

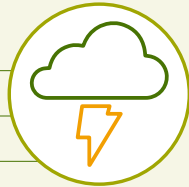
SOIL

General Soil Management for a Changing Climate

Soil is the foundation of agriculture in Nova Scotia and a changing climate is putting it increasingly at risk.

Stronger storms and more intense rainfall may affect:

- Soil erosion
- Field accessibility
- Drainage requirements



Rising temperatures may affect:

- Germination timing
- Planting dates
- Plant health
- Water availability



Proper soil management can:

- Improve nutrient use efficiency
- Reduce drought stress
- Enhance water efficiency
- Prevent erosion
- Improve plant health



Soils are influenced by:

- Chemical properties
- Biological properties
- Physical properties



Maximize soil health building practices by improving nutrient management tailored to your farm

- Know your soil: get a soil test, or even better get a soil health test
- Incorporate a nutrient management plan that accounts for your specific soil type and crop nutrient demands
- Use the 4Rs: RIGHT product, at the RIGHT rate, at the RIGHT time in the RIGHT place

Adaptive Practices to Build Soil Health:

Add organic material like compost, composted manure or chop-and-drop cover crops to:

- Supply organic matter (OM), food for microorganisms, nutrients
- Improve nutrient transfer between soils and plant roots
- Provide building materials for soil aggregates
- Improve water holding capacity (OM acts like a sponge)

Use cover crops to:

- Protect soil from erosion and nutrient loss
- Protect soil microorganisms
- Provide OM, energy, and nutrient supply
- Provide nitrogen if using nitrogen fixing cover crops
- Maintain root structures which provide water, gas and nutrient pathways, and microorganism habitat

Reduce tillage and decrease soil physical disturbances to:

- Maintain soil structure, leading to reduced erosion, improved soil porosity, and microorganism habitat provision
- Reduce rapid decomposition and nutrient loss to atmosphere and/or groundwater

Diversify crop rotations to:

- Provide variety and wide range of energy and nutrients
- Break up pest cycles
- Provide diverse root system to help with aeration and water movement

Implement tile drainage to:

- Improve whole-field slow draining soils or target wet-prone areas
- Enable earlier field access

Add lime to:

- Maintain consistent soil pH
- Improve nutrient use efficiency and plant availability

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Planning:



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