



FARM ADAPTATION INNOVATOR PROGRAM | PROJECT SUMMARY

# Changing Climate Creates Emerging Challenge with Thrips

**A**S AVERAGE ANNUAL temperatures increase, particularly winter temperatures, the range and prevalence of agricultural pests and diseases, as well as invasive species, is anticipated to shift. Understanding the linkages between pest populations and weather conditions and providing information about effective management options, will assist growers to adapt and minimize negative impacts.

Although thrips are a common pest, they are expected to become more problematic with climate change and have only recently become an issue for potatoes in the Lower Mainland. Thrips populations multiply in hot, dry summer weather and milder winters may also increase winter survival rates. A field research project is currently underway to improve the understanding of the impacts of thrips on potato crops. An important element of the project is increasing knowledge of the relationship between thrips and potato yield and growing conditions in the field.

PROJECT	<i>Evaluation of Thrips Damage to Potatoes in a Changing Climate</i>
LOCATION	<i>Fraser Valley</i>
COMPLETION	<i>2017</i>
PROJECT LEAD	<i>E. S. Cropconsult</i>
FUNDING PARTNERS	<i>Agriculture and Agri-Food Canada, BC Ministry of Agriculture, BC Potato and Vegetable Growers' Association, E. S. Cropconsult, Lower Mainland Horticulture Improvement Association</i>
OTHER PARTNERS	<i>Agassiz Research and Development Centre, Douglas College, cooperating growers and agricultural suppliers</i>

“Thrips are everywhere. We chose to study their impacts in potatoes because it’s one of the crops where we have been making more recommendations for thrips in recent years,” explains project lead, Kiara Jack, Potato and Organic Vegetable Integrated Pest Management Coordinator with E. S. Cropconsult. “They also impact strawberries, cole crops, greenhouses, flowers and others. The adults eat

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pollen so they can impact the fruits of different crops, and will likely be an increasing issue.”

The project is working to establish a better understanding of thrips impact on potato production, including yield, to evaluate potential risks to potato producers. Working with 16 producer cooperators who grow seed, organic and conventional potatoes, the project is gathering data about how potato yields and quality are affected by thrips at varying crop stages. The study also includes monitoring of the potential transmission of tomato spotted wilt virus by thrips.

“Studies completed elsewhere have demonstrated potato crops can sustain a lot of pest damage without having an impact on their yield, but without a good threshold it’s hard to know if growers are spraying when they need to and at suitable levels and if they are maximizing the benefits of any treatments,” says Jack. “This is particularly important information if climate conditions are going to result in growing populations of thrips.”

In addition to the yield loss assessment, the study is looking at a number of cultural management practices, and the influence of surrounding crops, like grains and grasses, on thrips pressure in potatoes. While Jack acknowledges it is challenging for growers to manage their crops based on what their neighbours are growing, understanding the interaction of thrips with the different crops could help growers with their management decisions.

The findings of this project are being shared with participating growers, as well as through presentations at the Lower Mainland Horticulture Improvement

Association short course and producer meetings, and through field days, facts sheets and agricultural media.

“Producers are already working with a lot of environmental challenges, and climate change is going to make things harder, so we need to have good monitoring data and research results to guide management practices and deal with pest issues as they emerge. We’re going to need diverse options for pest management in order to adapt to the impacts of climate change,” says Jack.

Projects like this are part of the work being delivered by the BC Agriculture & Food Climate Action Initiative (CAI). CAI develops tools and resources to assist BC farmers and ranchers with adapting to impacts of climate change. CAI’s Farm Adaptation Innovator Program engages directly with producers and local partners, providing funding for piloting, demonstration and knowledge transfer around farm level adaptation.

[www.BCAGClimateAction.ca](http://www.BCAGClimateAction.ca)

*The BC Agriculture & Food Climate Action Initiative (CAI) was launched in 2008 by the BC Agriculture Council to enable a proactive and pan-agriculture approach to climate change issues. CAI is currently supported by the BC Agricultural Research & Development Corporation and the Investment Agriculture Foundation of BC, with funding provided by the Governments of Canada and British Columbia through Growing Forward 2, a federal-provincial-territorial initiative.*

*First two photos in this handout are courtesy of E. S. Cropconsult.*

