

Canadian Farmers: Stewards for Healthy Soils

Farmers across Canada are increasingly aware of the importance of soil health. Soil is a key partner in their farming success. It can also be a major solution to pressing environmental concerns such as climate change.

It all comes down to six basic principles. These are known as the **6Cs of Soil Health**.

This Fact Sheet is one of a series that describe these basic principles for building healthy soils & provide video interviews with Canadian farmers who are putting these principles into practice.

The 4th C: Cover the Soil

Why should soil always be covered, year round?

Keeping the soil covered at all times is a fundamental principle of soil health management because it helps protect the soil from erosion, conserves moisture, moderates temperature fluctuations, suppresses weed growth, and provides habitat for beneficial organisms.

Here are some ways in which farmers follow this principle:

- **Cover Crops:** Farmers plant cover crops, such as legumes, grasses, or brassicas, during fallow periods or after cash crops are harvested. These cover crops form a living cover on the soil surface, reducing erosion, improving soil structure, adding organic matter, and capturing nutrients.
- **Mulching:** Farmers use various types of mulch, such as straw, hay, wood chips, or plastic film, to cover the soil around plants. Mulching helps retain moisture, suppress weeds, regulate soil temperature, and reduce erosion. Organic mulches also decompose over time, adding organic matter to the soil.
- **Crop Residue Management:** Instead of removing crop residues (such as stalks, stems, and leaves) after harvest, farmers leave them on the soil surface. Crop residues act as a



At **NVK Nurseries**, a major grower and supplier of perennial plants and trees for the landscaping industry, they know the value of cover crops. They use multi-species covers in combination with their own compost to rehabilitate soil worn out from decades of tree production.



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Funding for this project in part has been provided by Agriculture and Agri-Food Canada through the AgriCommunication Program.

protective cover, reducing erosion, improving soil structure, and returning organic matter and nutrients to the soil as they decompose.

- **No-Till or Reduced Tillage:** Farmers adopt no-till or reduced tillage practices to minimize soil disturbance and maintain a protective cover of crop residues on the soil surface. By reducing or eliminating tillage, farmers preserve soil structure, improve water infiltration, and enhance soil organic matter content.
- **Living Mulch:** Some farmers plant living mulches, such as perennial grasses or legumes, between rows of cash crops. These living mulches provide continuous soil cover, reduce erosion, compete with weeds, and contribute organic matter to the soil through root turnover and decomposition.
- **Agroforestry and Alley Cropping:** In agroforestry systems and alley cropping, farmers plant trees or shrubs in combination with annual crops. The tree canopy or shrub cover provides shade and protection for the soil, while the crops planted in the alleys between rows benefit from reduced erosion, improved microclimates, and increased biodiversity.



Cover crops are standard procedure at NVK Nurseries. Here, they are planted between rows of larger trees. The benefits include: protection of the living soil from temperature and moisture extremes; the building of soil organic matter and thus fertility; and the development and maintenance of good soil structure. Well structured soils resist compaction and infiltrate and hold more water, increasing drought resistance.

Overall, by implementing these practices, farmers can effectively keep the soil covered at all times, promoting soil health, enhancing ecosystem resilience, and improving agricultural sustainability.

Canadian Farmers: Bringing Soil Health to Life



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