An Overview of Organic Certification and National Organic Standards Applied Worldwide

CAEQ
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Note

The main sources of information in this document are the national organic regulations of the countries discussed, and an article, written by Jim Riddle of the University of Minnesota, published under the title:
An Introduction to Organic Certification Requirements (updated on October 8, 2009).

Introduction

Feeling confused about organic certification and related standards? Don't worry; you're not alone! This overview is intended to provide an understandable introduction to national or federal organic regulations and certification requirements.

In order for any operator to make marketing claims designating animals, processed foods or non-processed food products as "organic," "organically produced" or other similar terminology, certification to national organic standards or to the standards of a recognized international authority is mandatory. The "organic" marketing claim falls within a family of specific food names or designations (appellations), such as protected designations of origin (PDO), protected geographical indications (PGI), and "attestations of specificity," to name some of those most prominent. Organic certification, like these other designations, is used to prove compliance of agricultural products with regulations that are more precise and stringent than those required of operators involved in agricultural production of products for which marketing claims subject to government oversight will not be made.

Being aware of what requirements organic operators in different operation categories (crop production, livestock production, processing and handling) must follow is useful since these requirements may directly or indirectly affect parts of any organic operation.

Even though national or federal organic regulations are relatively recent, organic standards and certification have existed in many countries since the mid-1970s. Over time, along with steady growth in markets for organic products, the number of organic certifiers (commonly called "certification agencies" or "certification bodies") managed as non-profits, as private agencies, and a few by government agencies) grew. Some of these certifiers became multi-national agencies operating in several countries. Though organic standards enforced worldwide tended to be fairly similar, differences among them sometimes caused trade difficulties and disputes between or even within nations and regions over whose standards should take precedence.

In an effort to resolve the interregional differences, many governments (in most of the world's industrialized nations) created and ratified their own set of organic regulations. These regulations must be complied with by businesses carrying out operations related to the production and the marketing of organic products. Entities to whom organic standards apply and whose activities are regulated by organic regulations include vegetable growers, orchardists, maple tree growers, livestock producers, ranchers, aquaculturists (fish farmers), apiculturists (bee farmers), processors, brokers and merchants (middlemen) and retailers (when they repackage and/or relabel an already certified organic product).

Certification bodies are entrusted to inspect and verify compliance of operations with organic standards and issue organic compliance certificates to applicants. To show that they have the competence and freedom from conflict of interest to certify organic products, certifiers must become accredited by the responsible government authority of each country in which they operate. Certificates issued by certifiers must list all organic products

resulting from operations deemed compliant. These certification documents play a major role in the acceptance and recognition of products as ”organic” by buyers and importers, whether they are marketed locally, nationally or internationally.

“Organic production” is:

> “[…] a holistic system designed to optimize the productivity and fitness of diverse communities within the agro-ecosystem, including soil organisms, plants, livestock and people. The principal goal of organic production is to develop enterprises that are sustainable and harmonious with the environment.” (Canada)
>
> “[…] an overall system of farm management and food production that combines best environ-mental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of certain consumers for products produced using natural substances and processes.” (European Union)
>
> “[…] a method based on the use of agricultural management practices aimed at creating ecosystems that provides sustained productivity, fortuitous weed and pest control due to diverse interdependent life forms, plant and animal residue recycling, crop selection and rotation, and water management.” (Québec)
>
> “[…] a production system that is managed […] to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.” (United States)

Common requirements in national or federal standards for organic production

Documentation and record keeping

All operations producing, handling and/or selling organic products must keep records that:.

1) are updated by operators and inspected annually by an accredited certifier;
2) are adapted to the particular operation;
3) fully disclose all activities and transactions of the certified operation in sufficient detail as to be readily understood and audited;
4) are maintained for at least five years beyond their creation; and
5) are sufficient to demonstrate compliance with organic regulations. The operator must make the records available for inspection.

In their application for organic certification, operators must submit to the certification bodies an organic operations compliance management plan (also called organic system plans or production/preparation plans) that outlines how their operation complies with organic standards.

Certification bodies typically provide organic operations compliance management plan forms as part of the application process. Once the operator's plan has been found compliant after having been reviewed and any non-conformity corrected, the certification body will send an official to inspect the operation site to verify that operations are conducted in accordance with that plan. Once certification has been granted, operators are required to notify their certification bodies of any changes to their operation that might affect its certification status.

For an operation to maintain its certification status, itt least once annually by a certification body official who will verify that operations remain in complete compliance with the following basic organic production rules, listed by operation type:

Crop operations

- three years (36 months prior to harvest) with no application of prohibited materials (no synthetic fertilizers, pesticides, or GMOs) to fields or potting media prior to certification, during which time certified fields are considered to be "in transition" or "in conversion";
- distinct, defined boundaries for the operation;
- pro-active steps to prevent contamination from adjoining land uses (such as buffer zones);

- implementation of an organic crop production plan, in which the following aspects are described: proactive and environmentally sound fertility, pest, weed, disease and manure management practices; soil and water conservation measures;
- regular monitoring of the operation's management practices to ensure compliance;
- use of authorized natural and/or synthetic inputs, provided that proactive management practices are implemented prior to use of approved substances;
- no use of prohibited substances;
- no use of genetically engineered organisms (GMOs), or products derived from techniques using genetic engineering, unless by special exception;
- no use of sewage sludge or irradiation;
- use of organic seeds when commercially available (seeds must not be treated with prohibited synthetic materials, such as fungicides);
- use of organic seedlings for annual crops;
- restrictions on the use of raw manure and compost;
- must maintain or improve the physical, chemical, and biological condition of the soil, minimize soil erosion, and implement soil building crop rotations;
- fertility management and cultivation practices must not contaminate crops, soil, or water with plant nutrients, pathogens, heavy metals, or prohibited substances;
- prevention of commingling on split operations;
- no field burning to dispose of crop residues (may only burn to suppress disease or stimulate seed germination – flame weeding is allowed); and
- no residues of prohibited substances exceeding certain tolerance levels as set by national standard (certifier may require residue analysis if there is reason to believe that a crop has come in contact with prohibited substances or was produced using GMOs).

During inspections of crop operations, the certifier aims to verify compliance with all organic production rules, from field layout for crop rotations and selection of plant and seed varieties through to cultivation, harvest and post-harvest handling.

Livestock operations

- implementation of an organic livestock plan;
- monitoring of management practices to ensure compliance;
- organic management from the last third of gestation for slaughter stock or the second day after hatching for poultry;
- one year of organic management for dairy cows prior to the production of organic milk, with an allowance to use farm-raised, third-year transitional feed when a dairy farm is first converted to organic production;
- organic management of dairy animals from the last third of gestation, once an operation has converted to organic production;

- mandatory outdoor access for all species when the weather is suitable;
- mandatory access to pasture for ruminants;
- livestock must be given a 100% organic feed ration and approved feed supplements;
- no antibiotics, except by special exception which in some jurisdictions may lead to the loss of organic status for the treated animal ;
- no growth hormones or GMOs;
- preventative health care practices must be implemented;
- vaccines, biologics, and excipients are allowed in livestock medications;
- parasiticides prohibited for slaughter stock, tightly regulated for dairy and breeding stock;
- physical alterations (castration, beak trimming, etc.) are allowed, if performed to promote animal welfare in a manner such that animal stress is minimized;
- animals must not be rotated between organic and non-organic production units;
- an operator must not withhold treatment in order to preserve an animal's organic status. Animals or products derived from animals treated with a prohibited substance must not be used or sold as organic; and
- manure management must prevent contamination of crops, water, and soil, and optimize recycling of nutrients.

During the inspection of livestock operations, the certifier aims in particular to verify the organic compliance of breeding or ranching methods, as well as slaughtering techniques.

Maple syrup operations (in Canada only)

- three years (36 months prior to harvest) with no application of prohibited materials (no synthetic fertilizers, pesticides, or GMOs) prior to certification;
- implementation of an organic production plan detailing proactive forest management systems and conservation measures, specific to maintaining species diversity, thinning and fertilization practices, and tree protection, including special tapping restrictions for injured or sick trees;
- trees to be tapped must have a minimum diameter of 20 cm, and depths of tap holes and tap hole diameters must be no greater than 4 cm and 11 mm, respectively;
- substances used generally for pest and disease control in organic crop production may not be among those permitted for maple syrup production; a subset list of permitted substances for pest control in maple production is provided in the standard;
- all equipment used to collect, pump, transport or process maple sap or syrup must be of high quality and made of food grade materials. Pails or buckets may be made of aluminum or plastic, but not galvanized steel;
- authorized storage tanks must be made of food grade fibreglass or plastic, and metal covered with food grade coating or with stainless steel. They shall be either TIG welded (metal on metal) or soldered using tin-silver solder;

- substances authorized for sap collection, processing and cleaning of equipment and facilities in conventional maple syrup production or for organic food processing in general may not be among those permitted for use during organic sap collection and conversion of organic sap to syrup. A subset list of permitted substances authorized for use during sap collection and organic maple syrup processing is provided in the standard; and
- sap must be filtered using reverse osmosis and nano-filtration (ultra-osmosis) type membranes. Membranes must be rinsed as often as required to maintain specified performance levels.

During inspection of maple operations, certifiers aim to verify compliance with all organic production rules, from forest management to the storage of maple syrup, through the processing of maple sap.

Aquaculture operations (European Union and Québec only)[1]

- implementation of an organic production plan for fish, mollusk and crustacean farming;
- management practices aimed at maintaining ecosystem health and the natural environment's carrying capacity;
- one year or the equivalent of one reproductive cycle with no exposure to prohibited materials prior to marketing of products as organic;
- site selection must respect minimum distance requirements from potential pollution sources;
- introduction to the production unit(s) of non-organic eggs no more than two days old;
- with the exception of mollusks, aquatic animals captured in the wild may not be certified as organic;
- feed rations supplied to aquatic animals must be designed according to the specific nutritional needs of each species and be constituted from ingredients originating from organic products or based on wild fish coming from sites with little or no pollution;
- harvest, transport and slaughter techniques must minimize physiological stress or injury and preserve natural habitats; and
- specific storage and cleaning guidelines to prevent commingling and loss of product integrity.

During inspection of aquaculture operations, certifiers aim to verify compliance of all fish farming activities with organic production rules.

[1] Among standards compared in this document.

Apiculture operations (European Union and Canada only)[1]

- site selection must ensure access to plants found in fields not treated with prohibited substances for at least two years, and respect minimum distance requirements from potential pollution sources;
- at least one year of organic management prior to marketing of bee products as organic;
- conventional drug use is prohibited and any hive treatments not based on alternative medicines of natural origin are tightly regulated;
- honey extraction undertaken with bees in the comb is prohibited; and
- all extraction and storage equipment and materials must be of food grade quality.

Inspections of apiculture operations will verify the compliance of all activities related to the organic honey production with organic production rules.

Processing operations

- implementation of an organic processing plan;
- must use organic ingredients certified in accordance with the prescribed standards, by a body included on the list of accredited or approved organisations published by the competent authority. By exception, some ingredients from non-organic sources may be used if they are listed on a standard's approved substances list, or if organic sources can be proved to be commercially unavailable;
- may use mechanical or biological processing techniques;
- no commingling or contamination of organic products or their packaging materials during processing, storage, or transport;
- no use of GMOs or irradiation;
- must use proactive sanitation and facility pest management practices to prevent pest infestations;
- proactive protection of organic products and packaging are required to prevent contamination in the processing facility;
- must keep records of all substances applications intended for insects or rodents extermination;
- must not use packaging materials that contain fungicides, preservatives, or fumigants.
- must use approved "organic" label claims; and
- the product's information panel must identify the certifier's name for the final handling operation.

Inspections of processing operations ensure that ingredients used to manufacture organic products were certified in accordance with all organic production rules and that organic integrity has been maintained during processing from reception of ingredients to the delivery of finished products to points of sale.

Repackaging

As legislated under organic standards, repackaging entails dividing up and/or (re)grouping together certified organic products, for marketing purposes. Products are given new packaging or modified labelling, along with an attestation guaranteeing that the content of the resulting product is partially or totally organic. Common requirements among organic standards for repackaging are:

- implementation of an organic handling plan;
- ingredients used must have been certified ”organic” in accordance with the prescribed standards by a body included on the list of accredited or approved organisations published by the competent authority;
- no commingling or contamination of organic products in the course of operation, storage, or transport;
- no use of irradiation;
- packaging materials containing fungicides, preservatives, or fumigants must not be used;
- approved “organic” label claims must be used; and
- the name of the certifier for the final handling operation must be identified on the product's information panel, whether this handling involved repackaging, rebottling, brokerage of organic products, or even unpackaging in preparation for bulk sales;

Inspections carried out by the certification body ensure that no commingling has taken place of non-organic ingredients or products not part of the original packaged products, and that organic integrity has not otherwise been compromised during the course of operations or storage.

Major differences between the main national or federal organic standards

Though the requirements of organic standards are mostly similar worldwide, some significant differences among them merit special mention. In addition, it is important to note that some interpretation may be required in order to comply with local or regional requirements and special situations. Operators should consult with certification agencies to get their questions answered, especially before purchasing or using any inputs.

A summary of key differences of Canada, the European Union, Japan, Québec and the United States follows:

Canada

- requires maintaining buffer zones of a minimum width of eight metres between organic and non-organic fields;

- when converting dairy herds to organic production, farmers may use feed from fields in transition to organic production only if this feed is produced within their operation;
- allows one treatment of parasiticides for young animals (under a year old) destined for slaughter and two treatments for "older" animals (over a year old);
- authorizes use of DL-methionine for poultry production through 2012;
- in the Canadian standard, certified products can be labeled to show that they include a percentage amount of 70% to 95% organic ingredients (by weight or volume, excluding salt and water); and
- in addition to the usual production categories, the Canadian standard provides detailed requirements for organic maple production and apiculture.

European Union (EU)

- EU member countries maintain lists of organic seed strains and planting stock, for which organic supply is considered commercially sufficient and which operators are required to use;
- requires two growing seasons of organic production prior to selling products derived from non-organic perennial plant stock as organic, while the other standards require one year of organic production;
- in its restrictions on the use of manure and compost, the EU standard is the only one among those compared here to set a maximum application threshold of 170 kg N/year. In addition, the EU standard prohibits use of manure from confinement and factory farming operations; in other standards reviewed in this document, with the exception of Canada's, the use of this kind of manure is either discouraged or restricted;
- slaughter stock and dairy cows must be raised under organic management from birth, which is later than some other national standards which require organic management of slaughter stock and dairy cows from last third of gestation;
- permits up to three courses of parasiticide use for slaughter stock within a period of one year, while most of the organic standards discussed in this document permit only two courses (or less) of parasiticides per year;
- the EU standard specifically states that genetic engineering techniques are permitted for generating vaccines used in organic livestock production;
- allows in-conversion feed to comprise 30% of livestock rations at anytime (and up to 60% if the feed is produced within the operation) while other organic standards (excepting Japan) allow use of in-conversion feed only during limited periods (for example when converting animals to organic production, or following natural catastrophes);
- the EU regulation allows labeling of products created using in-conversion organic crops, stipulating that such products must contain only one crop ingredient of agricultural origin; and
- in addition to the usual production categories, the EU organic standard contains requirements for seaweed and yeast production, aquaculture and apiculture.

Japan

- for young livestock to be considered organic, the Japanese standard requires their mothers to be under organic production for six months prior to their delivery, while the other standards require organic production from the last third of gestation (which is less than six months for most kinds of livestock);
- allows "transitional" organic crops to comprise up to 30% of livestock rations; and
- the Japanese regulation authorizes labeling of products containing in-conversion crops, stipulating that the description "under conversion period" must appear before or after raw material names.

Québec

- requires maintaining buffer zones of a minimum width of eight meters between organic and non-organic fields;
- like Canada, Québec requires one year of organic management for dairy, breeding stock and bees before products can be considered organic. Fish must be managed for one reproductive cycle under organic management before products can be considered organic;
- allows use of DL-methionine for poultry feed (no end date for this exception is noted in the standard);
- allows one treatment of parasiticides for young animals (under a year old) destined for slaughter and two treatments for "older" animals (over a year old);
- the Québec standard allows labeling which states the percentage of ingredients certified as organic for certified products including between 70% and 95% organic ingredients (by weight or volume, excluding salt and water); and
- in addition to the usual production categories, the Québec standard provides requirements for specialized sectors such as organic maple production, aquaculture, and apiculture.

United States (U.S.)

- production and handling operations whose gross agricultural income is less than $5000 and operations handling products of less than 70% organic content are not subject to all the rules required by the U.S. organic standard;
- the U.S. standard specifically states that genetic engineering techniques are permitted for generating vaccines used in organic livestock production;
- the U.S. standard is the only standard among those compared here that includes a general term "excipients" to authorize a range of substances used in livestock medications;
- the U.S. standard specifies that compost must be produced in systems using specific C:N ratios of materials and in which certain temperatures are maintained for certain durations during decomposition;

- the U.S. standard is the only organic standard among those compared here that allows products derived through hydroponic production to be labeled “organic”;
- the U.S. standard is the only standard among those compared here to prohibit outright the use of parasicitides for slaughter stock;
- the U.S standard does not provide requirements for organic apiculture or aquaculture;
- the U.S. standard is unique among those compared here to allow all non-synthetic substances for crop and livetock production unless they are specifically prohibited within the standard. In the other standards compared here, operators are prohibited from using any non-listed substances;
- the U.S. standard allows use of DL-methionine, through October 1 2012, at the following maximum levels of synthetic methionine per ton of feed: laying chickens—4 pounds; broiler chickens—5 pounds; turkeys and all other poultry—6 pounds; and
- the U.S. standard is unique among the standards compared here for authorizing use a “100% organic” label and label stating “made with organic ingredients” that is used for products containing between 70% and 95% organic ingredients. The U.S. also allows labeling of products as “organic,” for products containing at least 95% organic content, similar to the other organic regulations discussed in this document.

Spotlight: Organic alcoholic beverage production

The government standards reviewed in this document, excepting those of Japan, contain some regulatory text pertaining to the crafting of organic alcoholic beverages. As in the production of any processed organic food, organic alcoholic beverages must be made from organically-produced ingredients and listed substances (some of which may be of non-organic agricultural origin).

Generally, alcoholic beverages (wines, beers, ciders, etc.) to which “certified organic” marketing claims will be applied must contain at least 95% organic ingredients and be produced in certified organic processing facilities. Products for which organic labeling will appear only on ingredients lists and/or in “made with…” statements (such as “made with organic hops”) are not required to be processed in certified organic facilities.

The North American organic standards reviewed here (Canada, Québec and the United States) differ from those of the European Union in that the former regulate the production of organic wine made from grapes while the latter does not (the EU organic standard regulates wines made from fruits other than grapes). The implications of this difference, as well as other points of divergence of government standards with regard to organic alcoholic beverage production, are summarized below:

Canada

- permits the use of sulphurous acid and potassium metabisulphite as preservatives of alcoholic beverages made from fruit, including grapes. Specific thresholds for total sulphites and free sulphites in beverages with sugar contents of <5%, 5%-<10%, and >10% are provided;
- allows alcoholic beverages with or without added sulfites to be labeled "organic ". Use of the official Canadian organic seal is optional;
- lists potassium tartrate made from tartaric acid as an additive for cider production.

European Union (EU)

- permits the use of sulphur dioxide and potassium metabisulphite as preservatives of alcoholic beverages made from fruit other than grapes. Specific thresholds for total sulphite concentrations in fruit wines (other than grape) and mead made without added sugars, as well as for cider and perry prepared with sugars or juice concentrate after fermentation, are provided;
- allows grape-based wines with or without added sulphites to be labeled "made with organic grapes" but not "organic ".

Québec

- permits the use of sulphurous acid and potassium metabisulphite as preservatives of wine and other alcoholic beverages;
- lists processing aids tannic acid and tannin for wine production; and
- lists additives tartaric acid and ammonium phosphate (the latter up to 0.3 g/L) for for alcoholic beverages and calcium chloride for beer clarification.

United States (U.S.)

- allows sulphur dioxide use only for grape wines; total sulphite concentration must not exceed 100 ppm. When sulfites are added to grape wines, no organic labeling claim besides "made from organic grapes" is permitted and the official National Organic Program organic seal must not be used;
- wine without added sulphites can be labelled "100% organic" or "organic". The natural sulphite concentration must be less than 10 ppm, as verified by independent lab analysis.

Conclusion

In order to get started on the certification process, operators should read a copy of the organic standards applicable within their country or those applicable within a country to which they plan to export goods or products. After conducting a self-assessment to see if their operation can meet the requirements set out in these standards, operators then select an accredited certifier, apply for certification, submit an organic compliance management plan for review, get inspected and meet any conditions identified by the certifier, in order to obtain a certificate that will permit them to make legal organic marketing claims. Fees levied by certification agencies vary depending on the size and type and market access of organic operation to be certified, as well as the quality and efficiency of services provided by the certifier. Some countries offer cost-share reimbursements to farmers to offset certification fees.

To learn more about organic certification in the countries discussed in this document, please visit the government webpages devoted to this subject:

Canada:	http://www.inspection.gc.ca/english/fssa/orgbio/orgbioe.shtml
European Union:	http://ec.europa.eu/agriculture/organic/organic-farming_en
Japan:	http://www.maff.go.jp/e/jas/specific/organic.html
Québec:	http://cartv.gouv.qc.ca/en/organic-designation
United States:	http://www.ams.usda.gov/AMSv1.0/nop