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Comparison between CAN/CGSB-32.310-2015 amended 2018 and CAN/CGSB-32.310-2020 Section 5 – Crop production

Changes are highlighted in yellow

CAN/CGSB-32.310 - 2015

5 Crop production

Subclause 8.4 on Transport also applies to crops.

5.1 Land requirements for organic crop production

5.1.1 This standard shall be fully applied on a production unit for at least 12 months before the first harvest of organic products. Prohibited substances shall not have been used for at least 36 months before the harvest of an organic crop.

5.1.2 When new production units are added to an existing organic operation, the operator shall provide records to show that prohibited substances have not been used for at least 36 months (see 5.1.1) and verification shall be conducted before the first harvest of product from this new production unit.

NOTE The Canadian Organic Products Regulations require operators to document that they have not used prohibited substances. The Regulations also require that, in the case of an initial application for an organic certification of field crops, the application shall be filed 15 months before the day on which the product is expected to be marketed. During that period of time, compliance with this standard will be assessed by the certification body and this assessment must include at least one inspection of the production unit, during production, in the year before field crops may be eligible for certification and one inspection, during production, in the year field crops are eligible for certification. These or similar regulatory requirements may eventually be found in new regulations that would replace the Organic Products Regulations, 2009. Current regulations should be consulted to ensure accuracy of regulatory requirements.

CAN/CGSB-32.310 - 2020

5 Crop production

Clause 8.4 on Transport applies to the transportation of plants and harvested crops.

5.1 Land requirements for organic crop production

5.1.1 This standard shall be fully applied on a production unit for at least 12 months before the first harvest of organic products. Prohibited substances shall not have been used for at least 36 months before the harvest of an organic crop.

5.1.2 When new production units are added to an existing organic operation, the operator shall provide records to show that prohibited substances have not been used for at least 36 months (see 5.1.1) and verification shall be conducted before the first harvest of products from this new production unit.

NOTE Part 13 Organic Products of the *Safe Food for Canadians Regulations* requires that the application for the organic certification of crops grown in fields, gardens or pastures be filed at least 15 months before the day on which the food is expected to be sold. During that period of time, compliance with this standard will be assessed by the certification body and this assessment must include at least one inspection of the production unit, during production, in the year before these crops may be eligible for certification and one inspection, during production, in the year these crops are eligible for certification.

5.1.3 The enterprise shall aim at a complete transition of its production. During the transition period, the enterprise can maintain, in addition to the production in transition, a non-organic system of production (split operation) that shall be entirely separate and identified separately, pending its incorporation into the overall transition process.

5.1.4 The enterprise can be converted one unit at a time, and each converted unit shall respect the requirements of this standard. The exception to this norm, parallel production, is only allowed in the following cases: perennial crops (already planted), agricultural research facilities and production of seed, vegetative propagating materials and transplants.

5.1.5 The following special conditions shall be observed for parallel production:

- a) The operator shall clearly demonstrate that the identity of the crops so produced can be maintained during their production, harvesting, storage, processing, packaging and marketing;
- b) The operator shall maintain verifiable, accurate records of both non-organic and organic produce and product storage, transportation, processing and marketing.

NOTE Parallel production crops, both organic and non-organic, are inspected just prior to harvest and an audit of all parallel production crops occurs after harvest.

5.1.6 All production units shall have distinct, defined boundaries.

5.1.7 Production methods shall not alternate between organic and non-organic on a production unit.

5.2 Environmental factors

5.2.1 Measures shall be taken to minimize the physical movement of prohibited substances onto organic land and crops from:

- a) adjacent areas;
- b) equipment used for both organic and non-organic crops.

5.2.2 If unintended contact with prohibited substances is possible, distinct buffer zones or other features sufficient to prevent contamination are required:

5.1.3 The operation shall aim at a complete transition of its production. During the transition period, the operation can maintain, in addition to the production in transition, a non-organic system of production (split operation) that shall be entirely separate and identified separately, pending its incorporation into the overall transition process.

5.1.4 The operation can be converted one production unit at a time, and each converted production unit shall respect the requirements of this standard. The exception to this norm, parallel production, is only allowed in the following cases:

- a) annual crops harvested during the final 24 months of the transition period when fields are added to existing operations; [\[To learn more, see “Parallel production – a hotly debated subject.”\]](#)
- b) perennial crops (already planted);
- c) agricultural research facilities; and
- d) production of seed, vegetative propagating materials and transplants.

5.1.5 The following special conditions shall be observed for parallel production:

- a) The operator shall clearly demonstrate that the identity of the crops produced in this manner can be maintained during their production, harvesting, storage, processing, packaging and marketing;
- b) The operator shall maintain verifiable, accurate records of both non-organic and organic produce and product storage, transportation, processing and marketing.

NOTE Parallel production crops, both organic and non-organic, are inspected just prior to harvest and an audit of all parallel production crops occurs after harvest.

5.1.6 All production units shall have distinct, defined boundaries.

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5.2 Environmental factors

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- a) adjacent areas;
- b) equipment used for both organic and non-organic crops.

5.2.2 If unintended contact with prohibited substances is possible, distinct buffer zones or other features sufficient to prevent contamination are required:

- a) buffer zones shall be at least 8 m (26 ft 3 in.) wide;
- b) permanent hedgerows or windbreaks, artificial windbreaks, permanent roads or other physical barriers may be used instead of buffer zones;
- c) crops grown in buffer zones shall not be considered organic whether or not they are used on the operation;
- d) crops at risk of contamination from commercialized GE crops shall be protected from cross-pollination. Mitigation strategies such as but not limited to physical barriers, border rows, strategic testing or delayed planting shall be implemented unless generally accepted isolation distances for the at risk crop type are present (see Note below).

NOTE Generally accepted isolation distances for crops at risk of contamination from commercialized GE crop types include: soybeans – 10 m (33 ft), corn – 300 m (984 ft), canola, alfalfa (for seed production) and apples– 3 km (1.8 mi.).

5.2.3 Fence posts or wood treated with substances listed in Table 4.3 of CAN/CGSB-32.311 are permitted.

- a) For new installations or replacement purposes, fence posts or wood treated with prohibited substances are prohibited unless alternatives such as metal, plastic, concrete, or protective sleeves, are not commercially available.
- b) Recycling of existing fence posts within the operation is permitted.

- a) buffer zones shall be at least 8 m (26 ft 3 in.) wide;
- b) permanent hedgerows or windbreaks, artificial windbreaks, permanent roads, or other physical barriers may be used instead of buffer zones;
- c) crops grown in buffer zones shall not be considered organic whether or not they are used on the operation;
- d) crops at risk of contamination from commercialized GE crops shall be protected from cross-pollination. Mitigation strategies such as, but not limited to, physical barriers, border rows, strategic testing or delayed planting shall be implemented unless generally accepted isolation distances for the at-risk crop type are present (see Note below).

NOTE Generally accepted isolation distances for crops at risk of contamination from commercialized GE crop types include: soybeans – 10 m (33 ft); corn – 300 m (984 ft); canola, alfalfa (for seed production) and apples – 3 km (1.8 mi.).

5.2.3 Untreated wood or wood treated with substances listed in Table 4.2 (Column 2) of CAN/CGSB-32.311 are permitted, such as for fence posts.

- a) For new installations or replacement purposes, fence posts or wood treated with prohibited substances are prohibited. Alternatives, such as metal, plastic, concrete or protective sleeves, may be used.
- b) Recycling of existing fence posts treated with prohibited substances within the operation is permitted.

5.2.4 Management practices shall include measures to promote and protect ecosystem health on the operation and incorporate one or more of the following features:

- a) pollinator habitat;
- b) insectary areas;
- c) wildlife habitat;
- d) maintenance or restoration of riparian areas or wetlands; or
- e) other measures which promote biodiversity.

NOTE Existing native prairie, parkland, or wetland habitats should be maintained and enhanced whenever possible. [To learn more, see [“Protecting biodiversity.”](#)]

5.3 Seeds and planting stock

Organic seed, bulbs, tubers, cuttings, annual seedlings, transplants and other propagules shall be used. The following exceptions or conditions apply:

- a) Non-organic, untreated seed and planting stock or seed treated with substances listed in Table 4.3 of CAN/CGSB-32.311 are permitted provided that the organic seed or planting stock variety is:
 - 1) not produced on or available from within the operation; or
 - 2) not commercially available, and a reasonable search involving potential, known organic suppliers has been conducted.
- b) Non-organic perennial planting stock treated with substances prohibited by 1.4 d), 1.4 e), 1.4 f) or 1.4 g) shall be managed in accordance with this standard for at least 12 months before the first harvest of organic product. The land on which non-organic stock is planted is subject to the requirements of 5.1.1.

5.4 Soil fertility and crop nutrient management

5.4.1 The main objective of the soil fertility and crop nutrient management program shall be to establish and maintain a fertile soil using practices that maintain or increase soil humus levels, that promote an optimum balance and supply of nutrients, and that stimulate biological activity within the soil.

5.4.2 Where appropriate, the soil fertility and biological activity shall be maintained or increased, through:

5.3 Seeds and planting stock

5.3.1 Organic seed, bulbs, tubers, cuttings, annual seedlings, transplants, planting stock, and other propagules shall be used. Organic seed and planting stock may be treated, primed, pelleted, or coated with substances listed in Table 4.2 (Column 1 or 2) or Table 7.3 of CAN/CGSB-32.311.

5.3.2 Non-organic seed and planting stock are permitted provided that:

- a) the organic seed or planting stock variety is not produced on or available from within the operation; and
- b) the organic seed or planting stock is not commercially available, and a documented search involving potential, known organic suppliers has been conducted;
- c) when treated, primed, pelleted or coated, it is with substances listed in Table 4.2 (Column 1 or 2) or Table 7.3 of CAN/CGSB-32.311 with the following exceptions:
 - i) Seed primed with substances not listed on Table 4.2 (Column 1 or 2) or Table 7.3 of CAN/CGSB-32.311 is permitted providing that the priming process does not contain pesticides that are not listed on Table 4.2 (Column 2) or Table 7.3 of CAN/CGSB-32.311;
 - ii) Seeds and planting stock treated with substances necessary for compliance to international, federal or provincial phytosanitary or food safety regulations and approved for use by regulatory agencies such as Pest Management Regulatory Agency (PMRA) are permitted,
- d) non-organic perennial planting stock treated with substances prohibited by 1.5 a), 1.5 b), 1.5 c) or 1.5 d) shall be managed in accordance with this standard for at least 12 months before the first harvest of organic products. The land on which non-organic stock is planted is subject to the requirements of 5.1.1.

5.3.3 Annual seedling transplants started in winter or spring which will be planted in the operation may be started by the operation in structures under 100% artificial lights from seeding to first transplanting. The expression "first transplanting" means moving a seedling to another growing medium (in a box, pot, container or in the ground). All clauses of 7.5 except soil volumes (7.5.2.2, 7.5.2.3, 7.5.2.4) apply to annual seedlings grown in structures. [\[To learn more, see "A final decision to prohibit 100% artificial lighting."\]](#)

5.4 Soil fertility and nutrient management

5.4.1 The main objective of the soil fertility and nutrient management program shall be to establish and maintain a fertile soil using practices that:

- a) maintain or increase levels of soil organic matter,
- b) promote an optimum balance and supply of nutrients, and
- c) stimulate biological activity within the soil.

5.4.2 Where appropriate, the soil fertility and biological activity shall be maintained or increased, through:

- a) crop rotations that are as varied as possible and include plough-down, legumes, catch crops and deep-rooting plants;
- b) incorporation of plant and animal matter in compliance with this standard and with Table 4.2 of CAN/CGSB-32.311, including the following:
 - 1) composted animal and plant matter;
 - 2) non-composted plant matter, specifically legumes, plough-down crops or deep-rooting plants within the framework of an appropriate multiyear rotation plan; and
 - 3) unprocessed animal manure, including liquid manure and slurry, subject to the requirements of 5.5.1.

5.4.3 Tillage and cultivation practices shall maintain or improve the physical, chemical and biological condition of soil, and minimize damage to the structure and tilth of soil, and soil erosion.

5.4.4 Plant and livestock materials shall be managed to maintain or improve soil organic matter content, crop nutrients, and soil fertility, and in a manner that does not contribute to the contamination of crops, soil or water, by plant nutrients, pathogenic organisms, heavy metals or prohibited substances residue.

5.4.5 The organic matter produced on the operation shall be the basis of the nutrient cycling program. It may be supplemented with other organic and non-organic nutrient sources. Non-organic sources shall be listed in Table 4.2 of CAN/CGSB-32.311. Manure is also subject to the requirements of 5.5.1.

5.4.6 Burning to dispose of crop residue produced on the operation is prohibited. However, burning may be used for documented pest, disease or weed problems (see 5.6.1) or to stimulate seed germination.

5.5 Manure management

5.5.1 Manure sources

Animal manure produced on the operation shall be used first. When all available manure is used up, organic manure from other sources may be used. If organic manure is not commercially available, non-organic manure is permitted provided that:

- a) the non-organic source is not a fully caged system in which livestock cannot turn 360°; and
- b) livestock is not permanently kept in the dark; and
- c) the source and quantity of manure, type of livestock, and evaluation of the criteria in 5.5.1 a) and 5.5.1 b) shall be recorded.

NOTE Organic operations should make it a priority to use manure obtained from transitional or extensive livestock operations, not from landless livestock production units or from livestock operations that use genetically engineered (GE) ingredients and/or GE derivatives in animal feeds.

- a) crop rotations that are as varied as possible and include plough-down crops, legumes, catch crops and deep-rooting plants;
- b) incorporation of plant and animal matter in compliance with this standard and with Table 4.2 (Column 1) of CAN/CGSB-32.311, including the following:
 - 1) composted animal and plant matter;
 - 2) non-composted plant matter, specifically legumes, plough-down crops or deep-rooting plants within the framework of an appropriate multiyear rotation plan; and
 - 3) unprocessed animal manure, including liquid manure and slurry, subject to the requirements of 5.5.1.

5.4.3 Tillage and cultivation practices shall:

- a) maintain or improve the physical, chemical and biological condition of soil, and
- b) minimize damage to the structure and tilth of soil, and
- c) minimize soil erosion.

5.4.4 Plant and livestock materials shall be managed to maintain or improve soil organic matter content, crop nutrients and soil fertility, and in a manner that does not contribute to the contamination of crops, soil or water by plant nutrients, pathogenic organisms, heavy metals or residues of prohibited substances.

5.4.5 The organic matter produced on the operation shall be the basis of the nutrient cycling program. It may be supplemented with other nutrient sources described in the standard or listed in Table 4.2 (Column 1) of CAN/CGSB-32.311. Manure is also subject to the requirements of 5.5.1.

5.4.6 Burning to dispose of crop residue produced on the operation is prohibited. However, burning may be used for documented problems with pests, including insects, diseases or weeds (see 5.6.1), or to stimulate seed germination.

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- a) the non-organic source is not a fully caged system in which livestock cannot turn 360°; and
- b) livestock is not permanently kept in the dark; and
- c) the source and quantity of manure, type of livestock, and evaluation of the criteria in 5.5.1.1 a) and 5.5.1.1 b) shall be recorded.

NOTE Organic operations should make it a priority to use manure obtained from transitional or extensive livestock operations, not from landless livestock production units or from livestock operations that use genetically engineered (GE) ingredients or GE derivatives in animal feeds.

5.5.2 Land application of manure

5.5.2.1 The manure application program shall address land area, rate of application, time of application, incorporation into the soil and retention of nutrient components.

5.5.2.2 Soil amendments including liquid manure, slurries, compost tea, solid manure, raw manure, compost and other substances listed in Table 4.2 of CAN/CGSB-32.311, shall be applied to land in accordance with good nutrient management practices.

NOTE In Canada, some additional provincial requirements may also apply.

5.5.2.3 Where manure is applied, the soil shall be sufficiently warm and moist to ensure active bio-oxidation.

5.5.2.4 The seasonal timing, rate and method of application shall ensure that manure does not:

- a) contribute to the contamination of crops by pathogenic bacteria;
- b) run off, significantly, into ponds, rivers and streams;
- c) contribute, significantly, to ground and surface water contamination.

5.5.2.5 The non-composted solid or liquid manure shall be

- a) incorporated into the soil at least 90 days before the harvest of crops that do not come into contact with soil and are intended for human consumption; or
- b) incorporated into the soil at least 120 days before the harvest of crops that have edible parts that come into direct contact with the surface of the soil or with soil particles.

5.5.2.6 If livestock is used as part of the cropping or pest control program, a management plan shall be in place to ensure that livestock is controlled and that manure or manure related contamination does not reach the portion of the crop intended for harvest.

5.5.3 Manure processing

Processing of animal manure using physical (for example, dehydration), biological or chemical treatment with substances listed in Table 4.2 of CAN/CGSB-32.311 is permitted. Loss of nutritional elements due to processing shall be minimized.

5.6 Crop pest, disease and weed management

5.6.1 Pest, disease and weed control practices shall focus on organic management practices that enhance crop health and reduce losses due to weeds, disease and pests. Management practices include cultural practices (for example, rotations, establishment of a balanced ecosystem, and use of resistant varieties), mechanical techniques (for example, sanitation measures, cultivation, traps, mulches and grazing) and physical techniques (for example, flaming against weeds, heat against diseases).

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- a) contribute to the contamination of crops by pathogenic bacteria;
- b) create significant run-off into ponds, rivers and streams;
- c) contribute significantly to ground and surface water contamination.

5.5.2.5 The non-composted solid or liquid manure shall be:

- a) incorporated into the soil at least 90 days before the harvest of crops that do not come into contact with soil and are intended for human consumption; or
- b) incorporated into the soil at least 120 days before the harvest of crops that have edible parts that come into direct contact with the surface of the soil or with soil particles.

5.5.2.6 If livestock are used as part of the cropping or pest control program, a management plan shall be in place to ensure that livestock are controlled and that manure or manure-related contamination does not reach the portion of the crop intended for harvest.

5.5.3 Manure processing

Processing of animal manure using physical treatment (for example, dehydration), biological treatment or chemical treatment with substances listed in Table 4.2 (Column 1 or 2) of CAN/CGSB-32.311 is permitted. Loss of nutritional elements due to processing shall be minimized.

5.6 Management of crop pests, including insects, diseases and weeds

5.6.1 Practices to control pests, including insects, diseases and weeds, shall focus on organic management practices that enhance crop health and reduce losses due to weeds, disease, insects and other pests. Management practices include cultural practices (for example, crop rotations, establishment of a balanced ecosystem, and use of resistant varieties), mechanical techniques (for example, sanitation

<p>5.6.2 When organic management practices alone cannot prevent or control crop pests, disease or weeds, a biological or botanical substance, or other substances listed in Table 4.3 of CAN/CGSB-32.311, may be used. Conditions for and of the use of substances shall be documented in the organic plan (see clause 4).</p> <p>5.6.3 If application equipment, such as sprayers, is used to apply prohibited substances, it shall be thoroughly cleaned prior to use in an organic crop.</p> <p>5.7 Irrigation The irrigation of organic crops is permitted provided that the operator documents precautions taken to prevent contamination of land and products with substances not included in CAN/CGSB-32.311.</p> <p>5.8 Crop product preparation Wherever organic product preparation takes place, 8.1 and 8.2 apply.</p> <p>5.9 Facility pest management Subclause 8.3 applies to pest management practices in and around crop facilities.</p>	<p>measures, cultivation, trapping, mulching and grazing) and physical techniques (for example, flaming against weeds and the use of heat against diseases).</p> <p>5.6.2 When organic management practices alone cannot prevent or control crop pests, including insects, diseases and weeds, a biological or botanical substance, or other substance listed in Table 4.2 (Column 1 or 2) of CAN/CGSB-32.311 may be used. Conditions that led to the use of substances shall be documented in the organic plan (see clause 4).</p> <p>5.6.3 If application equipment, such as a sprayer, is used to apply prohibited substances, it shall be thoroughly cleaned prior to use in an organic crop.</p> <p>5.7 Irrigation The irrigation of organic crops is permitted provided that the operator documents the precautions taken to prevent contamination of land and products with substances not included in CAN/CGSB-32.311.</p> <p>5.8 Crop product preparation Wherever organic product preparation takes place, 8.1 and 8.2 apply.</p> <p>5.9 Facility pest management Subclause 8.3 applies to pest management practices in and around crop facilities.</p>
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