

Review of the Canadian Organic Standards

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by Janet Wallace

Climate change and food production are connected in many ways. Just look at the news stories of 2023 and you'll learn about Canadian farms suffering from drought, flooding, intense storms, and erratic weather patterns. These challenges aren't new but as the result of climate change, they're becoming more intense and more common.

Farming is not just affected by climate change – it can also contribute to the problem. For example, greenhouse gases (GHG) are produced in the use of synthetic fertilizers. As stated by [Agriculture and Agri-Food Canada](#), “the application of nitrogen (N) fertilizer in particular results in nitrous oxide (N₂O) emissions, a potent greenhouse gas with a global warming potential 265 to 298 times that of carbon dioxide (CO₂) over a 100-year period.”

The use of diesel and gas for farm machinery and transport trucks also add GHG to the atmosphere. Ruminant livestock release methane, a potent GHG. Fortunately, certain farming

practices, such as growing perennials, can have a beneficial effect -- through carbon sequestration, GHG can be captured from the air and held in the soil.

What responsibility, if any, should organic farmers have in mitigating climate change?

Organic farming is based on four principles, including the Principle of care, which states “Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.” As climate change is an ever-growing threat to people all around the globe, it can be argued that organic farmers should take steps to reduce their contribution to climate change.

How is climate change addressed in organic standards?

In the Canadian Organic Standards, the topics of climate change and energy use are not specifically addressed – the only link is the Principle of care in the introduction (0.2). The EU standards state that organic production is based on “the responsible use of energy and natural resources” and organic operators should minimize their use of non-renewable resources” (6b).

Certain other organic standards clearly address the need for energy efficiency. For example, the [Bio Suisse standard](#) (Switzerland) has detailed requirements for energy efficiency in greenhouses. In addition, it states that by 2030, “80% of the energy used for heating (including dry heating) for protected cultivation must come from renewable energy sources.”

Sweden’s [KRAV organic standard](#) requires that “all electricity you purchase must come from renewable sources” (3.7.3). Also, all large farms and heated greenhouses of any scale must conduct energy audits.

Germany’s [Naturland organic standard](#) provides details on on-farm biogas plants because “Generating energy by fermenting biomass can be an important component of future energy supply within the context of renewable energy as a whole, besides wind, water, solar and geothermal energy and combustion of organic materials like wood.”

How can the Canadian Organic Standard address climate change?

Consultant Jean Duval created “[Greenhouse gas reduction measures and organic farming](#)”, a comprehensive guide for the Union des producteurs agricoles (UPA) to illustrate how the Canadian Organic Standards (COS) can be amended to include both measures to *reduce* greenhouse gases and measures to *adapt to* climate change.

Jean states “Greenhouse gas (GHG) reduction measures affect agricultural activities through the management of carbon in its many forms. Agriculture uses, captures, produces and releases carbon compounds: use of fuels and other inputs, soil reserves (residues and decomposed organic matter), emissions from animals, plants and soils, harvests, and so on. The measures to be taken to reduce GHG emissions from agricultural activities therefore encompass all these aspects, and all stages of each type of agricultural production.”

Distinguishing between organic standards and good practices

“A guide to good practices and standards to be respected are two different things,” Jean writes. “Organic standards are rarely very precise in the means (practices) to be implemented on a farm. They will generally indicate an objective (e.g. keeping the soil healthy), prohibit certain practices and substances, but otherwise leave it up to the farmer to choose the practices to meet the objective. In livestock and specialized production (greenhouse, maple syrup, etc.), there are a few more specific standards to meet. Organic standards are by no means production guides, however.”

For example, in livestock production, Jean lists a variety of ways to improve feed to help reduce methane emissions from ruminants. These measures include consulting nutritional consultants, harvesting high-quality forage, and storing forage properly to improve digestibility. Jean suggests that such measures should be recommendations rather than prescriptive requirements.

In crop production, reducing tillage and using diversified crop rotations including fall cereals and perennial forage crops can help reduce a farm’s GHG load by reducing fossil fuel use and capturing more carbon in the soil. Also, when planning a crop rotation, farmers can consider how to best store carbon. It would be too complicated to add specific requirements for these, however Jean lists specific targets that could be added, such as keeping soil covered year round and using cover crops.

The review of the Canadian Organic Standards is underway with a revised standard expected to be published in late 2025. Several petitions either specifically address climate change and or indirectly address the issue by recommending changes to improve soil and livestock health and there enabling farms to reduce their GHG emissions, sequester more carbon and/or improve their resilience to climate change.

Examples include:

- Fuel for maple syrup evaporation. One petition states that “organic maple syrup production consumes too much fossil fuel.” The petitioner suggests that “organic maple syrup production should promote the transition from fossil fuels (fuel oil, propane and
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natural gas) to renewable energies (electricity and biomass or pellets). Organic maple syrup production should be exemplary in terms of environmentally friendly practices (in keeping with the Principle of health in 0.2 of CAN/CGSB-32.310-2020). Replacing oil evaporators with wood, pellet or electric evaporators significantly reduces CO₂ emissions.

- Another proposal notes the value of native ecosystems in holding carbon in the soil. To discourage destruction of native stem, they recommend a mandatory 10-year wait period between converting a native ecosystem and having that land certified.
- A petition for more clarity on the requirement for crop rotations to ensure all crop rotations are at least three years long and all include cover crops.
- A petition to strengthen the requirements for tillage would reduce fossil fuel use and sequester more carbon. Specifically, the petitioner suggests adding: “The use of responsible tillage practices must be adopted in order to: a) maintain or improve the physical, chemical and biological condition of soil, b) minimize damage to the structure and till of soil, c) reduce soil salinization, and d) minimize soil erosion. ”*“Responsible tillage is described as: The use of tillage strategically and purposefully within cropping systems to enhance management and productivity in cropping systems while minimizing soil degradation. Practices may include reducing the frequency, intensity, aerial extent, and depth of tillage, as well as minimizing topsoil inversion and maintaining surface residue. Responsible tillage systems will also incorporate practices to mitigate risks of soil degradation from erosion, compaction/plow pan formation, salinization, and soil organic matter loss.”*
- Petitions to require that livestock, including poultry, have more outdoor access would likely result in more perennial forage being planted (which can sequester carbon) and lower inputs of imported feed (which requires fossil fuels for transportation).

Meanwhile, organic farmers who want to learn more about how to reduce their contribution to climate change and improve their operation’s ability to adapt to the new climate challenges can find ideas in Jean Duval’s excellent report entitled [“Greenhouse gas reduction measures and organic farming.”](#)
