

December 26, 2019

LEEK MOTH RESEARCH UPDATE

Research Background

For the past five seasons, our team, the Vermont Entomology and Participatory Research Team (VEPART), in collaboration with the Agroecology and Livelihoods Collaborative and UVM Extension has led an on-going research program to build an effective IPM program for the management of leek moth (LM), *Acrolepiopsis assectella*, in allium crops.

Our

In addition to their preference for yellow onions, LM adults also prefer to deposit eggs on the leaves of larger onions. This result may not be surprising, as larger onions likely release higher amounts of the volatile odors that attract LM to their host plants. However, it is important to note **that leaf damage from LM larvae does not affect the size of onion bulbs** (Figure 3). The primary concern for onion growers, is therefore, bulb damage stemming from LM larvae moving into the bulb during curing and/or storage.

Biological Control Trials

In collaboration with the Canadian biological control company, [Anatis Bioprotection](#), we are currently testing the efficacy of the parasitoid wasp, *Trichogramma brassicae*, as a biological control option for managing LM in onion crops. Preliminary data from our first field trials replicated across six Vermont farms are promising. **The release of *T. brassicae* within onion plots significantly reduced the incidence of LM larvae in onion leaves** (Figure 4.) Provided these results, our team will be advancing our trials to include other allium crops and release protocols.

Post Harvest Trials

Because leek moth typically lay their eggs in the above ground tissue of onions, **a grower suggested that we test the utility of onion topping as a strategy to remove larvae before they can move into the onion bulb.** The resulting research trials testing the effect of onion topping on bulb damage and storage quality are on-going as we await storage quality data. Please stay tuned.

Research Support and Participation

Participatory Action Research (PAR) is an essential component of our research and drives our research agenda. Thanks to the input of the local grower community, much of our work aims to directly address issues with grower informed strategies. In the spirit of PAR, **we are including a link to our most recent grower survey on LM to inform our research efforts moving forward.**

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