



## Field Vegetable Research Activities

There are two research activities that are part of the field vegetable group for the Canadian AgriScience Cluster for Horticulture Cluster 4. These two activities are focused on making soil more resilient and protecting vegetable crops against pests.

Due to changes within the research team, the report for Activity 7 — Increasing field vegetable yield and resilience to abiotic and biotic stresses through soil microbial engineering report will be posted at a later time.

THE CLUSTER 4 FIELD VEGETABLE RESEARCH ACTIVITIES ARE:

### ACTIVITY 7

#### Increasing field vegetable yield and resilience to abiotic and biotic stresses through soil microbial engineering

LEAD RESEARCHER – Herve Van Der Heyden, research scientist with Agriculture and Agri-Food Canada Saint-Jean-sur-Richelieu Research and Development Centre

### ACTIVITY 8

#### Reduce risk strategies for cabbage maggot control

LEAD RESEARCHER – Renee Priya Prasad, associate professor and department head for agriculture at the University of the Fraser Valley

This project is generously funded through the Canadian AgriScience Cluster for Horticulture 4, in cooperation with Agriculture and Agri-Food Canada's AgriScience Program, a Sustainable Canadian Agricultural Partnership initiative, the Fruit and Vegetable Growers of Canada (FVGC), and industry contributors.



## Reduce Risk Strategies for Cabbage Maggot Control



LEAD RESEARCHER

**Renee Priya Prasad**

Associate professor and department head for agriculture at the University of the Fraser Valley

Crucifers (crops in the cabbage family) provide numerous opportunities for Canadian vegetable growers, but are under attack by cabbage root maggots. In this research activity, the team is working to find new management tools, mainly insecticides, and strategies for how to use those insecticides with non-insecticide tools, so that growers will see decreased crop losses from cabbage root maggot.

This year four field trials were conducted from April to July in a single vegetable field in Abbotsford, B.C. This field had good pest pressure which is important for insecticide trials to be successful. Data is being analyzed from the fields.

Cabbage root maggot pupae were also collected from the different treatment plots to examine the natural enemies of cabbage root maggots. The number of

pupae attached by either parasitoid beetles or wasps will be counted. This survey is to review whether some insecticide treatments are compatible with the biological control of the pupae. Compatibility of insecticides with biological control has been shown to be effective in other horticultural systems.

This winter, the team is focusing on data analysis, and developing insecticide treatment combinations for field tests starting in April 2025. This is especially important for rutabaga crops as they require season long protection from cabbage root maggots.

### KEY TAKEAWAYS:

- In 2024 field research was conducted in Abbotsford, B.C. with some field and lab work done in Agassiz, B.C. at Agriculture and Agri-Food Canada.
- Four trials were completed this year. A field day was held that was attended by 12 people, including growers and distributors.
- Crucifer crops include cabbage, kale, broccoli, Brussels sprouts, cauliflower, radishes, rutabagas and turnips.



On June 19, 2024 a field session was held in Abbotsford, B.C. to examine the field plots of the cabbage root maggot insecticide efficacy trials. Photo: Thomas Johnston



Close up of cabbage maggots on Brussels sprout roots.

Photo: Thomas Johnston

