



SOIL CONSERVATION COUNCIL OF CANADA
CONSEIL CANADIEN DE CONSERVATION DES SOLS

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The face and voice of soil conservation in Canada

NATIONAL SOIL CONSERVATION WEEK SCCC pays tribute to soil conservation farmers

Soil conservation is not an act of convenience. It is a responsible and profitable way to manage crop land. Soil degradation and loss of soil health brings a huge cost to farmers and Canadian agriculture – Agriculture and Agri-Food Canada numbers suggest \$35,000 per year of lost production for the average farm.

The evidence of soil degradation is clear:

- Silt-laden streams and silty plumes out into the lakes during spring thaw and following storms.
- Summer algae in waterways and lakes.
- Increasing yield variability as tillage continues to erode soil and reduce organic matter on hill tops – and those eroded areas continue to increase in size.
- Tillage-induced hard pan and compaction that interfere with water infiltration and contributes to surface water runoff.
- Wind and water erosion continues on unprotected and degraded soil – even on flat land.

These indicators would be unusual on the well-aggregated soil of native prairie or eastern woodland.

Much of the soil degradation originates with land managers who continue old habits, traditional values and outdated practices.



Photo courtesy: OMAFRA

Many farmers have moved forward improving their soil, the environment and the natural areas that it affects. They understand soil and are working hard to protect and improve it. They understand the importance of soil health and that soil aggregation is an excellent indicator of active soil biota, organic matter and a water-air balance that is friendly to crop root systems. For them, full surface tillage has been abandoned. They use strategic crop combinations, and extended crop rotations to improve crop health and soil bioactivity. Cover crops add to crop diversity, compaction remediation and provide added dormant season soil protection.

These farmers control wind erosion, surface water and sediment runoff with combinations of windbreaks, soil structures (i.e. terraces, grasses waterways, check dams), soil aggregation and undisturbed crop residue. They recognize the soil degradation and tillage erosion that result from aggressive, direct-seeding



Photo courtesy: Ducks Unlimited

and high-speed planting. They know the importance of good and frugal nutrient management for use efficiency and least risk to the environment (i.e. 4R Nutrient Stewardship system).

Because many of these farmers adopted direct-seeding or no-till ahead of the science, they learned and learned well, the art of putting together a successful soil management system. They learned that each management change, including tillage, must complement the entire crop production system. They also learned that biological and organic matter (carbon) gains are lost almost immediately if tillage is re-introduced. This brings consequences for CO₂ emissions, water quality and soil productivity.

These farmers are found on all soil types in all regions across Canada and represent a wide range of crop management demands. They are the true leaders of the soil conservation movement and SCCC applauds their efforts.

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