims of Organic land care. As such it sets out objectives, but does not generally prescribe how these objectives are to be achieved, as each landscape is unique, and specific activities or methods may produce different results in different circumstances.

Example

This standard does not discuss the merits of specific methods for pruning plants. Instead it only directs that any landscape maintenance practice "avoid or minimize permanent injury to plants", and "prevent the introduction or spread of undesired organisms".

Conversely, seemingly identical situations may require different intervention.

Example

The required landscape design practice "protecting and enhancing biodiversity" can be achieved through many different methods, including: diverse multi-storey plantings, creating wildlife habitat, increasing soil organic matter, protecting the landscape from traffic, introducing predacious insects, etc.

Organic land care practitioners must have the knowledge and experience to choose the most appropriate methods and activities to achieve the landscape design and management objectives under this standard. They must also be aware of federal and provincial regulations, and municipal bylaws.

Classification of organic land care practices

This standard classifies practices as required, preferred, and prohibited.

REQUIRED | Organic land care practitioners shall use these practices.

PREFERRED | Organic land care practitioners should use these practices where possible.

PROHIBITED | Organic land care practitioners shall not use these practices.

General requirements

REQUIRED	• Complying with all legislated requirements • Employing practices for their ability to enhance and support natural processes within healthy landscape ecosystems • Minimizing contamination of water, air and soil
PREFERRED	• Preparing and / or working to a landscape management plan
PROHIBITED	• Using substances and materials prohibited under the Standard (see the Substances and Materials List)

Resource management

Resource management concerns itself with the management of water, soil and air.

Water management

Water circulates through the environment, resulting in the adaptation of whole ecosystems to the relative presence and quality of water. Any practices that affect the quantity, quality or direction of flow of water directly affect not only the immediate environment, but ecosystems far removed from the origin of the disturbance.

For instance, applying manure can affect surface or ground water over a large area; redirecting natural water courses, or interrupting the circulation of water, affects whole ecosystems.

Landscape activities with a direct impact on water include:

- changing grades
- changing drainage patterns
- collecting and storing water
- modifying the soil environment
- changing the vegetation
- installing structures and impermeable surfaces
- irrigating landscapes
- using and disposing substances that dissolve in, or are carried with water.

None of these activities are intrinsically right or wrong, but must be employed for their ability to achieve the landscape design and management objectives with minimal impact on the quality and natural circulation of water.

REQUIRED	• Providing the appropriate quantity and quality of water to maintain the health of the landscape • Assessing the quality of irrigation water and ensuring it is safe for the intended crops or landscape • Treatment and/or sanitation of recycled, filtered or collected water through approved means to meet regulatory water quality parameters
PREFERRED	• Conserving and retaining water in the landscape through appropriate grades, structures, soil management, vegetation and water use where permitted under legislation
PROHIBITED	• Creating grades and drainage patterns that result in water being discharged onto neighbouring property without prior consent • Using water in a manner that results in the degradation of soil fertility or biodiversity • Draining or filling aquatic or wetland habitats, or degrading riparian areas

Air management

Life on earth, as we know it, has evolved because of the relative presence and combination of specific gases contained in the air. Air also acts as a carrier for small particles and organisms.

All processes and activities affect the composition and movement of air, and the presence and quantities of particles and organisms carried in the air. This affects the abundance, distribution and health of living organisms.

Landscape management activities with a direct impact on air include:

- selecting and placing plants and structures
- disposing of waste, including burning, dumping and composting
- storing and using soil amendments, fertilizers and pesticides
- using power tools
- compacting the soil
- changing water conditions in the soil and air
- using equipment and machinery
- emitting substances into the air

All landscape management practices must be employed for their ability to achieve the landscape design and management objectives in a way that protects and enhances the quality and circulation of air.

REQUIRED	• Optimizing the circulation of air throughout the environment above and below ground
PREFERRED	• Minimizing detrimental emissions into the air • Minimizing noise
PROHIBITED	• Introducing harmful or toxic substances into atmospheric or soil-bound air

Soil management

The soil is a complex ecosystem in its own right: a diverse and interdependent biological, chemical and structural system composed of minerals, organic substances, air, water, microorganisms, plants and animals. Yet its processes are intricately linked with the larger ecosystem, of which soil is but one of many interrelated parts.

The structural and mineral components of the soil directly affect the diversity and health of the organisms dwelling there, including plants, while their biological processes in turn alter the structure and mineral composition of the soil. Each organism makes a unique contribution to this process: it is a delicate yet dynamic balance, fuelled by the constant recycling of organic matter.

The reduction of organic matter within the system results in a direct reduction of the biological activity of the soil. This in turn results in reduced plant growth and health, and the reduced vitality of the ecosystem as a whole.

It is a principal aim of Organic land care to work as much as possible within closed systems with regard to organic matter and nutrient cycling, as organic matter introduced into one system must inevitably be removed from another. Such practice is unsustainable from an overall ecological perspective.

Landscape management activities with a direct impact on soil include:

- changing the organic matter content of the soil
- changing the soil structure, texture and fertility
- changing the water conditions within the environment
- changing biodiversity above ground

All landscape management practices must be evaluated for their ability to achieve the desired landscape design and management objectives in a way that protects and enhances the long term biological activity of the soil.

REQUIRED	• Maintaining or increasing soil organic matter content • Preventing soil erosion • Preventing and / or relieving soil compaction in planted areas • Confirming nutrient deficiency by soil or tissue analysis before applying non-organic mineral nutrients • In non-rural settings ensure compost systems do not attract or harbour rodents
PREFERRED	• Using the existing soil from the site • Recycling organic matter in place • Composting and reusing organic matter on site • Increasing biodiversity above and below ground
PROHIBITED	• Applying materials that inhibit the long term cycling of organic matter, air and water in planted areas • Applying materials, or using practices that result in the degradation of soil fertility or soil structure in planted areas • Applying materials, or using practices that result in the degradation of soil biodiversity in planted areas • Disposing of organic matter in waste disposal facilities where composting alternatives exist

Landscape management

Landscape management involves the design, construction and maintenance of landscapes. It is a deliberate intervention in natural processes to obtain a specific ecological, utilitarian or aesthetic result.

Over the long term landscapes can only be maintained in good health if the practices, tools, products and substances chosen to create and maintain them support the diverse and interdependent relationships between all components of the environment.

Landscape design

Landscape design is the process resulting in conceptual creation of a landscape for many purposes including production of food. This is the ideal time to consider the social and ecological impacts of the planned landscape, and the impacts of the practices, tools, products and substances used to create and maintain them.

Much of the success of the planned landscape depends on how well the vegetation has been matched to the unique conditions and the desired functions of the site. Landscape design requires the integration of knowledge from many different disciplines, and a thorough understanding of local conditions. Design considerations include:

- microclimates
- light conditions
- soil properties
- wind patterns and air circulation
- temperature range
- moisture characteristics
- condition of existing vegetation and wildlife
- physical limitations of the site
- relationship of the site to its environment
- intended use for the site
- cultural and space requirements of desired plants
- products and practices used to install and maintain the landscape.

REQUIRED	• Optimizing biodiversity • Developing a landscape management plan, which outlines the design objectives, and the practices and products that will be employed to achieve these design objectives • For food production, creating appropriate barriers or buffer zones to protect organically managed landscapes from contamination through neighbouring non-organic practices
PREFERRED	• Leaving native ecosystems intact • Providing pollinator habitat • Creating ecosystems that are sustainable with minimal human intervention • Specifying native plants • Removing plants known to be invasive in the region • Specifying plants and varieties adapted to local conditions including pests and diseases, and purchased from local propagators, plant breeders and seed savers where available • Specifying plants whose characteristics and cultural requirements are appropriate for the site • Creating appropriate conditions for plant health • For ornamental landscapes, creating appropriate barriers or buffer zones to protect organically managed landscapes from contamination through neighbouring non-organic practices. • Creating or maintaining natural buffers along watercourses and wetland habitat • Communicating with neighbouring land owners about landscape modifications that may cause changes beyond the landscape boundary
PROHIBITED	• Selecting plants known to be invasive in the region or in similar environments • Incorporating materials or practices that may compromise organic integrity

Landscape construction

Landscape construction is the deliberate structural alteration of the environment to meet specific landscape design or management objectives.

The intervention required to achieve the desired objectives may be minimal or, at the other extreme, may involve the creation of a complete and fully functioning ecosystem in a highly disturbed site.

Landscape construction activities include removing and installing:

- soil
- plants
- water features and irrigation
- structures such as stairs, fences, retaining walls, arbours and trellises, buildings, decks, paths, driveways, etc.

The success of the landscape depends on how well the practices and materials employed in the construction of the landscape support the design objectives, and on their wider social and ecological impact on the environment.

REQUIRED	• Using the least invasive construction methods and tools to achieve the landscape design objectives • Using the most environmentally benign materials available • Avoiding or minimizing injury to existing plants, above and below ground • Limiting soil compaction to areas required for structural support, and alleviating compaction in planted areas • Disposing of waste materials in the most environmentally sound manner available
PREFERRED	• Using renewable, biodegradable and recycled resources from local sources • Using plants and seeds from certified organic sources when commercially available • Minimizing and recycling waste • Sourcing plants and seeds that have been cultivated rather than removed from the wild, except where salvaged from an area where the vegetation will be destroyed for other reasons
PROHIBITED	• Damaging neighbouring properties and vegetation without prior permission

Landscape maintenance

Landscape maintenance practices modify the environment to improve its health, function or appearance.

Landscape maintenance activities include:

- maintaining plants
- installing and removing plants
- managing the soil and water conditions of the landscape
- preventing and managing plant and landscape health problems

Organic land care seeks to prevent landscape problems by creating healthy ecosystems that provide for the needs of all the organisms contained therein. Organic land care is an integrated approach, in which all practices are evaluated and used for their ability to enhance and support the natural processes within the ecosystem, and to minimize damage to any part thereof.

The success of the landscape depends on how well the maintenance practices, tools, products and substances used support landscape health, and on their wider social and ecological impact on the environment.

REQUIRED	• Working to a landscape management plan • Maintaining or increasing ecosystem biodiversity • Modifying the environment to increase the overall health of the ecosystem • Avoiding or minimizing injury to plants, above and below ground
PREFERRED	• Preventing the introduction or spread of undesired organisms • Employing biological, physical and mechanical methods to control undesired organisms • Removing or replacing plants that are poorly suited for the environmental conditions • Composting diseased plant parts
PROHIBITED	

Food production

Food production is the growing of plants, plant parts, animals and animal products for human consumption at any scale or form of production, for personal consumption and for sale. This section covers those items specific to food production, while all other sections apply to both land care and food production.

Environmental toxins

Human environments including urban environments can be highly polluted, and the historic use of a site is not always apparent. For example

- many housing developments have been established on sites previously occupied by heavy industry
- unknown sources of soil are used to infill construction sites
- chemicals used around homes are often disposed on driveways
- the locations of workshops, garages, garbage pits or burn drums, and oil tanks above and below ground throughout the history of a property is not always known
- existing and previous structures may have been painted with lead based paints in the past, contaminating the soil around the building perimeter
- previous pesticide use may not be known.

Airborne toxins must also be considered, such as industrial fallout and car exhaust particularly along major streets, but awareness is needed even in suburban settings. For example, inhalation or swallowing of contaminated soil or dust. In addition, small lots do not necessarily provide sufficient buffering from neighbouring properties where pesticides or genetically engineered crops may be used, or from where (other) contaminants may originate.

Therefore, extreme care must be taken to protect food plants and animals from soil, water and airborne toxins.

REQUIRED	• Verifying the non-commercial and/or non-toxic historic use of the site • Where the non-commercial and/or non-toxic historic use of the site cannot be verified, and where testing for soil toxins is not feasible, installing food gardens in raised beds in uncontaminated soil with a root barrier preventing root access to the soil below • Protecting crops with row covers from airborne toxins in industrial fallout areas, along major streets, and from pesticide use on neighbouring properties • Using potable water and ice when it comes in contact with food and food sources during post-harvest handling • Employing strategies such as installing physical barriers or border rows, testing seed supply and delayed planting to reduce the cross pollination of crops at risk such as soybeans, corn, canola, alfalfa and apples by commercialized GE crops.
PREFERRED	

PROHIBITED	• Growing food plants in soil with heavy metal background levels greater than the following agriculture numbers (mg/kg dry weight) extracted from the Canadian Environmental Quality Guidelines - Arsenic 12 - Cadmium 1.4 - Chromium 64 - Copper 63 - Lead 70 - Nickel 50 - Zinc 200 • Using polluted water collected from streets, driveways and other surfaces, including the first flush of rainwater collected from roofs

Crop nutrient management

Soil fertility management for food gardens differs from landscape settings. Consideration must be given to nutrient recycling, crop rotations, green manures, crop nutrient demands and agronomic output.

REQUIRED	• For commercial food production in residential and non-rural agricultural settings, thoroughly composting all manure according to the compost requirements in the Canadian organic standards • In rural agricultural settings, adhering to the Canadian organic standards in the use of manure
PREFERRED	• Using crop rotations and green manures in addition to other inputs
PROHIBITED	• Using fertilizers and soil amendments in a way that leads to contamination of crops, soil or water, by plant nutrients, pathogenic organisms, heavy metals or residues of other prohibited substances

Livestock
Livestock are animals raised for human consumption, for the consumption of their products, or for environmental health benefits. In urban environments this may include chickens, turkeys, ducks, rabbits, goats, bees, closed looped aquaponic systems etc., where permitted under local bylaws.

For all aspects of organic livestock management the Canadian organic standards shall be followed.

REQUIRED	• In non-rural settings ensure livestock systems do not attract or harbour rodents • When livestock are incorporated into the food production area, the livestock needs to be controlled sufficiently to ensure that manure or manure related contamination does not reach the portion of the crop intended for human consumption.
PREFERRED	
PROHIBITED	

Specialty crops
For all aspects of apiculture, maple, mushroom, greenhouse, sprouts, shoots, microgreen, and wild crop management the Canadian organic standards shall be followed.

Maintaining organic integrity and product preparation
For all aspects of product preparation and organic integrity, maintenance during handling, storage and transportation, the Canadian organic standards shall be followed.

PRINCIPAL AIMS OF ORGANIC LAND CARE

Organic land care emphasizes management practices rather than the use of substances. Organic land care practitioners should minimize off-site inputs by employing landscape management practices that work in harmony with natural biological systems.

Organic land care practitioners should always use the most environmentally benign materials available, and use as much as possible, renewable, biodegradable and recycled resources from local sources. Material inputs should be viewed as supplementary tools, and are not be used to indefinitely support a poorly designed or badly managed landscape.

All materials, products and substances must be used with awareness and care for the environment, and for the health and safety of the workers involved and the community at large.

Classification of organic land care substances and materials

The information in this list conforms to the Canada Organic Standards for Agriculture, but is not identical. The information has been selected for relevance to Organic land care practice, and reorganized and cross-referenced for easier use. Follow the Canadian organic standards for substances relevant to product preparation and the maintenance of organic integrity during handling, storage and transportation.

Substances and materials are classified as

- Allowed (A)
- Prohibited (X)

They are further classified by type:

- Building and Related Materials (B)
- Cleaners (C)
- Fertilizers, Growing Media, Soil Amendments and Related Substances (F)
- Pest Management Substances (P)

Some products may be allowed for one use but restricted or prohibited for another.

Any product or material containing more than one ingredient is classified according to the status of the most restricted ingredient. Consideration must be given to prohibited formulants (see 'Formulants' listing) and inert ingredients, although inert ingredients are not commonly listed on the product label.

The following additional requirements apply to substances produced on substrates or growth media (for example, microorganisms and lactic acid):

a) if the substance includes the substrate or growth media, the substrate or growth media ingredients shall be listed;

b) if the substance does not include the substrates or growth media, the substance shall be produced on nongenetically engineered substrate or growth media, if commercially available.

All ingredients listed in Material Safety Data Sheets (MSDS) and labels for products used to clean harvested crops must be listed in this table. Identical requirements apply for cleaning products used to clean, disinfect, or sanitize equipment in contact with crops that is not rinsed off first. This includes post harvest equipment.

List of organic land care substances & materials

USE	TYPE	NAME OF MATERIAL	ANNOTATION
A	C, P	Acetic acid	A no-rinse cleaner: Non-synthetic food-grade sources may be used to clean crops and clean irrigation systems. Food grade forms of both non-synthetic and synthetic sources allowed as both equipment and structure cleaners. Pesticide: Non-synthetic food grade sources allowed as a herbicide, adjuvant or pH regulator for pesticide applications. As a herbicide, shall be used in a manner that does not lower soil pH.
A	P	Adhesives for sticky traps and barriers	Shall not contain prohibited pesticides or other prohibited substances.
A	C, P	Alcohol	A no-rinse cleaner: Food-grade organic ethyl alcohols (ethanol) may be used to clean irrigation systems, structures and equipment. Non-organic food-grade ethyl alcohols (ethanol) may be used on structures and equipment. Isopropyl alcohols may be used only as disinfectants on structures and equipment. Pesticide: Non-synthetic ethyl alcohols are allowed as solvents to extract botanical insecticides

A	F	Alfalfa meal & pellets	Use organic alfalfa unless commercially unavailable. Ensure non-organic alfalfa is not a product of genetic engineering.
		Algae	See 'Aquatic plants and aquatic plant products'.
X		Alkaline copper quaternary (ACQ),	Prohibited.
A	F	Amino acids, non-synthetic	Amino acids produced by plants, animals and micro-organisms that are not from genetic engineering, and are extracted or isolated by hydrolysis, or by physical or other non-chemical means are considered non-synthetic. Non-synthetic amino acids may be used as plant growth regulators or chelating agents.
X		Amino acids, synthetic	Amino acids that are considered to be synthetically produced or produced from genetically engineered organisms are prohibited.
X		Ammonia products	All ammonia products are prohibited for plant nutrition including: anhydrous ammonia, aqua ammonia,ammoniumnitrate,ammoniumphosphate, ammonium sulphate, and ammonium soaps.
X		Ammoniated micronutrients	Includes ammonium molybdate, ammonium pentaborate, ammoniated zinc chloride, and ferrous ammonium sulphate.
X		Ammoniated zinc chloride	Prohibited.

A	P	Ammonium carbonate	For use as bait in insect traps and for monitoring purposes only. Shall not be in contact with plants or soil.
X		Ammonium lignosulphate	Prohibited.
X		Ammonium molybdate	Prohibited.
X		Ammonium nitrate	Prohibited.
X		Ammonium pentaborate	Prohibited.
X		Ammonium phosphate	Prohibited.
A	P	Ammonium soaps	Pesticide: May be used as an animal repellent i.e. deer. Cannot be applied to soil or edible portions of plants. Nutrient: Prohibited as plant nutrient.
X		Ammonium stillage	Prohibited.
X		Ammonium sulphate	Prohibited.
A	F	Anaerobicdigestate (residential and non-rural agriculturalsettings)	Products of anaerobic digestion may be used as a compost feedstock if added to other substrates which are then composted according to the requirements in the Canadian organic standards.

A	F	Anaerobicdigestion (rural agricultural settings)	Adhere to the Canadian organic standards in the use of disgestate, anaerobic.
X	F	Animal manure, un-processed (residential and non-rural agriculturalsettings)	Unprocessed animal manure is prohibited for use in any areas or plantings exposed to human contact in non-rural environments, including food production. For commercial food production in residential and non-rural agricultural settings, manure cannot be sourced from confined livestock operations and all manure must be thoroughly composted according to the compost requirements in the Canadian organic standards.
A	F	Animal manure, un-processed (rural agriculturalsettings)	Adhere to the Canadian organic standards in the use of manure.
A	F	Animal manure, processed	Manures that are treated by mechanical and/or physical (including heat) methods and/or to which are added biological, mineral or other substances listed are allowed, except the manure cannot have come from a confined livestock operation. The Organic land care practitioner must be assured that the best practices known to eliminate human pathogens during the treatment have been used.
X		Aromaticpetroleum solvents	Prohibited.
X		Arsenate-treated lumber	Includes copper chromium arsenate. Existing arsenate-treated lumber does not need to be removed and since problems with disposal of treated posts is part of the concern with them, recycling of existing posts within the landscape is allowed. Arsenate-treated lumber cannot be in contact with soil used to grow vegetables (boxed beds).

X		Arsenic	Prohibited.
		Arthropod pathogens	See 'Biological organisms'.
		Arthropod predators and parasitoids	See 'Biological organisms'.
		Arthropods	See 'Biological organisms'.
A	C, F, P	Ascorbic acid	No- rinse cleaner: Food-grade non-synthetic may be used to clean irrigation systems, structures and equipment. Neutralizer: To neutralize chlorine and chloramine treated water for live culture preparations Nutrient: Allowed as a natural growth promoter (non-synthetic). Pesticide: Allowed as a pH regulator.
A	F	Ash	Ash from plant and animal sources only. Ash shall not exceed the limits (category C1) for acceptable levels (mg/kg) of arsenic, cadmium, chromium, copper, lead and mercury specified in the Guidelines for the Beneficial Use of Fertilising Residuals, published by the Quebec Ministère du Développement durable, de l'Environnement et des Parcs,l. Shall not cause buildup of heavy metals in soil over repeated applications.
X		Ash (prohibited)	Ash from burning minerals, manure, coloured paper, and plastics or other synthetic substances is prohibited.

X		Avermectin	Prohibited.
		Azadiractin	See 'Neem' extract, powder and seeds'.
		Basalt	See 'Mined minerals, unprocessed'.
		Bacillus thuringiensis	See 'Biological Organisms'.
X		Bactericides, synthetic	All synthetic bactericides that are not explicitly allowed or restricted are prohibited.
A	P	Baits for rodent traps	Shall not contain synthetic substances.
A	C, P	Baking soda	Cleaner: See 'Sodium bicarbonate' & 'Potassium bicarbonate'. Pesticide: Allowed.
		Basic copper sulphate	See 'Copper products (allowed)'.
		Bentonite	Soil amendment: See 'Mined minerals, unprocessed'.
X		Benzene	Prohibited.
A	F	Biochar (allowed)	Produced through pyrolysis of forestry by-products which have not been treated with or combined with prohibited substances.

X		Biochar(prohibited)	Recycled biochar from contaminated remediation sites is prohibited.
		Biodegradable mulch	See 'Mulches (allowed) & (prohibited)',
		Biodegradable pots, containers, cell packs	See 'Pots, biodegradable (allowed) & (prohibited)',
A	F	Biodynamic preparations for compost	Chamomile (Prep. 503), dandelion (Prep. 506), oak bark (Prep. 505), stinging nettle (Prep. 504), valerian (Prep. 507), and yarrow flowers (Prep. 502).
A	P	Biodynamic preparations for disease control	Horsetail spray (Prep 508) and horn silica (Prep 501).
A	F	Biodynamic preparations for soil & plants	Horn manure spray (Prep. 500) or horn silica (Prep. 501).
A	P	Biological organisms	Living organisms, including worms and their products, that benefit plant production. Organisms such as Bacillus thuringiensis, spinosad, granulosis (e.g. viruses, bacteria, protozoa, fungi, insects nematodes) are mainly used to reduce pest populations, No organisms from genetic engineering.
X		Biosolids	Prohibited.

		Biotite (iron, magnesium or aluminum silicates)	See 'Mined minerals, unprocessed'.
X		Bird baits, poison	Prohibited.
A	C	Bleach	a) Calcium hypochlorite; b) Chlorine dioxide; c) Sodium hypochlorite; d) Ozone; and e) Hydrogen peroxide. No removal event is required if chlorine concentration levels for a), b), and c), does not exceed maximum levels for safe drinking water in irrigation water, crop wash water or for flush water generated from cleaning irrigation systems, equipment, and storage and /or transport units that is applied to crops or land. Chlorine concentration levels for a), b), and c), may be up to maximum label rates for cleaning of equipment including storage and transportation units. A removal event is required before crops may come into contact with these cleaned surfaces. Waste water concentrations must not exceed maximum levels for safe drinking if applied to crops or land.
A	F	Blood and blood meal	Nutrient: Allowed only if sterilized. Pesticide: see 'Repellents'. Note: it is questionable whether sterilization disables the spread of prion diseases.

A	F	Bone meal	Allowed only if guaranteed free of specific risk materials (e.g. prions associated with Mad Cow Disease). Note: it is questionable whether sterilization disables the spread of prion diseases.
		Borate	See 'Boron products (allowed)' & (prohibited)'.
		Borax	Also known as sodium tetraborate. See 'Boron products (allowed)'.
		Bordeaux mixes	See 'Copper products (allowed)'.
A	P	Boric acid	May be used for structural pest control (i.e. ants). No direct contact with plants is allowed.
A	B, F, P		Nutrient: Sodium tetraborate (borax and anhydrous) and octaborate, and borate may be used to adjust nutrient imbalances but only with a known boron deficiency. Pesticide: Boric acid may be used for structural pest control (i.e. ants). No direct contact with plants is allowed. Wood preservative (pesticide): Sodium tetraborate (borax and anhydrous), and sodium octaborate, and borate may be used.
X		Boron products (prohibited)	Ammonium pentaborate is prohibited.

A	P	Botanical pesticides	Allowed for pest and disease control as products are approved for that use in Canada. Botanical pesticides must be used in conjunction with a landscape management plan, and cannot be the primary method of pest control in the landscape. The least toxic botanicals shall be used in the least ecologically disruptive way possible. All label restrictions and directions shall be followed including restrictions concerning crops, target pests, safety precautions, pre-harvest intervals and worker re-entry.
		Burned lime	See 'Lime (allowed) & (prohibited)'.
X		Calcium carbide	Prohibited.
		Calcium carbonate	See 'Limestone'.
A	F, P	Calcium chloride	Nutrient and pesticide (physiological function): Natural sources and food-grade quality only. Can be used to adjust nutrient deficiencies and physiological disorders. Shall not cause buildup of salts in soil over repeated applications.
A	P	Calcium hydroxide (allowed)	Pesticide: May be used for disease control. Also known as hot lime, hydrated lime, or slaked lime.
X	F	Calcium hydroxide (prohibited)	Nutrient: Prohibited. Also known as hot lime, hydrated lime, or slaked lime.
		Calcium ligninsulphonate	Construction: See 'Ligninsulphonates (allowed) & (prohibited)'.
X		Calcium nitrate	Prohibited.

		Calcium oxide	See 'Lime (allowed) & (prohibited)'.
		Calcium polysulphide	See 'Lime Sulphur'.
A	F	Calcium sources (allowed)	Natural sources such as shells from aquatic animals, limestone, dolomite (not slaked), aragonite, wollastonite, eggshell meal, lime from sugar processing and mined $CaCO_3$.
X	F	Calcium sources (prohibited)	Calcium products which have been used in controlled atmosphere storage are prohibited as plant nutrients.
		Calcium sulphate	See 'Gypsum (allowed) & (prohibited)'.
X		Calcium, synthetically derived	Prohibited.
A	F	Cannery wastes (fish or vegetable)	Must be thoroughly composted before use and confirmed to be uncontaminated by pesticides and/or heavy metals.
		Canola seed meal	See 'Seed Meals'.
A	F	Carbon dioxide	For soil and greenhouse use.
X		Carbonates	Prohibited.
A	B	Carbon Black (allowed)	Carbon Black derived from non-GE plant materials is allowed.

X		Carbon Black (prohibited)	Carbon Black derived from petroleum sources is prohibited.
A	F	Cardboard	Cardboard that is not waxed or impregnated with fungicides or other prohibited substances may be used as mulch or compost feedstock.
X		Cardboard, waxed	Prohibited.
X		Carpet	Prohibited.
		Caustic potash	See 'Potassium hydroxide'.
		Caustic soda	See 'Lye'.
A	F	Chelates (allowed)	Natural chelates (such as amino acids, citric acid, tartaric acid, and other di- and tri- acid chelates), and ligninsulphonates (see 'Ligninsulphonates') are allowed. Synthetic chelating agents are not allowed with micronutrients unless they are specifically listed for such use.
X		Chelates (prohibited)	Prohibited chelating agents include DTPA, EDTA, HEDTA, NTA, glucoheptonic acid and its salts, and synthetic amino acids.
X		Chilean nitrate	Prohibited.
A	F, P	Chitin (allowed)	Sourced from aquatic animal shells.
X		Chitin (prohibited)	Non-synthetic sources prohibited.

		Chloride of lime	See 'Calcium chloride'.
X		Chlorinated hydrocarbons	Prohibited.
		Chlorine	See 'Bleach'.
		Chlorine dioxide	See 'Bleach'.
		Cholecalciferol (Vitamin D-3)	See 'Vitamins (allowed)'.
X		Chlorophacinone	Prohibited.
		Cinnamon	See 'Repellents'.
A	C, F, P	Citric Acid	Cleaner: May be used to clean crops, plants, irrigation systems, structures and equipment. Nutrient: May be used as a chelating agent. Pesticide: Allowed as a pH regulator.
		Citrus products	See 'Repellents'.
A	B, F	Clay	Construction: Allowed. Nutrient: Bentonite, perlite and zeolite as a soil amendment or seed pellet additive. See 'Mined minerals, unprocessed'.
		Coal	See 'Humic acid'.

		Codling moth Granulosis virus	See 'Biological organisms'.
		Colloidal rock phosphate	See 'Phosphate rock'.
A	F	Compost	Composting refers to the managed process by which organic materials are digested by microorganisms over sufficient time and / or with sufficient heat to effectively stabilize the nutrients, reduce pesticide residues, and kill weed seeds and plant and human pathogens. Compost must be derived from allowed feedstocks. See 'Compost feedstocks (allowed) & (prohibited)'. Compost used in commercial (vs personal use) food production must adhere to the Canadian organic standards.

A	F	Compostfeedstocks (allowed)	Acceptable feedstocks include: a) food waste, minimizing known genetically engineered foods; b) animal manures (excepting domestic pet waste and manures derived from confined livestock operations), with preference for manures sourced from organic farming operations; manures shall be guaranteed to be free of specific risk materials; c) animal products and by-products (including fishery); d) plants and plant by-products (including forestry and source-separated yard debris, such as grass clippings and leaves); e) soils and minerals conforming to this standard. f) paper yard waste bags printed containing coloured ink. Documentation or testing of the final compost may be necessary when evidence indicates that there is a possibility of persistent residues prohibited by this standard.
X		Compostfeedstocks (prohibited)	Prohibited feedstocks include: a) sewage sludge; b) compost starter and feedstocks fortified with prohibited substances ; c) leather by-products; d) glossy paper; e) waxed cardboard; f) paper containing coloured ink excluding paper yard waste bags. g) animals, animal products, and animal by-products not guaranteed free of the risk materials specified in the bone meal listing.

A	F	Compost tea	Uses an aerobic process. Compost used to make the tea must be satisfy the compost and compost feedstock requirements outlined in this list. See 'Compost' & 'Compost feedstock'.
		Copper ammonia base	See 'Copper products (prohibited)'.
		Copper ammonium carbonate	See 'Copper products (prohibited)'.
X		Copper azole (CA)	Prohibited.
X		Copper chromium arsenate	Prohibited.
		Copper hydroxide	Construction: See 'Wood preservatives (allowed)' and 'Copper products (allowed)'. Pesticide: See 'Copper products (allowed)'.
		Copper nitrate	See 'Copper products (prohibited)'.
		Copper oxide	Construction: See 'Wood preservatives (allowed)' and 'Copper products (allowed)'. Nutrient: See 'Copper products (allowed)'. Pesticide: See 'Copper products (allowed)'.

		Copper oxychloride	Construction: See 'Wood preservatives (allowed)' and 'Copper products (allowed)'. Nutrient: See 'Copper products (allowed)'. Pesticide: See 'Copper products (allowed)'.
A	B, F, P	Copper products (allowed)	Wood preservative: Bordeaux mix, Copper hydroxide, copper oxychloride, copper oxide. Pesticide: Bordeaux mix, Copper hydroxide, copper oxychloride, copper oxide, copper sulphate. Nutrient: Basic copper sulphate, copper oxide, copper sulphate and copper oxysulphate may be used to correct known copper deficiencies. All shall be used in a manner that prevents excessive copper accumulation in the soil. Buildup of copper in soil may prohibit future use. Use with caution. No visible residue shall be allowed on plant surfaces.
		Copper oxysulphate	See 'Copper products (allowed)'.
X		Copper products (prohibited)	Copper ammonia base, copper ammonium carbonate, copper nitrate and cuprous chloride are prohibited.
		Copper sulphate	Nutrient: See 'Copper products (allowed)'. Pesticide: See 'Copper products (allowed)'. Wood preservative: See 'Wood preservatives (prohibited)'.
X		Copper zinc chromate	Prohibited.

		Corn gluten meal	See 'Seed Meals'.
		Corn meal	See 'Seed Meals'.
		Cotton seed meal	See 'Seed Meals'.
A	F	Crab shells	Allowed.
		Cuprous chloride	See 'Copper products (prohibited)'.
		Cytokinins	See 'Growth regulators for plants (allowed)'.
X		Creosote	Prohibited.
A	C	Detergents	Biodegradable only (see Biodegradable definition in the glossary) for cleaning equipment. Rinse water cannot be applied to land.
		Di-acid chelates	See 'Chelates (allowed)'.
A	P	Diatomaceousearth	Only non-heated forms may be used. Shall not contain synthetic pesticides or synergists.
X		Diphacinone	Prohibited.
X		Dolomite, fired	Prohibited.
A	F	Dolomite, mined	Magnesium carbonate and calcium carbonate. May cause build-up of magnesium. Use with caution. Must be from a natural source. See 'Limestone'.

X		Dolomite, slaked	Prohibited.
A	P	Dormant oils	Allowed for use as a dormant spray on woody plants only. Shall not contain any prohibited insecticides or other ingredients.
A	C	Drip irrigation cleaners (allowed)	Preferred drip irrigation cleaners include vinegar, citric acid, other naturally occurring acids listed, and include bleach and detergents. See 'Bleach' and 'Detergents' and individual cleaning product listings.
X		Drip Irrigation cleaners (prohibited)	Prohibited drip irrigation cleaners includes nitric, phosphoric, and sulphuric acids.
X		DTPA	Prohibited.
A	B	Dust suppressants (allowed)	Water, ligninsulphonates and non-synthetic plant, mineral, or animal based materials such as molasses and vegetable oils. See 'Ligninsulphonates'.
X		Dust suppressants (prohibited)	All materials for dust suppression not specifically allowed are prohibited including, but not limited to asphalt and all petroleum products.
X		EDTA	Prohibited.
A	F	Egg shell meal	Allowed. Organic required if commercially available.
		Eggs	See 'Repellents'.

A	F	Enzymes	Acceptable if derived microbiologically from natural substances and not fortified with synthetic plant nutrients. Shall not be obtained by or from genetic engineering.
		Epsom salts	See 'Magnesium sulphate'.
		Essential oils	See 'Plant Extracts'.
		Ethanol	See 'Alcohol'.
A	C	Equipmentcleaners (allowed)	Allowed substances include acetic acid, alcohol, , ascorbic acid, bleach, citric acid, hydrogen peroxide, soap, water etc. See individual listings for details.
X		Equipmentcleaners (prohibited)	All synthetic equipment cleaners that are not explicitly allowed or restricted are prohibited.
		Ethyl Alcohol	See 'Alcohol'.
A	F, P	Extractant	Non-synthetic substances such as cocoa butter, lanolin, animal fats, alcohols and water as allow extractants. Extraction with synthetic solvents is prohibited unless specified otherwise in the substance annotation and provided the amount of solvent used does not exceed the amount necessary for extraction.
A	F	Feather meal	If composed of feather meal only and unadulterated with non-allowed materials.
		Feldspar	See 'Mined minerals, unprocessed'.

		Ferric and ferrous compounds	See 'Iron products (allowed) & (prohibited)' and 'Trace elements (micronutrients)'
X		Ferric chloride	Prohibited.
		Ferric oxide	See 'Iron products (allowed)' and 'Trace elements (micronutrients)'
		Ferric sulfate	See 'Iron products (allowed)' and 'Trace elements (micronutrients)'
X		Ferrous ammonium sulphate	Prohibited.
		Ferrous sulphate	See 'Iron products (allowed)' and 'Trace elements (micronutrients)'
A	F	Fertilizers, blended (allowed)	If composed entirely of allowed materials. See classification for each separate ingredient. Inert ingredients for pelletizers, etc. must be individually approved or be from natural sources.
X		Fertilizers, blended (prohibited)	If the product contains any prohibited materials.
		Fibre row covers	See 'Geotextiles'.
		Fish emulsion or solubles	See 'Fish products'.
		Fish farm wastes	Shall be composted.

		Fish hydrolysate	See 'Fish products'.
		Fish meal	See 'Fish products'.
		Fish powder	See 'Fish products'.
A	F	Fish products (allowed)	Natural substance or those derived from natural substances without the addition of ethoxyquin or other chemically synthesized substances or chemical treatment. Liquid fish products can be pH adjusted using (in preferential order) vinegar, non-synthetic citric acid, synthetic citric acid, phosphoric acid or sulphuric acid. The amount of acid used for pH adjustment cannot exceed the minimum needed to stabilize the product.
X		Fish products (prohibited)	Fish products are prohibited if they contain synthetic preservatives other than those specifically allowed, or are fortified with otherwise prohibited plant nutrients.
A	P	Flame torches	Allowed for vegetation control.
		Flax seed meal	See 'Seed Meals'.
		Floating row covers	See 'Geotextiles'.
X		Formaldehyde	Prohibited.

A	P	Formulants (allowed)	Only formulants that are classified by the Pest Management Regulatory Agency (PMRA) as List 4A or 4B or are non-synthetic may be used with the following substances adhesives for sticky traps and barriers, ammonium carbonate, baits, borate, boric acid, pesticides, dormant oils, hydrogen peroxide and soaps that are applied directly to plants, Formulants classified as PMRA List 3 = may be used with passive pheromone dispensers. Formulants used with all other allowed substances shall be non-synthetic unless a substance annotation specifies that a synthetic formulant may be used such as in the case of fish products and aquatic plant products.
X		Formulants (prohibited)	Formulants classified as PMRA List 1 or List 2 are prohibited.
		Fulvic acid	See 'Humates'.
X		Fungicides, synthetic	Prohibited unless specifically allowed.
		Garlic	See 'Repellents'.
X		Genetically engineered organisms	Prohibited

A	P	Geotextiles	Shall not contain any prohibited substances such as pest control products, or petroleum based polymers and Carbon Black. Construction: Compliant geotextiles are required where there is direct soil with infrastructure such as paving, buildings and structures, retaining walls, and irrigation systems. Weed control or floating row cover: Compliant gotextiles are allowed as seasonal or temporary soil cover for food production. Shall not be incorporated into the soil or left to decompose: shall be removed at the end of the growing season and the area planted to a green manure cover crop. Weed control: Prohibited as a mulch in non food production landscapes.
A	F	Gibberellic acid	Acceptable if made from a fermentation process and not fortified with prohibited synthetic substances. The fermentation process shall not use genetically engineered organisms. See 'Growth regulators for plants (allowed)'.
		Glauconite	Also known as Greensand. See 'Mined minerals'.
X		Glucoheptonic acid	Glucoheptonic acid and its salts are prohibited.
A	C	Glycerol (glycerine, glycerin)	May be use as a cleaner. Must be sourced from vegetable or animal fats and/or oils and produced by fermentation or hydrolysis.
X		Glyphosate	Glyphosate based products are prohibited. See 'Herbicides, synthetic'.
		Granite dust (allowed)	See 'Mined minerals'.

X		Granite dust (prohibited)	Sources that are mixed with petroleum products, such as from stone engraving, are prohibited.
		Granulosis	See 'Biological organisms'.
		Grass clippings	See 'Plants'.
		Green manure	See 'Plants'.
		Greensand	Also known as Glauconite. See 'Mined minerals'.
A	F	Growth regulators for plants (allowed)	Natural plant hormones such as gibberellic acid, indole acetic acid (IAA) and cytokinins are allowed. Vitamin B1 is also allowed. Must not contain prohibited synthetic substances.
X		Growth regulators for plants (prohibited)	All synthetic growth regulators not explicitly allowed are prohibited. Includes all formulations of the propagation hormone IBA (Indol-3-butyric acid) as well as the growth regulator NAA (1-Naphthalene acetic acid).
A	F	Guano, bat or bird	Shall be decomposed and dried deposits from wild bats or birds. Domesticated fowl excrement is considered manure, not guano. See 'Compost' for the definition of compost.
A	F	Gypsum (calcium sulphate), (allowed)	Mined sources; for correcting calcium and/ or sulfur visual symptoms and for amending soil salinity problems documented by soil and / or plant tissue testing, or when the need for a preventative application is documented. Calcium sulphate produced using sulphuric acid is prohibited.

X		Gypsum (calcium sulphate), by-product	Gypsum produced as a by-product of superphosphate manufacture (the reaction of rock phosphate and sulphuric acid), from precipitation of sulphur dioxide gas with limestone, or from dry-wall rejects is prohibited.
		Hair	See 'Repellents'.
		Hay	See 'Plants'.
X		HEDTA	Prohibited.
X		Herbicides, synthetic	Prohibited unless specifically allowed.
A	P	Homeopathic preparations	See crop production aids.
		Hormones	See 'Growth regulators for plants (allowed) & (prohibited)'.
		Hot lime	See 'Calcium hydroxide (allowed) & (prohibited)'.
X		Human excrement (solid and liquid)	Prohibited.

A	F	Humates, humic and fulvic substances	Permitted if extracted by non-synthetic substances, microbial fermentation or potassium hydroxide. Shall not exceed the limits (category C1) for acceptable levels (mg/kg) of arsenic, cadmium, chromium, copper, lead and mercury specified in the Guidelines for the Beneficial Use of Fertilizing Residuals, published by the Quebec Ministère du Développement durable, de l'Environnement et des Parcs. Potassium hydroxide levels used in the extraction process may not exceed the amount required for extraction.
		Humic acid	See 'Humates'.
		Humus from worms and insects (vermi-compost)	See 'Worm castings'.
		Hydrated lime	See 'Calcium hydroxide (allowed) & (prohibited)'.
		Hydrated magnesium sulphate	See 'Magnesium sulphate'.
A	C, P	Hydrogen Peroxide	Pesticide: Allowed for use as a fungicide. Cleaner: See 'Bleach'.
		IAA (Indole acetic acid)	See 'Growth regulators for plants (allowed)'.
X		IBA (Indole-3-butyric acid)	Prohibited.

A	P	Infra-red radiation (heat, light)	Allowed for vegetation control.
		Inoculants	See 'Microbial products (allowed) & (prohibited)'.
		Insecticidal soap	See 'Soap'.
A	C	Iodine	Non-elemental only; not to exceed 5% solution, e.g. iodophors. May be used to clean, structures and equipment. Post harvest equipment must be rinsed off before crops are handled. Rinse water cannot be applied to land.
A	P	Ionizing radiation (allowed)	Ionizing radiation is allowed for use on peat moss carrier only, before addition of microbial inoculants.
X	P	Ionizing radiation (prohibited)	Radiation is prohibited except as specified under 'Ionizing radiation (allowed)'.
		Iron citrate	See 'Iron products (allowed)'.
A	F	Iron products (allowed)	Ferric oxide, ferric sulphate, ferrous sulphate, iron citrate, iron sulphate or iron tartrate may be used where a soil or plant nutrient deficiency is documented by soil or tissue testing. All iron products are prohibited for pest or weed control purposes.
X		Iron products (prohibited)	Includes ferrous ammonium sulphate, ferric chloride, iron nitrate and synthetic iron phosphate. See 'Trace elements (micronutrients)'. All iron products are prohibited for pest or weed control purposes.

		Iron (ferric) sulphates	See 'Iron products (allowed)'.
		Iron tartrate	See 'Iron products (allowed)'.
A	B	Irrigation products	Polyethylene (Poly) and polyvinyl chloride (PVC) products are allowed.
		Isopropyl Alcohol	See 'Alcohol'.
		Kaolin clay	See 'Mined minerals, unprocessed'.
		Kainite	See 'Muriate of potash'.
		Kelp and kelp products	See 'Aquatic plant products'.
		Kieserite	See 'Magnesium sulphate'.
X		Killed microbial pesticides	Prohibited if genetically engineered.
		Landscape fabric	See 'Geotextiles'.
		Langbeinite (sulphate of potash magnesia)	See 'Mined minerals'.
		Leaf mould	See 'Plants'.

X		Leatherby-products	Residues from hide processing. Likely to be highly contaminated with synthetic metals or solvents which are used in leather processing. Includes leather meal, leather tankage, and leather dust.
		Leonardite	See 'Humates'.
		Ligninsulphonates (allowed)	
X		Lignin sulphonate (prohibited)	Ammonium lignosulphate is prohibited.
		Lignosulphonicacid	See 'Lignin sulphonate'.
		Lignite	See 'Humates'.
		Lignosulfonic acid	See 'Chelates (allowed)'.
		Lime, burned or burnt	Also known as calcium oxide or quicklime. See 'Lime (allowed)' & (prohibited)'.
A	C	Lime (allowed)	Also known as calcium oxide, burnt lime, or quicklime. May be used to clean irrigation systems, structures and equipment. Post harvest equipment must be rinsed off before crops are handled. Rinse water cannot be applied to land.
X		Lime (prohibited)	Also known as calcium oxide, burnt lime, or quicklime. May not be used as a fertilizer or a soil amendment.

		Lime, hot	See 'Calcium hydroxide (allowed) & (prohibited)'.
		Lime, hydrated	See 'Calcium hydroxide (allowed) & (prohibited)'.
		Lime, slaked	See 'Calcium hydroxide (allowed) & (prohibited)'.
A	P	Lime sulphur	Lime sulphur is a mixture of calcium polysulphides formed by reacting calcium hydroxide and sulphur. Allowed as a fungicide, insecticide and acaricide (mite control) on plants.
A	B, F	Limestone	Construction: Allowed where the resulting pH change of the soil has no or minimal negative impact on the environment. Nutrient: Magnesium carbonate and calcium carbonate. May cause build-up of magnesium. Use with caution. Shall be from natural source. Oyster shell flour, limestone, dolomite (not slaked), aragonite, eggshell meal, lime from sugar processing and mined $CaCO_3$ are allowed. Calcium products that have been used in controlled atmosphere storage are prohibited.
A	C	Lye	Also known as caustic soda and sodium hydroxide. No-rinse food-grade lye may be used to clean irrigation systems, crops, plants, and equipment.
		Magnesium carbonate	Naturally occurring in dolomite and magnesite. See 'Limestone'.
		Magnesium chloride	Natural sources only. See 'Limestone'.

X		Magnesium oxide	Prohibited.
A	F	Magnesium rock	Natural substance or those derived from natural substances without addition of chemically synthesized substances or chemical treatments. See 'Mined minerals'.
A	F	Magnesium sulphate	Allowed for use with a known magnesium deficiency. Mined as kieserite or epsom salts (see also 'Mined minerals, and unprocessed mined minerals') or synthetically produced epsom salts.
A	F	Manganese products (allowed)	Manganous oxide and manganese sulphate may be used to correct documented manganese deficiencies. See 'Trace elements (micronutrients)'.
X		Manganese products (prohibited)	Manganese chloride, manganese nitrate and potassium permanganate are prohibited.
X		Manganese chloride	Prohibited.
X		Manganese nitrate	Prohibited.
A	F	Manganese sulphate	May be used to correct documented manganese deficiencies.
A	F	Manganous oxide	May be used to correct documented manganese deficiencies.
		Manure	See 'Animal manure, unprocessed & processed'.

A	F	Meat meal	Shall be processed by drying, heat sterilization and/ or composting.
X		Methyl alcohol	Prohibited.
X		Methyl bromide	Prohibited.
X		Methyl sulphoxide	Prohibited.
		Mica	See 'Mined minerals, unprocessed'.
		Microbialinoculants	See 'Microbial products' (allowed) & (prohibited).
A	F, P	Microbial products (allowed)	Allowable microbial products include Rhizobium bacteria, mycorrhizal fungi, Azolla, yeast and other microorganisms on compost, plants, seeds, soils and other components of the organic operation. Ionizing radiation is allowed for use on peat moss carrier only, before the addition of microbial inoculants. Radiation is otherwise prohibited.
X		Microbial products (prohibited)	Genetically engineered organisms or viruses are prohibited. Microbial products are prohibited if the final product contains synthetic preservatives such as sodium sulphite, or they are fortified with otherwise prohibited plant nutrients.
		Micronutrients	See 'Trace elements (micronutrients)'.
A	F, P	Milk	Shall not contain substances that are not allowed.

A	F, P	Mined minerals, and unprocessed mined minerals	Includes basalt, pumice, sand, feldspar, mica, granite dust and unprocessed rock dust. Mined minerals must not have undergone any change in molecular structure thorough heating or combining with other substances or have been processed or fortified with synthetic substances not listed. Calcinated minerals that have not been ameliorated during the calcination process are allowed. Mined minerals are regarded as supplements to a balanced organic soil building program. Some of the minerals that are mined can also be extracted from seawater and are allowed. Synthetic versions or byproducts of industry are prohibited. Sodium nitrate and rock dust that have been mixed with petroleum products, such as those from stone engraving are prohibited.
		Mineral oils	See 'Dormant oils'.
A	F	Molasses	Shall be organic molasses.
A	F	Molybdenum products	To correct documented molybdenum deficiencies. See 'Trace elements (micronutrients)'.
X		Moth balls / crystals	Naphthalene and paradichlorobenzene are prohibited.

A	F, P	Mulches (allowed)	Organic matter in the form of plant residue from organic sources is preferred. Non-organic sources of straw, leaves, grass clippings or hay etc. shall be free of pesticides and other contaminants. Shells and other animal derived materials free of pesticides and other contaminants are allowed. For animal manure see 'Animal manure, processed' and 'Animal manure, un-processed'. Organic matter in the form of plant residue from organic sources is preferred. If organic plant materials are not readily available non-organic sources of straw, leaves, grass clippings or hay etc. but prohibited substances (e.g. pesticides) must not have been used on these materials for at least 60 day before harvest/collection. Shells and other animal derived materials free of pesticides and other contaminants are allowed. For animal manure see 'Animal manure, processed' and 'Animal manure, un-processed'. Wood chips, shavings and sawdust shall be from wood that has not been painted or treated with prohibited substances. Biodegradable mulch films shall be composed of 100% biobased materials and formulants/ingredients listed in this list as allowed. Rocks, stone etc. See 'Rock, natural'. Plastic sheeting: Allowed as seasonal or temporary soil cover for food production. Shall not be incorporated into the soil or left to decompose: shall be removed at the end of the growing season and followed by a green manure crop. Also see 'Geotextiles'.

X		Mulches (prohibited)	Glossy paper and paper with coloured inks are prohibited. Plastic sheeting and landscape fabric are prohibited in non-food production landscapes. Biodegradable mulches that are the products of GE technology or are derived from petroleum sources are prohibited.
		Muriate of potash	See 'Potassium chloride'.
		Mushroom compost	See 'Compost'.
		Mustard seed meal	See 'Seed Meals'.
X		NAA (1-Naphthalene acetic acid)	Prohibited.
X		Nano-technology products	Prohibited, except for naturally occurring nano-sized particles or those produced incidentally through processes such as grinding.
X		Napthalene	Prohibited.
		Naturally occurring biological organisms (e.g. worms) and their products	See 'Worm castings'.
A	P	Neem extract, powder and seeds	Allowed when registered for use in Canada.

		Newspaper	See 'Paper (allowed) & (prohibited)'.
		Oyster shell flour	Ground shells from oysters. See 'Limestone'.
		Ozone	See 'Bleach'.
A	F	Paper (allowed)	Plain paper and paper printed with vegetable based inks and paper yard waste bags which contain coloured ink are allowed as a mulch or compost ingredient. May cause build-up of aluminum. Use with caution.
X		Paper (prohibited)	Coloured or glossy paper.
X		Paradichloro-benzene	Prohibited.
A	F	Peat moss	Shall not contain synthetic wetting agents. Alternative locally sourced substances shall be used where available.
X		Pelargonic acid	Prohibited.
A	F, P	Pelletising materials (allowed)	Clay, gypsum or other non-synthetic coatings are allowed.
X		Pentachlorophenol	Prohibited.
A	C, P	Peracetic (peroxyacetic) acid	No-rinse food-grade peracetic acid may be used to control fire blight bacteria, clean irrigation systems, crops, plants, and disinfecting equipment, seed and asexually propagated planting material.

		Perlite	See 'Mined minerals, unprocessed'.
		Permanganate of potash	See 'Potassium permanganate (allowed)' and Potassium permanganate (prohibited)'.
X		Pesticides, synthetic	Prohibited unless specifically allowed.
X		Petroleum distillates	Prohibited.
X		Petroleum solvents (aromatic)	Prohibited.
A	F, P	pH buffers (allowed)	Natural sources of citric acid or vinegar may be used to adjust nutrient and pesticide solutions.
X		pH buffers (prohibited)	Lye and sulphuric acid are prohibited for use as pH buffers.
A	P	Pheromones	For use in pheromone traps or dispensers. Shall not be combined with prohibited materials.
A	F	Phosphate rock	Shall not be fortified or processed with synthetic chemicals. Cadmium shall not exceed 90mg/kg P_2O_5.
A	C	Phosphoric acid (allowed with restrictions)	When other listed cleaners are ineffective, phosphoric acid may be used as an equipment cleaner, provide use is in accordance with the manufacturer's written instruction, and there is no direct contact with organically managed land.
X		Phosphoric acid (prohibited)	Prohibited as a nutrient source.

		Pine oil and resin	See 'Botanical pesticides'.
X		Piperonyl butoxide	Prohibited as a synergist in botanical products. Although this material is derived from a plant source originally, it undergoes a substantial molecular change during its extraction and processing. Check the labels on botanicals to make sure this is not in the product.
		Plant (vegetative) by-products	See 'Plants'.
		Plant extracts, oils and preparations	See 'Botanical pesticides'.
		Plant hormones	See 'Growth regulators for plants (allowed) & (prohibited)'.
A	P	Plant protectants, (allowed)	Substances that protect plants from harsh environmental conditions such as frost and sunburn, from infection, from the buildup of dirt on leaf surfaces, or from injury by a pest. Natural substances are allowed including diatomaceous earth, kaolin clay, pine oil, pine resin and yucca. White wash is allowed for use on trees to protect against sunburn and southwest disease.
X		Plant protectants (prohibited)	All synthetic plant protectants are prohibited unless specifically allowed.

A	F	Plants	Includes plant preparations of aquatic or terrestrial plants or parts of plants such as cover crops, green manure, crop wastes (pomace), hay, leaves, grass clippings, straw, wood chips, shavings and sawdust, etc which may be used as soil amendments, foliar feeds/compost tea, compost feedstocks and mulches. See 'Compost feedstocks', 'Compost teas' & 'Mulches' for details and restrictions.
A	P	Plastic sheeting	Allowed as seasonal or temporary soil cover for food production (row covers and solarisation). Shall not be incorporated into the soil or left to decompose: shall be removed at the end of the growing season and followed by a green manure crop. Use of polyvinyl chloride is prohibited for this application. Prohibited as mulch in non-food landscapes.
A	B	Polyethylene (Poly)	Allowed for irrigation systems.
A	B	Polymers, biodegradable (allowed)	Biodegradable polymers derived from plant or animal sources are allowed.
X		Polymers, biodegradable (prohibited)	Biodegradable polymers that are the products of GE technology or are derived from petroleum sources are prohibited.
A	B	Polyvinyl chloride (PVC) (allowed)	Allowed for irrigation systems where no alternatives exist.
X		Polyvinyl chloride (PVC) (prohibited)	Prohibited as mulch or row cover.

A	F	Pomace	See 'Plants'.
A	B	Pots,biodegradable (allowed)	Biodegradable pots or cell packs may be left to decompose in the field if all ingredients in the pots are listed in this list as allowed.
X		Pots,biodegradable (prohibited)	Biodegradable pots or cell packs shall not be left to decompose in the field if not all ingredients in the pots are listed in list as allowed.
A	C	Potassium bicarbonate	See 'Baking soda'. No-rinse food-grade potassium bicarbonate may be used to clean irrigation systems, structures and equipment.
A	C	Potassium carbonate	May be used to structures, and equipment. Post harvest equipment must be rinsed off before crops are handled. Rinse water cannot be applied to land.
A	F	Potassium chloride (muriate of potash and rock potash)	Mined potassium salts (e.g. sylvinite, kainite). Shall not cause buildup of salts in soil over repeated applications.
A	C	Potassium hydroxide	May be used to clean structures and equipment. Must be rinsed off before crops or plants come into contact. Rinse water cannot be applied to land.
X		Potassium nitrate	Prohibited.
A	C	Potassium permanganate (allowed)	Not to exceed 1% solution by volume. May be used to clean irrigation systems, structures and equipment. Post harvest equipment must be rinsed off before crops are handled. Rinse water cannot be applied to land.

X		Potassium permanganate (prohibited)	Prohibited as a nutrient source.
A	F	Potassium rock powders	Includes basalt, biotite, mica, feldspars, granite and greensand. See 'Mined minerals, unprocessed'.
		Potassium sulphate, non-synthetic	Only from langbeinite or other natural sources. See 'Mined minerals, unprocessed'.
X		Potassium sulphate, synthetic	Includes potassium sulphate produced by acidulation or chemical reaction.
		Potassium sulfate magnesia (Langbeinite)	See 'Mined minerals'.
A	F	Potting soil	Shall not contain synthetic wetting agents or synthetic fertilizers.
		Predator scents	See 'Repellents'.
X		Pressure treated lumber	Alkaline copper quaternary (ACQ), Copper azole (CA), Copper chromium arsenate (CCA), creosote and pentachlorophenol treated lumbers are prohibited.
X		Pruning paints	Prohibited.
A	F	Pumice	Allowed.
X		Pyrethroids	Prohibited.

A	P	Pyrethrin	Pyrethrin is the active ingredient in products licensed for use as insecticides. Most commercial products contain prohibited Piperonyl butoxide.
A	P	Pyrethrum	Allowed with acceptable formulants as listed in this table. See 'Botanical pesticides' for further restrictions.
		Quicklime	See 'Lime (allowed)' & (prohibited)'.
		Radiation	See 'Ionizing radiation (allowed) & (prohibited)'.
A	P	Repellents	Acceptable if derived from a natural source such as sterilized blood meal, rotten eggs, hair or predator scents provided synthetic additives are not used.
A	B	Rock, natural	Allowed.
		Rock dusts (stone meal) unprocessed	See 'Mined minerals'.
		Rock Phosphate	See 'Phosphate rock'.
A	F	Rock potash	Mined potassium salts (e.g. sylvinite, kainite). Shall not cause buildup of salts in soil over repeated applications.
A	P	Rodent traps	Mechanical traps are acceptable but not with synthetic baits.
X		Rodenticides, anti-coagulant	Prohibited.

		Row covers	See 'Geotextiles'.
		Rubbing alcohol (isopropyl)	See 'Alcohol'.
X		Salt, table	Sodium chloride. Prohibited.
A	F	Sand	Shall not contain prohibited substances.
A	P	Saponins	Saponins derived from plants are allowed as wetting agents.
		Sawdust & wood chips	See 'Mulches' & 'Compost feedstocks'.
		Seaweed and seaweed products	See 'Aquatic plant and aquatic plant products'.
A	F	Seed meals	Shall be organic unless commercially unavailable. Non-organic sources shall be from non genetically engineered sources.
A	P	Seed treatments	Non-synthetic and allowed substances, such as microbial products, kelp, yucca, gypsum and various clays are allowed. Plastic polymer pelletization of seed is prohibited.
A	P	Semiochemicals	Shall be non-synthetic and shall not be combined with prohibited materials.
X		Sewage sludge	Prohibited.

A	F, P	Shells from aquatic animals (chitin)	Allowed.
		Slaked lime	See 'Calcium hydroxide (allowed) & (prohibited)'.
A	C, P	Soap-based algaecides / algicides (demossers)	May be used to clean irrigation systems, structures and equipment. Shall not contain prohibited or restricted substances. Rinse water cannot be applied to land.
A	C, P	Soaps	Pesticide: Soaps, including insecticidal soaps, consisting of fatty acids derived from animal or vegetable oils are allowed. Cleaning: Soaps, including insecticidal soaps, consisting of fatty acids derived from animal or vegetable oils may be used to clean irrigation systems, structures and equipment. Shall not contain prohibited or restricted substances. Rinse water cannot be applied to land.
		Soaps, ammonium	See 'Ammonium soaps'.
A	C	Sodium bicarbonate	No-rinse food-grade non-synthetic sodium bicarbonate may be used to clean irrigation systems, crops, plants, and equipment. Synthetic sodium bicarbonate may be used to clean structures and other equipment including post harvest equipment. Post harvest equipment must be rinsed off before crops are handled. Rinse water cannot be applied to land.
A	C	Sodium borate	May be used to clean irrigation systems, structures and equipment. Rinse water cannot be applied to land.

A	C	Sodium carbonate (soda ash)	No-rinse food grade may be used to clean irrigation systems, structures, crops, plants and equipment. Synthetic sodium carbonate may be used to clean structures and equipment. Post harvest equipment must be rinsed off before crops are handled. Rinse water cannot be applied to land.
X		Sodium chlorate & sodium chloride	Prohibited.
X		Sodium fluoaluminate mined and/or reacted	Prohibited.
		Sodium hydroxide	See 'Lye'.
		Sodium hypochlorite	See 'Bleach'.
		Sodium lignosulphate	Construction: See 'Ligninsulphonates'. Nutrient: See 'Chelates (allowed)'.
X		Sodium nitrate (Chilean nitrate)	Prohibited.
		Sodium octaborate	Construction: See 'Ligninsulphonates'. Nutrient: See 'Chelates (allowed)'.
A	C	Sodium percarbonate	May be used to structures, and equipment. Post harvest equipment must be rinsed off before crops are handled. Rinse water cannot be applied to land.

A	C	Sodium silicate	In detergents. See 'Detergents'
X		Sodium sulphite	Prohibited.
		Sodium tetraborate	Construction: See 'Ligninsulphonates'. Nutrient: See 'Chelates (allowed)'.
A	F	Soil	Shall not contain any prohibited substances
X		Soil fumigants, synthetic	Prohibited.
A	F	Soybean meal	Use organic soybean sources unless not commercially available. Shall not be from genetically engineered soybeans.
A	F	Sphagnum moss	Shall not contain synthetic wetting agents.
		Spinosad	See 'Biological organisms'.
A	C, P	Steam	Allowed for vegetation control and as a cleaner. Volatile amines are prohibited.
A	P	Sterile insect	Allowed for insect control.
A	P	Sticky traps and barriers	Shall not contain prohibited pesticides or other prohibited substances.
A	F	Stillage and stillage extract	Ammonium stillage is prohibited.

		Straw	See 'Plants'.
X		Streptomycin, Streptomycin sulphate	Prohibited.
A	F	Sugar, organic	Organic sugar is allowed.
		Sulphate of potash magnesia	From langbeinite. See 'Mined minerals'.
A	F	Sulphates of zinc or iron	May be used only to correct for deficiencies determined by visual symptoms soil or plant tissue testing, or when the need for a preventative application can be documented. See 'Iron products & 'Zinc products'.
A	P	Sulphur dioxide	Allowed for use in sulphur smoke bombs for control of underground rodents. Shall be used in conjunction with other methods, and only when a full pest control program is maintained but temporarily overwhelmed.
A	F, P	Sulphur, elemental	Nutrient: Sulphur may be used as a soil amendment where more buffered sources of sulphur are not appropriate, and for foliar application. Natural substance or those derived from natural substances without the addition of chemically synthesized substances or chemical treatment. Pesticide: Allowed.
A	P	Sulphur, smoke bombs	See 'Sulphur dioxide'.

X		Sulphuric acid	Prohibited.
A	P	Summer oils	Allowed as suffocating or stylet oils on foliage.
		Sunflower seed meal	See 'Seed Meals'.
X		Super phosphate	Prohibited.
		Surfactants	See 'Soaps' & 'Detergents'.
		Sylvinite	See 'Muriate of potash'.
X		Terramycin	Oxytetracycline calcium complex. Prohibited.
		Tartaric acid	See 'Chelates (allowed)'.
X		Toluene	Prohibited.
		Topsoil	See 'Soil'.
A	F	Trace elements (micronutrients)	Includes micronutrients from natural or synthetic sources that are unchelated or chelated by materials listed as allowed. To be used when soil and plant deficiencies are documented via visual symptoms or by soil and / or plant testing or when the need for a preventative application can be documented. Nitrate and ammonium forms of micronutrients are prohibited. Use as a defoliant herbicide or dessicant is prohibited.

X		Transpiration blockers, synthetic	Prohibited.
A	F	Transplanting & Potting media	Shall be composed entirely of allowed substances.
A	P	Traps	May not be combined with otherwise prohibited synthetic pesticides.
		Treated seed	See 'Seed treatments'.
A	P	Tree seals	Plant or milk-based paints may be used. Synthetic grafting materials are permitted on planting stock provided that food products are harvested after such plants have been maintained in accordance with this standard for at least 12 months. Shall not be combined with fungicides or other synthetic chemicals.
		Tri-acid chelates	See 'Chelates (allowed)'.
X		Urea	Prohibited.
A	P	Vegetable oils	Allowed as spreader-stickers, surfactants and carriers. Shall not contain prohibited ingredients.
		Vermicasts	See 'Worm castings'.
A		Vermicompost	A method of composting using worms in a closed containment system to break down organic material. Feedstock must be allowed under the Standard.

A	F	Vermiculite	Allowed.
A	C, P	Vinegar, non -synthetic	Cleaner: No-rinse food grade vinegar may be used to clean irrigation systems, structures and equipment. Pesticide: Allowed as a herbicide, an adjuvant or a pH regulator.
A	P	Virus sprays	Example - Codling moth Granulosis virus. No genetically engineered viruses are allowed.
A	F, P	Vitamins (allowed)	Nutrients: Non-synthetic sources of all vitamins and synthetic sources of vitamins B1, C, and E are allowed. Pesticide: Vitamin D-3 (Cholecalciferol) may be used outdoors and inside greenhouses for rodent control but cannot be the sole means of rodent control. Precautions must be taken to prevent killing non-target animals.
X		Vitamins, synthetic	All synthetic vitamins not explicitly allowed are prohibited. Synthetic forms of vitamins B1, C and E are allowed.
A	F	Water, recycled	Recycled water must only contain substances included in this list and meet all applicable irrigation water regulatory requirements.
A	F	Water, reclaimed	May be used only on non-edible parts of food crops and crops not for human consumption. Use on edible plant parts and root crops is prohibited.
A	F	Water, untreated	Must be safe for the intended use.
X		Weed oils	Prohibited.

A	P	Weed torches	Allowed for vegetation control.
A	F, P, C	Wetting agents	Natural wetting agents, including soaps, saponins and microbial wetting agents are allowed. See 'Soaps' & 'Detergents'.
		White wash	See 'Tree seals' and 'Plant protectants, natural'.
		Wood ash	See 'Ash (allowed) & (prohibited)'.
		Wood chips and shavings	See 'Mulches' & 'Compost feedstocks'.
A	B	Wood Preservatives (allowed)	Sodium octaborate and sodium tetraborate are allowed. Copper hydroxide, copper oxides and copper oxychloride are allowed for use as wood preservatives. Shall be used in a manner that prevents excessive copper accumulation in the soil. Build up of copper in soil may prohibit future use. Use with caution.
X		Wood preservatives (prohibited)	Alkaline Copper Quaternary (ACQ), Copper azole (CA), Copper chromium arsenate (CCA), copper sulphate, creosote, and pentachlorophenol are prohibited.
A	F	Worm castings	Allowed if made from organic manure. Compost made from non-organic manure by worms shall meet the Compost feedstock requirements. The Organic land care practitioner must be assured that the best practices known to eliminate human pathogens have been used.

X		Xylene	Prohibited.
		Yeast	See 'Microbial products '.
		Yucca products	Shall not contain prohibited ingredients. See 'Plant protectants'.
		Zeolite	See 'Mined minerals, unprocessed'.
X		Zinc ammonium sulfate	Prohibited.
X		Zinc chloride	Prohibited.
X		Zinc nitrate	Prohibited.
X		Zinc pellets	Prohibited.
X		Zinc products (prohibited)	Zinc ammonium sulphate, zinc chloride, zinc nitrate and zinc pellets are prohibited.
		Zinc oxide	See 'Zinc products (allowed)'.
		Zinc sulphate	See 'Zinc products (allowed)'.

SOUL
SOCIETY FOR ORGANIC URBAN LAND CARE

ABOUT US

The Society for Organic Urban Land Care (SOUL) is a non-profit Canadian organization. It was formed in response to the growing need for ecologically responsible land care practices. An Organic Land Care Standard was first introduced by SOUL in 2003 to address the need for a tool to support a successful transition toward sustainable land care practices by individuals, community, industry and government.

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