



## **Project #9011 – Value of Cover Crops Nitrogen Cycling, Soil quality & Pest Management**

---

**Brief Description:** As new Ontario nutrient management and/or source water protection legislation require producers to strictly adhere to provincial guidelines for nutrient applications, it will be more critical to have current and accurate data on Ontario production systems. Although many Ontario vegetable growers have been using cover crops for soil management purposes, it is difficult to credit the nutrients available from the cover crop to the succeeding crop. Modeling of N cycling in winter cover crops systems compared to no cover crop will be used to predict environmental N loss and N release to the next crop in order to design best management practices in vegetable production.

**Objective:**

To quantify N uptake by the cover crop and amount of N remaining in the soil the following spring

To estimate N release from different cover crops to the next season's sweet corn crop

To determine if cover crops actually contribute a substantial N credit to the following crop, which is currently part of nutrient management plans

To assess, through collaboration, the effect of various cover crops on weed dynamics, insect and disease pressure, soil quality, and cost-benefit analysis