Scout Training for Integrated Pest Management

This year OMAFRA continues to offer a series of workshops to train IPM scouts. This series will start with a one-day session on an introduction to IPM. General principles and practices of IPM, overview of insect, disease and weed biology, and workplace safety will be covered. This introductory session is scheduled for April 26, 2006 in Guelph.

Closer to the growing season, workshops are planned for specific crops (see table below). These one-day workshops will build on lessons learned from the introductory workshop and will look at the details needed to scout that crop.

The following is a tentative workshop schedule:

<table>
<thead>
<tr>
<th>Training</th>
<th>Date and Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Intro to IPM</td>
<td>April 26</td>
<td>Guelph</td>
</tr>
<tr>
<td>Tomatoes and Peppers</td>
<td>April 28</td>
<td>Ridgetown – Wilson Hall Conference Room</td>
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<tr>
<td>Apples</td>
<td>May 15</td>
<td>Simcoe</td>
</tr>
<tr>
<td>Vine Crops</td>
<td>May 10 - 9:00 – 12:00</td>
<td>Woodstock Resource Centre</td>
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<tr>
<td>Asparagus</td>
<td>May 10 – 1:00 – 3:00</td>
<td>Woodstock Resource Centre</td>
</tr>
<tr>
<td>Tender Fruit and Grapes</td>
<td>May 5</td>
<td>Vineland</td>
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<tr>
<td>Sweet Corn, Peas and Beans</td>
<td>May 17 – 9:00 – 3:00</td>
<td>Woodstock Resource Centre</td>
</tr>
<tr>
<td>Berries</td>
<td>May 19</td>
<td>Simcoe</td>
</tr>
<tr>
<td>Potatoes</td>
<td>May 31</td>
<td>Guelph</td>
</tr>
<tr>
<td>Ginseng</td>
<td>TBA</td>
<td>Simcoe</td>
</tr>
<tr>
<td>Cole Crops</td>
<td>May 3</td>
<td>Guelph</td>
</tr>
<tr>
<td>Onions, Carrots, Lettuce &amp; Celery</td>
<td>May 4</td>
<td>Guelph</td>
</tr>
</tbody>
</table>

This classroom training will be followed later with field training sessions. Everyone is welcome.
Introduction to IPM is a pre-requisite to the crop specific training.

To register, please contact the Brighton Resource Centre at 613-475-1630.

For more information contact: Margaret Appleby, IPM Systems Specialist, OMAFRA Brighton
Phone: 613-475-5850 Email: margaret.appleby@omafra.gov.on.ca
For Vegetable Growers: Common scab occurs in most potato growing areas of the world. The causal organism *Streptomyces scabies* has many strains. This strain variability may explain why the practices recommended to control scab have been so inconsistent. Read more about this disease, Common Scab of Potatoes, now online at http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2006/03hrt06a4.htm

For Fruit Growers: In the last few years increased damage from codling moth has been reported in Ontario and other apple growing areas. Read more about several factors that may be responsible for “Codling moth control problems in Ontario Orchards: Where do we go from here?”, now online at http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2006/02hrt06a5.htm

For Specialty Crop Growers: Are you considering trying a new crop? How about Sea buckthorn? This deciduous shrub is a perennial crop that may have markets for its berry juice, its oil, as well as benefits in soil erosion and nitrogen fixation. Read our new infosheet, Introduction to Sea Buckthorn, now online at http://www.omafra.gov.on.ca/english/crops/facts/seabuckthorn.htm

The OMAFRA Crops Content Team: Check our new postings for meetings at our Crops Conferences and Meetings at http://www.omafra.gov.on.ca/english/crops/conferences/index.html

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Where to Find Vegetable Variety Trial Information

Variety selection is one of the most important factors in the success of your crop, but independent, replicated vegetable variety trials can be few and far between. A list of some vegetable variety trial information available for Ontario, Quebec, and the Midwest can be found on the OMAFRA website at: http://www.omafra.gov.on.ca/english/crops/facts/vegtrial.htm

Many of these reports are from areas that may differ in climate, soil type, pest pressure, or production practices. Consider these factors when evaluating this information. By studying reports from many areas, you may find varieties that are consistent performers over a wide range of conditions. Talk to seed suppliers, researchers, extension staff, processors, and other growers for more information on cultivars adapted to your area. Most importantly, do your own field trials to evaluate varieties under your local growing conditions.

Each season, researchers may evaluate other crops besides those listed here. Check their web-sites or contact the researcher to learn about current research projects.
Organic retail sales continue to grow in Canada at rates over 20% per year. It now makes up about 1.5% of retail food sales and higher than that for fresh fruits and vegetables. Have you looked at this market as a way to transition your farm? The transition period is 2-3 years to invest in your future growth in organic. Here are some key areas to look at.

**Know your markets.** If you grow organic product, where would you sell it? What crops, quality, products, etc would you be able to market and at what price? Would you use a wholesaler, processor, or direct sale to customers? These questions are the same as for any business but the answers for organic will likely be different that in conventional and are key to your success.

**What changes are needed in production practices?** Most growers think of fertilizers to solve nutrient concerns, and pesticides to control insects, diseases and weeds. In organic you need better (longer, more diversified) crop rotations. Use legumes to supply nitrogen. You may need to buy (or have) manure and compost on your farm to maintain phosphorous, potassium and organic matter. Your pest control program will emphasize an intensive IPM program where beneficials, pheromones, crop rotation and resistant varieties are key tools. This can be complemented in some cases with biopesticides or other products approved for use on organic farms.

**How and when would I become certified?** Organic farms will need to be certified for most markets. You cannot become certified until 36 months after the last application or use of non-organically approved practices. You need to apply for transitional inspection in the year prior to the production of your first organic crop, and each year afterwards to maintain your certification. Applications are usually made in early spring. It is good to contact the certification body in your first transition year to get a copy of their standards to find out what you can and cannot use on your organic farm. For more information on certification see [http://www.omafra.gov.on.ca/english/crops/organic/certification.htm](http://www.omafra.gov.on.ca/english/crops/organic/certification.htm)

**During the transition you want to put in the right crops to set your farm up for organic.** Usually a combination of cereal crops or hay for 2-3 years is a good way to go. Use these crops to control the weeds and break pest cycles. Underseed the cereal grain crops with red clover or another legume to build up nitrogen in the soil. These crops will add organic matter. Plan to start with one or two fields and each year add more fields to the organic practices as your successes grow. I suggest using a good field as your first organic field, perhaps the one closest to your house where you will see it everyday. Use the transition period to improve your fields. Your initial revenues will not be as high but it will pay back after you are organic.

**After 3 years of transition:** You have your fields in shape; your certification is lined up; your markets are known; you have researched your crops; and you have talked to other farmers who are doing it successfully – Now have fun growing organically!
Climate Change and Insects
Hannah Fraser, Entomology Program Lead (Hort)

If you attended the Ontario Fruit and Vegetable Conference last month, you may have been lucky enough to hear a few guest speakers discuss the subject of climate change and the potential impacts on agriculture. As an extension on this topic, people sometimes ask what the potential impacts would be on insect pest complexes.

Predicting the impact of climate change on insects and diseases is a very complex exercise and one that involves a great deal of modeling. There have been some rather spectacular documented cases of how climate can influence insect populations. One good example getting press right now is the mountain pine beetle situation on the West Coast. We don’t have all of the answers where climate change is concerned. But in many cases, we can make some good generalizations about larger trends that might be observed.

Climate plays a critical role in the ability of insects to overwinter (a subject we covered in the first issue of HortMatters for 2006), on the geographic distribution or ranges of insects, on the number of generations and on their abundance in agricultural systems.

As we tell our scouts during training sessions every year, temperature is one of the driving forces affecting insect survival, development and movement. Insects have adapted many mechanisms to survive adverse conditions such as winter by seeking shelter, entering a dormant stage called diapause, or like the Canadian “Snow Birds”, by migrating to warmer places.

Where an insect chooses to overwinter may affect its survival. For example, some insects overwinter near the soil surface. In this case, snow cover can provide an excellent insulation, and if this is reduced, these insects might not survive a very cold winter. On the other hand, an increase in temperature and a longer growing season could result in an extension of ranges of plants and animals, with new insects being able to establish themselves in a region where they were previously unable to survive.

So what’s the problem with that? New pests would require the development of monitoring programs, the establishment of action thresholds and the availability of new pest control products and strategies for IPM. All of these things take time to develop.

Similarly, an increase in the number of generations can translate into the need for additional controls and would present challenges to resistance management. Some insects that are normally secondary pests might also become more serious.

Altered wind patterns could affect the long distance movement of some species that do not overwinter in Ontario that are picked up and moved by weather fronts. Since many insects are vectors of plant diseases, subtle changes in climate could affect the incidence of transmission.

There are still many unknowns in the climate change equation. The general consensus is that extremes of temperature will become more common. With an overall warming trend, insect woes just might increase in Ontario. Pest management strategies in agriculture and forestry will require adjustment.

Bookmark our website at www.omafra.gov.on.ca/crops