

Integrated Pest Management for Hops in the Northeast

Funding Awarded: \$131,758



Public interest in sourcing local foods extends into beverages, and the demand for local hops continues to rise. Integrated pest management (IPM) strategies for hops have been developed in the Pacific Northwest where hop production currently occurs in an arid environment, very different than the climate encountered in the Northeast. The lack of IPM strategies for hops in the Northeast leaves growers bereft of research-based information for control of pests including potato leafhopper, downy mildew, and a variety of weeds. This project aims to look at more environmentally friendly crop production systems that use IPM strategies that promote environmental stewardship while remaining economically viable. This project will specifically benefit hop growers in the Northeast by providing them with research-based integrated pest management tools.

Objectives

To work collaboratively with growers to:

- o Identify hop varietal differences in potato leafhopper preference.
- o Determine proper timing of hop crowning for downy mildew control.
- o Evaluate cultural and mechanical weed control strategies.
- o Produce and distribute outreach material specific to potato leafhoppers, downy mildew, and weeds in an effort to help farmers adopt hop specific IPM practices.

Programs and Activities

Research: Determine whether potato leafhopper varietal preference is phonologically correlated and if there are phytochemical changes in hop cones from plants with high potato leafhopper damage that decreases hop quality at harvest. Determine if timing of mechanical crowning has an impact on early season downy mildew sporulation and hop yield and quality in the Northeast; and determine if cultural weed control methods can minimize weed pressure and improve hop yield and quality.

Outreach and Knowledge Transfer: Winter/Fall conference held each year to disseminate information; webinar streamed live and posted to website; two on-farm field days per year; YouTube videos developed; five pest management briefs published and posted online; yearly research reports developed and posted online; research presented at one regional and one national meeting; research published in a peer-reviewed journal; and “Hopyard Insect Guide” developed.

Desired Outcomes

- Increase hops pest control knowledge in approximately 100 growers.
- Increase understanding of when chemical control might be needed and the best methods of applying them to control pests while maintaining beneficial insect populations.
- Fifty to one hundred growers will:
 - o implement crowning in their hopyard and document a decrease in downy mildew and/or a reduction in fungicide applications.
 - o implement cultural weed control and significantly reduce herbicide applications.
 - o document improved hop yield, quality, and economic returns by implementing IPM knowledge and strategies gained through this project.

This project addresses water quality and runoff issues.