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Pest Management Workshops for Summer Students and Scouts

OMAF staff will run a series of Integrated Pest Management workshops to train scouts again this year.

The berry workshop, (strawberries and raspberries) will be held May 14, 2004, at the Simcoe OMAF office, in both a classroom and field setting.

To more information and to pre-register, call the OMAF Agricultural Information Contact Center at 1-877-424-1300.

Extending the Season for Berry and Vegetable Grower's

Proceedings from the Ontario Fruit and Vegetable Conference, Feb 18-19, 2004

Information on greenhouse raspberries, high tunnels and row covers was presented at this standing-room only session last month. Paper copies of the presenter's talks are available. Call the OMAF Agricultural Information Contact Center. 1-877-424-1300.

Sampling Irrigation Water

Pam Fisher, Berry Crop Specialist, and Sandra Jones, On-Farm Food Safety Program Lead, OMAF

This past summer, OMAF and the Ontario Farm Fresh Marketing Association with the help of Agriculture and Agri-Food Canada collected information on irrigation water. The project looked at indicator bacteria found on Ontario strawberries produced using different irrigation methods and water sources. Three treatments were planned.. We looked at trickle and overhead irrigation with surface water and compared it to trickle irrigation using a potable water source.

Water samples were taken from the source as well as at the end of the irrigation line. Where possible, we sampled early, mid and late season strawberries. Producers in six counties participated with between four and five growers in each treatment.

Our conclusions:

- Generally, surface water we tested met the Canadian irrigation water guidelines for *E. coli* (100 cfu per 100 ml water).
- As the season progressed, the trend was slightly increasing *E. coli* levels in the irrigation water.
- Berries had generally undetectable levels of *E. coli* (detectable level was 10 cfu per gram) regardless if the berries were overhead or trickle irrigated with surface water. However, the water we tested was of good quality. This project does not rule out the possibility of contaminated berries if overhead irrigation water contained high levels of *E. coli*.
- In some cases, bacteria levels were higher in the water coming out of the irrigation pipe than at the source. This may suggest the possibility of bacterial films in the irrigation lines.

We hope to expand and continue this survey in 2004.

Meanwhile, growers are encouraged to sample water used for irrigation, and make sure it meets the suggested guidelines for irrigation water quality.

How to sample irrigation water:

- Choose a laboratory and call first to arrange shipping and analysis. The lab you choose should be accredited by Canadian Association for Environmental Analytical Laboratories (CAEAL; <http://www.caeal.ca/labs.html>) for testing microbes in water .
- Use sterile bottles or cups with tight fitting lids.
- Do not touch the inside of the bottle, cup, or the lid.
- When sampling surface water, use a weighted pail or a sampling cup mounted on a long handle. Collect the water sample from well below the surface. Alternatively, take the sample at the end of the irrigation line; from the sprinkler or open drip tape.
- Refrigerate the sample immediately after collection, and have it transported, under refrigerated conditions, to a lab within 24 hours.

Interpreting the results:

Canadian Water Quality Guidelines for the Protection of Agricultural Water Uses suggest the following guidelines as **maximum** levels for irrigation water:
up to 100 fecal coliforms/*E.coli* per 100 ml irrigation water and
up to 1000 total coliforms per 100 ml irrigation water.

Sample frequency: Water quality varies with both time and location. Sampling is only a small snapshot of the big picture. It makes sense to sample frequently (1-2 times/month) to establish a baseline of what is normal for your source. Then, sample at least three times per season to detect major changes in water quality.

Protecting surface water sources:

Establish a berm or bank and buffer zone of vegetation around the edge of your pond to prevent direct run-off from fields and roadways.
Steep sides to the pond will discourage geese from nesting.

For more information:

Refer to: *Irrigation Water – Microbial Quality*

By Sandra Jones, On-Farm Food Safety Program Lead, OMAF, Guelph

In *Ontario Berry Grower Newsletter*, September 2002

(for copies, call the Agricultural Information Contact Center 1-877-424-1300)

The US Bioterrorism Act: Does It Affect Your Business

If you export food or food products into the USA, new border regulations are now in place that will affect your shipment. These regulations, imposed under last year's US Bioterrorism Act, give the Food and Drug Administration (FDA) new authority to protect the US Food supply from deliberate and accidental contamination. Two key components of the regulations that affect Canadian exporters are the requirement to register your food facility with the FDA and secondly, a requirement to notify the FDA of each import before it arrives at the border.

OMAF staff in Food Industry Division, Market Development Branch, have taken the lead in helping clients adjust to this new legislation. For more information, see the Ontario Agri-Food Exporter Newsletter, Winter 2004, <http://www.gov.on.ca/OMAFRA/english/food/export/index.html>. or contact the Export Marketing Unit at 1-888-466-2372 ext 6-4210 (Ontario only).

Monitoring for cranberry and cherry fruitworm on blueberries

Pam Fisher, Berry Crop Specialist, OMAF

Cranberry fruitworm and cherry fruitworm are important pests of blueberries, although cranberry fruitworm is by far the most common. Both pests have a similar life cycle. Adult moths are active in spring, during bloom. Eggs are laid on developing small green

fruit. Larvae move into the fruit to feed. They eventually drop to the ground and pupate. There is one generation per year.

Although both pests are active in the same time period, there are some distinct differences, and it is helpful to identify these pests by their damage.

- *Cranberry fruitworm* larvae are greenish and about 3/8 inch long. They tunnel into the fruit, feeding on several berries and filling their tunnels with frass. The cranberry fruitworm ties fruit clusters together with webbing and usually leave very messy feeding sites. Cranberry fruitworm is the major pest in most areas.
- *Cherry fruitworm* larvae are white or pink with brown or black heads. They also feed on developing blueberries, but stay hidden inside the fruit and do not tie clusters of berries together.

Pheromone traps can be used to monitor for cranberry fruitworm. Most growers who have used pheromones to determine the timing of cranberry fruitworm sprays have been able to reduce the number of insecticides applied for this pest. The pheromone for cranberry fruitworm is species- specific and will not attract cherry fruitworm. However, sprays applied for cranberry fruitworm usually control both pests.

Pheromone and traps for cranberry fruitworm can be purchased from several suppliers. A list of *Monitoring Equipment Suppliers* can be found in the back of Publication #360, *Fruit Production Recommendations*, and on our website (omaf.gov.on.ca - choose agriculture-crops-sources of crop inputs).

Use pheromone with Pherecon IC traps. Set traps out around mid-bloom. Use at least 3 traps for 4 ha (10 acres). Hang traps from the outside branches but not above the bush. Check traps twice weekly and record the number of moths trapped on a chart. When you can detect a peak in trap catches, it is time to take action.

Insecticides for cranberry fruitworm can be delayed until 5–10 days after peak catch. A 2nd insecticide is required only if trap catches remain high for an extended period of time. If you are not using pheromone traps, apply an insecticide at petal fall. Apply a second spray 10-14 days later.

OMAF Publication 360, *Fruit Production Recommendations*, provides a list of recommended products for control of these pests.

Temporary Storage of Solid Manure on Your Farm.

Donna Speranzini, OMAF Nutrient Management Planning Specialist, Vineland

Are you a horticultural producer or cash cropper, looking for guidelines on how to safely store solid manure, temporarily on your farm? The Ontario Ministry of Agriculture and

Food has recently released a new factsheet on this issue called Temporary Field Storage of Solid Manure or Prescribed Materials.(Order number 03-105, Agdex 743/538).

The use of manure can have many benefits on your farm. Over time tillage and erosion can result in the loss of organic matter from soil. Manure, particularly solid manure with bedding, can replace some lost organic matter and increase soil structure, porosity, and water holding ability. Manure is also a good source of nutrients for crops, both nitrogen and phosphorus are available in the first year but are also present, tied up in organic matter, for release in the second and third years.

Using manure on your farm does not come without its challenges. Nitrogen in manure is present in both ammonium and organic forms. Ammonium nitrogen in liquid run off can be harmful to fish in nearby streams. Ammonium is eventually converted to nitrate by bacteria and may be available for loss due to leaching. The ability to temporarily store solid manure on your farm, creates great flexibility, but must be done properly to reduce the potential for surface or groundwater contamination.

The new factsheet outlines 10 individual management factors that will help you make good choices for when, where and how long you should store solid manure in a temporary pile on your farm. The longer you want to store a temporary pile on your farm the more positive management factors you should take into account.

Be careful when choosing which type of manure you take on your farm. The higher the dry matter of the manure the more rainfall it can soak up resulting in less potential run-off and more days of storage. Manures that are properly composted have lower nutrient contents and as such pose less environmental risk and can be stored longer.

Select the site for your pile wisely. Manure piles placed more than a 150 meter flow path away from field drainage lines and surface water sources will reduce potential environmental impact. Piles that are located on heavy textured soils are less likely to impact groundwater. Temporary piles should not be located on the same site more than one year in three.

Manage the look of your pile. Most of the environmental damage caused by temporary piles is the result of rainfall run-off. Piles that are flat on top have less run-off from the sides. The smaller the perimeter of your pile, at the ground surface, the better. Probably the best environmental management feature for your temporary manure pile is a rain proof cover.

All of these management features are described in more detail in the factsheet, with a scoring system to allow you to calculate how long a temporary pile should be stored on your farm.

The factsheet can be obtained from the Ag Information Contact Centre at 1-877-424-1300 or online at <http://www.gov.on.ca/OMAF/english/engineer/facts/03-105.htm>.

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