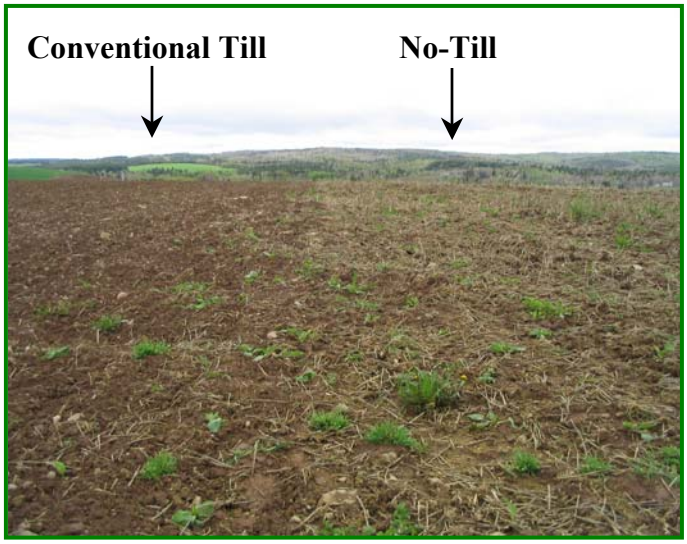
Nova Scotia Agricultural College

Soil & Crop Improvement Association of Nova Scotia

factsheet

Reduced Tillage Production of Corn, Cereals and Forages in Nova Scotia as a Means of Enhancing Soil Quality and Sequestering Carbon

In an effort to maximize crop yields, farming systems have traditionally relied on conventional tillage practices, such as moldboard plowing for seed bed preparation. This intensive soil disturbance has degraded the quality of our soils, as reflected by lower organic matter contents, reduced soil structure, and susceptibility to erosion. Recent periods of lower than normal precipitation in Nova Scotia have emphasized the importance of the water holding capacity of, and the need to conserve, our soils.



Over the past twenty years, new tillage systems have been developed that allow for effective crop establishment with much less soil disturbance. No-till, or direct seeding, is a Beneficial Management Practice (BMP) which producers can utilize to establish a crop with minimal soil disturbance, helping to increase the soil organic matter content and thereby improving overall soil quality. This is also a means by which carbon dioxide can be removed from the atmosphere, helping to reduce greenhouse gas emissions from agriculture.

The Greenhouse Gas Mitigation Program (GHGMP) has established four demonstration sites throughout the province to promote the adoption of no-till and minimum tillage practices. Sites have been established in eastern, central and western regions of the province on operational farms.

Each site involves a side-by-side comparison of conventional tillage and reduced tillage practices. The conventional till method involves fall and spring tillage prior to planting. The reduced tillage system involves a single-pass planting system. Plant stand and yield information is collected at each site. For the duration of these demonstrations, each of the sites will include all phases of a three-year rotation.

The anticipated outcome of this project is to increase awareness of reduced tillage practices and encourage producers to implement these practices on their farms. By adopting a no-till system on a farm, many benefits may be realized: improve soil structure; decrease soil erosion; increase soil organic matter; reduce fuel consumption; increase planting and harvesting timelines; decrease carbon dioxide emissions released into the atmosphere.

The GHGMP is being conducted with support of:

Canadian Pork Council / Conseil canadien du porc
Dairy Farmers of Canada / Les Producteurs laitiers du Canada
Agriculture and Agri-Food Canada / Agriculture et Agroalimentaire Canada
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