

Project #9019 Role of Soil Arthropods In Vegetable agro-ecosystems

BRIEF

DESCRIPTION

The goal of the project is to develop a knowledge base of the identity, biology and pest status of several soil arthropods suspected of causing damage to root vegetable crops in Ontario. A variety of approaches will be used to identify the main species of soil arthropods affecting Ontario root vegetables (sweet potato, carrots, others), and to determine how climatic, soil and crop history conditions influence their populations. This information will be critical to the registration of pesticides for management of these pests, as product efficacy varies greatly with target species. Furthermore, knowledge of the pest status of soil arthropods will aid in identifying cultural practices that minimize their presence and will be critical to the development of integrated pest management programs for root vegetable crops.

PROJECT

OBJECTIVE

The goals of this project will be achieved through the following specific objectives:

1. To identify and quantify the important soil arthropod pests of carrots and sweet potatoes in southwestern Ontario
2. To assess beneficial and pest aspects of millipedes in vegetable crop systems.
3. To determine the relationship between arthropod abundance and soil organic content, nutrient profiles and crop history in commercial fresh vegetable fields in southwestern Ontario
4. To evaluate sampling techniques, trap types and crop specific sampling methodology for the purpose of developing effective monitoring systems for soil arthropod pests in Ontario vegetable crops.