

## Soil Texture & Drainage: Conflicting Information

### Map Key

#### USDA Soil Texture Class

- 1 : Clay
- 2 : Silty Clay
- 4 : Clay Loam
- 5 : Silty Clay Loam
- 6 : Sandy Clay Loam
- 7 : Loam
- 9 : Sandy Loam

MacLean & MacKinnon (1997, New Brunswick) – Found soil drainage to be significantly related to susceptibility to spruce budworm (SBW) in a study of permanent sample plots with moderate-to-well drained sites showing 7-17% more defoliation than more poorly drained sites.

Archambault et al. (1990, Québec) – Fine textured soils and poor drainage significantly impact the mortality of SBW-affected balsam fir and white spruce by limiting water access.

Lacey & Dech (2012, Ontario) – Soil moisture, with less soil moisture leading to greater reduction in growth, affects black spruce tree ring chronologies during SBW outbreaks, but the mean growth reduction did not statistically differ between dry, moist, and wet sites.

Source of soil texture class data: EnvirometriX Ltd