



Six Fascinating Facts about Soil Health

The soil beneath our feet is teeming with life, full of nutrients and living organisms and is essential for growing the crops that feed both Canadians and the world. These six facts will give you a new appreciation for soil.

1. A colossal carbon sink. Soil is an important carbon sink, storing 10 per cent of the world's carbon dioxide — more than all terrestrial vegetation and the atmosphere combined. When soil is disturbed or tilled, carbon dioxide is released into the atmosphere where it is a major contributor to global warming.

2. The triumph of no-till. No-till agricultural practices keep carbon in the soil and because it requires fewer field passes less fuel is used than conventional tillage. In 2012 alone, the amount of CO₂ saved by using herbicide-tolerant biotech crops — which help facilitate no-till — was equal to removing every car from the streets of a major city for five years!

3. Centimetres build over centuries. It can take more than 500 years to form two centimetres of topsoil, the outermost layer of soil which has a high concentration of nutrients, organic matter and living organisms and is crucial for crop growth. Avoiding soil disruption helps keep this top layer healthy and productive.

4. Microbes by the billions. Soil is home to billions of living micro-organisms that recycle organic material to maintain soil fertility and support plant growth. One cup of soil may hold seven billion bacteria



— the equivalent of the global human population!

5. Huge landscape losses. In Canada, it is estimated that over \$3 billion in productivity is lost every year, mainly due to tillage, wind and water erosion. By using soil conservation best practices such as reduced tillage, increasing annual ground cover and incorporating cover crops, farmers are better able to retain soil structure and reduce erosion.

6. Those wonderful worms. Over half a million earthworms can live in a healthy acre of soil. Earthworms' activity offers many benefits — increased nutrient

availability, better drainage and a more stable soil structure, all of which help improve farm productivity.

The Soil Conservation Council of Canada (SCCC) is the only national organization exclusively focused on soil health and soil conservation. It works to build a greater understanding of the importance of soil as an essential resource to society by facilitating the exchange of information with industry, government, academic and public stakeholders. To find out more about soil health in Canada, visit the SCCC website at www.soilcc.ca

Sources:
Soil Health Institute, 2020
Nutrients for Life, 2020
Soil Science Society of America, 2020.