

SOIL MANAGEMENT

Why should you be concerned?

Profitable food production depends on healthy productive soil. Eroded soils generally produce lower crop yields than well managed soils. A good soil management program is designed to maintain or improve soil health and productivity through:

- Protecting the soil from degradation by erosion, compaction and salinization;
- Maintaining or increasing soil organic matter;
- Reducing runoff from the land into water sources; and
- Proper nutrient management.

Soil erosion occurs under extremely wet or extremely dry conditions with insufficient cover to keep the soil in place. Good management practices can minimize soil erosion. Changes in tillage practices, residue management and crop rotations can reduce the potential for soil erosion.

Organic matter in the soil reduces crusting and erosion by wind and water. It also provides important nutrients for crops and increases the ability of a soil to hold water. Crop rotations that include high residue crops and forages, reduced tillage and manure applications can build up organic matter and help reduce soil degradation. Once a soil is degraded, it takes dedicated effort, considerable time and expense to restore it to productive use.

Runoff from agricultural land has the potential to impact water quality in lakes, rivers and streams. If pesticides, nutrients or sediments reach a watercourse, they may affect the quality of the water and kill fish and other aquatic life. Off field losses of pesticides, nutrients and soil particles also represent an economic loss to the producer. Reduced water quality can also have economic impacts on the producer and downstream water users.

One major benefit of using a reduced tillage system is increased moisture conservation. In addition, by managing crop residue and returning as much to the soil as possible, soil organic carbon is increased.

What can you do?

1. Check your land for areas where soil is most likely to erode and find what you can do to prevent it. Consider alternate uses for these sensitive areas such as re-vegetating with trees and grasses.
2. Reduce tillage and use crop rotations that increase organic matter in the soil.
3. Conduct annual soil sampling to ensure a comprehensive fertility program.
4. Use this worksheet to assess how well the soil on your farm is being managed.
5. Contact your local GO Office for additional information and support, or other appropriate agricultural extension specialist.