

# Best Management practices



*Growing for a better future.*



## SOIL Conservation

Plants, and the soil they grow in, can function as "carbon sinks" by storing excess greenhouse gas. Using best management practices farmers can better control the carbon cycle and trap carbon dioxide in the humus or organic matter of agricultural soil which reduces the amount of carbon dioxide in the atmosphere. Improved farming practices can save up to one to three tonnes of carbon per hectare from the atmosphere, over a 10- to 20-year period.

In addition to promoting carbon sequestration in the soil, BMPs for soil conservation can also improve crop yields by reducing soil erosion and degradation while improving water quality by reducing silt and agricultural run-off into nearby waterways.

Tillage breaks up the soil, releasing carbon to the atmosphere, but also contributes to erosion, which results in a loss of organic matter and the long-term ability of the soil to sequester carbon.

Conservation tillage or no-till is a common soil conservation BMP. Carbon-sequestering practices may enhance the profitability of farming systems by increasing yields or reducing production costs.

### Other soil conservation BMPs include:

**Residue Management:** Residue management is the use of minimum tillage practices that will leave substantial amounts of plant residue on the soil surface to protect it from erosion.

**No-Till:** No-till is seeding a crop in a field that has not been tilled mechanically. It is also known as direct-seeding.

**Conservation Tillage:** Conservation tillage refers to any practices that leave at least 30 per cent plant residue on the soil surface after the new crop has been seeded or planted. It is therefore a generic term sometimes called minimum tillage or reduced tillage.

**Mulching:** Mulching is the practice of spreading straw or hay on the soil surface after harvest to protect against soil erosion.

**Strip Cropping:** Strip cropping consists of growing different crops in alternating strips across the slope to help control soil erosion and filter sediments.

**Crop rotation:** Adequate crop rotation is key to promoting good soil structure and consequently preventing soil erosion.

**Cover Crops:** Planting a cover crop after harvest is one of the most effective ways to control soil erosion. For example, in the Atlantic, fall rye or winter wheat is used after early harvested potatoes or cash crops.

**Terracing:** Terracing consists of construction of a series of diversion terraces to collect water runoff and divert it to a grassed waterway or a suitable outlet. These diversion channels and berms are normally vegetated.

**Grassed Waterways:** Grassed waterways help reduce risks of gully erosion by controlling surface runoff and/or serving as safe outlets for diversion terraces or other natural channels. These areas are considered permanent vegetative covers.



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