

Workshop Title: Crop Scouting for Organic Agriculture

Speakers & their titles: Rachel Cheverie (Perennia, NS) and Matt Dykerman (Red Soil Organics, PEI)

Executive Summary:

Rachel and Matt discuss how crop scouting can be used on the organic farm. Rachel covers some crop scouting techniques, tools and thresholds, and then Matt discusses how he employs the information he receives from his crop scouts on his farm, Red Soil Organics in PEI.

Detailed Notes:

Rachel Cheverie discussed the importance of crop scouting in IPM (Integrated Pest Management). You do crop scouting to know exactly what is going on in your fields. It's especially important to note perennial weeds, and you need to know the major pests and diseases for your crop. It's also good to know your beneficial insects. If you want to send pests in to be identified, you'll need something that won't crush the pest during transport. See slides to understand ways to walk through your fields to get representative samples. Regular crop scouting will help you track the progress of problems. It's a good way to get to know the lifecycles of your pests and weeds. Keeping maps will help you track the spread of weeds from year-to-year.

Once you know what is going on in your fields, you need to decide what, if anything, you can or should do about it. An understanding of **economic thresholds** will help you decide if you should spray. If it will cost you more to spray than you would lose in revenue from decreased yield, then there is no point in spraying. But if the cost is less than the increased yield from spraying, then you should spray. Threshold fact-sheets are available on the web to help you analyze your situation. Rachel thinks it is good to react just at the threshold point or even below the threshold because pest population can explode.

There are, of course, other options besides spraying. For example, parasitoids are great in greenhouses where they are a popular biological control. Wildflowers on the edges of fields can attract beneficials. Ground beetles eat insect eggs and even weed seeds.

Question: Do you have any experience with drones?

Answer: They are starting to be used; right now GPS is more common.

Question: How can I adapt this type of crop scouting on a 5-acre field with 30 different crops?

Answer: It would be an option to group crops by family because diseases and pests are quite similar. It's important to have a plan for each crop, so you know what to do when something pops up. For example, watch for late blight, powdery mildew & other fungal

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diseases after hurricanes or storms. Put on copper spray before a storm, and then again after.

Matt Dykerman discussed how he incorporates crop scouting and IPM on his farm. He hires professional crop scouters to walk his fields and give him reports, which he analyzes and decides what to do. Sometimes the reports just tell him about cultural practices he should avoid in the future. For example, wire-stem is caused by high humidity, so he should avoid over-watering in the future. Cabbage worms are a common issue which he treats with Bt or Spinosad/Entrust.

But there are problems: there is a risk of the pest developing resistance to Bt even within one season, and Entrust can only be used 3 times per year. The larva stage is the only time to treat with Bt, because it doesn't work on eggs or adults. There is anecdotal evidence that Bt becomes less effective every year. It's good to switch up your products. Changing brand-name has no effect; you need a different system or product altogether. You can also consider changing your cultural practices. For example, aim to plant carrots after the first generation of carrot rust fly.

Because organic pesticides aren't quite as effective as conventional pesticides, organic farmers often have a higher tolerance of pests. Nevertheless, we are underestimating the value of scouting in organics. The "tool box" of organic products (pesticides, fungicides, etc.) is growing, so there is more that we can be doing to deal with problems as they arise.