

ABOUT THE COLE CROP IPM NEWSLETTER

What is IPM?

Integrated Pest Management (IPM) is an approach to managing insects, mites, diseases and weeds that begins with an understanding of the **biology** of the pest and the **economic** impact on the crop.

How does a grower practice IPM?

IPM starts with **pest identification** – once you know what you have, you will then know the type of damage that can potentially occur to the crop.

Knowing the biology of the pests that target the crop can then lead to a **prevention** plan. Examples of prevention steps include crop rotation, variety selection, proper irrigation and soil drainage.

Crop scouting is an integral part of IPM. Regularly checking EVERY field (or planting within a field) for pest and non-pest issues is critical for determining if pesticides are necessary, what types and rates of products are needed, and if applications are working.

When pesticides (insecticides, herbicides, fungicides) are used as part of an IPM program, pest scouting data is used to make better pesticide application decisions (e.g. rate, timing and product choice). Pest scouting is also an important part of resistance management.

How can this newsletter help improve the IPM practice of cole crop growers?

Every 2-weeks this newsletter will highlight the pests that have been seen in the Fraser Valley during monitoring of indicator fields. The newsletter will also use historical data to provide a “heads up” of pests to watch for. Pictures, scouting methods, and prevention strategies will be provided. Growers can use all of this information to do their own crop scouting and thus make better pesticide application timing decisions. 30+years of data on correct IPM practices on several vegetable and berry crops in the Fraser Valley demonstrate that effective crop protection can be achieved with fewer inputs.

Is this newsletter trying to sell anything?

Nope. This newsletter is funded by the **Processing Vegetable Industry Development Fund**, the **Fraser Valley Cole Crop Growers Association** and the **Brassica Research Levy Fund**. Government and grower money is being used to improve grower practices.

Why are these funds being used for this IPM Newsletter?

Even though our region is ideal for cole crop production, the industry faces huge challenges including declining demand at the processor level. However, re-focusing on good grower practices can save growers money, reduce pesticide inputs, and still yield excellent crops. Industry-wide IPM uptake can help with marketing and future re-branding efforts targeting local consumers.

COLE CROP IPM NEWSLETTER: Early May Update

Scouting Tips

Several weak or stunted plants in a row: When several stunted plants are found in the row, stop and pull them up. Look at the root for signs of either maggots (root will feel mushy, you may see maggots if you split the root) or wirestem (root will feel brittle and hard, you will not see root hairs). Walk the whole length of the row (to see if injury is more prevalent at row ends or through row) and walk at least 2 rows in the planting (to see if the whole planting is impacted). A good scout can do this in about 30 to 40 minutes.

Pests found in the last 2 weeks

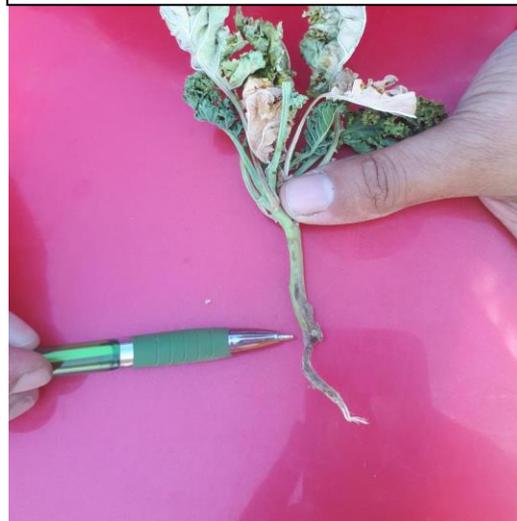
Wirestem: We saw wirestem injury in the transplant fields. Wirestem is a symptom of pathogen infection (most likely *Rhizoctonia* spp.).

Plants with wirestem damage will look stunted compared to their neighbors. A grower may suspect root maggot, however when the plant is pulled up there will be no sign of maggots. Instead the root will be intact but with no root hairs, and a shriveled appearance. The root may be girdled at the soil line (see Fig. 1). At this stage there is

nothing that can be done about wirestem, pesticide applications will not prevent further disease development in the field. However for next year growers should be aware of the many preventative strategies that can be used to ensure that transplants are healthy.

More information: <http://www.omafra.gov.on.ca/english/crops/facts/85-043.htm#Damping-Off%20and>

Fig. 1. Constricted and brittle stems are classic symptoms of wirestem. Look for stunted plants. Notice the lack of root hairs.



Cabbage Root Maggots: The main pest for this time of year is the cabbage root maggot. The adult stage is a fly that has been active since early spring. As your direct-seeded crops begin to emerge females will lay



Fig. 2. Maggot eggs at the base of plants. They look like grains of rice, and can be seen by moving the soil around the base of the plant.

eggs at the base of the plant, just below the soil surface (see Fig. 2). Transplants will be susceptible as soon as they go into the ground. Eggs hatch and the maggot goes straight to the roots. Once the maggot is inside the root, insecticides will not make contact. Thus it is important to ensure that insecticides, applied as a granular or soil drench, are in the soil surrounding the root zone. The maggot will die as it makes contact with the insecticide, when it moves through the soil to the roots. For head and stem cole crops a single application is usually necessary for crop

planted/transplanted in April through May. Scouting should be used to determine if a subsequent spray is necessary. Even if a second spray is needed a whole field spray may be unnecessary. Many head and stem plantings can handle root maggot activity once a healthy root system is established. Growers should also educate themselves on resistance management practices as chlorpyrifos-resistant populations of this pest have been confirmed in the Fraser Valley. **More information:**

<https://www2.gov.bc.ca/gov/content/industry/agriservice-bc/production-guides/vegetables/cole-crops>

Pests to watch for

Caterpillars: The adult stage of the imported cabbage worm are flying about the fields. These are the classic cabbage white butterfly. While we've not seen eggs yet, historically caterpillars begin in May. In the Fraser Valley we have 3 species of caterpillars that feed on cole crops and the management of each is different- so that will be the focus of the next newsletter. Follow us on Instagram to get updates: @UFVvegIPM