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### **The 2006 North American Berry Conference - January 4-6, 2006 Savannah, Georgia**

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#### **Educational Sessions on Wednesday, January 4 and Friday, January 6 Georgia Berry Tour on Thursday, January 5**

NASGA's Berry Conference for 2006 has new dates, and new ways for you to build profits through good production methods and good business practices.

Whether your focus is matted row, plasticulture, organics, or new cultivars, you'll find helpful information in the production session. The business track will cover new marketing concepts and techniques, financial skills, and employment issues. Additional time for informal "farmer-to-farmer" discussion is included on Wednesday evening.

For Thursday, NASGA has worked with University of Georgia Small Fruit Specialist Dr. Gerard Krewer to produce an outstanding excursions to explore local agriculture. The tour is ticketed separately from the conference, so you can opt out and just enjoy Savannah if you'd prefer.

The conference starts on January 4. That's six weeks earlier than in previous years. That means that **you've got to register now - not after the holidays.** Since we're scheduled back-to-back with the Southeast Regional Fruit and Vegetable Conference, you can register for both events and get double the value from your investment of time and money.

Complete your registration form and send it to NASGA today. Pay by credit card and fax your form to 1-814-355-2452. Additional information and registration forms at:

<http://www.nasga.org/>

## Nematode problems in berry crops:

*Pam Fisher - Berry Crop Specialist, OMAFRA*

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Nematode problems can be common in some years.

On both raspberries and strawberries, symptoms of nematode injury include:

- Uneven plant growth
- Poor plant establishment
- Weakening plants over time
- Poor root growth
- Fine feeder roots often have witches broom appearance (root lesion nematode) (Figure 1)
- Reddish -brown lesions on feeder roots (root lesion nematode) (Figure 2)
- Swellings or galls on feeder roots (root knot nematode) (Figure 3)

In addition, on raspberries, the dagger nematode can spread tomato ringspot virus. Infested raspberry plants have crumbly berries, mottled leaves, and cane die-back. (Figure 4).

Nematode populations are usually highest in May-June and September-October. Always test soil for nematodes before planting berry crops if:

- Soil is sandy or sandy loam, or
- Berries have been grown for many years. or
- Field is an old orchard site (dagger nematode can be a problem here).

Nematodes can be identified from soil samples, or from plant roots.

- Sample plant roots and soil to diagnose an existing problem.
- Sample soil to predict a problem before planting.

Getting accurate counts from plant soil can be tricky because nematodes move in and out of plant roots, and because they move up and down in the soil profile. The best time to sample soil in an annual crop is after the crop has died down and while the soil is still moist, in the fall or the spring. For information on how to sample, see page 235, OMAF Publication #360, Fruit Production Recommendations.

Nematode samples should be treated very carefully. Only living nematodes will be counted in the lab. Keep samples cool and ship immediately to the Pest Diagnostic Clinic in Guelph. Call to pre-arrange payment. Sample submission forms are found in the back of publication #360, or at: <http://www.uoguelph.ca/pdc/>

### Nematode problems on berry crops

<b>Nematode</b>	<b>Symptoms</b>	<b>Threshold in soil</b>	<b>Threshold in roots</b>
Root lesion nematode ( <i>Pratylenchus spp.</i> )	Roots are sparse, brushy. Reddish lesions and brown patches evident.	Strawberry: 500 /kg soil Raspberry: 1000/kg soil	50/gram dry root
Root knot nematode ( <i>Meloidogyne spp.</i> )	Sausage like swellings or small galls present on roots.	1000/kg soil	??
Dagger nematode ( <i>Xiphinema spp.</i> )	On raspberries, berries are crumbly, leaves may be mottled.	100/kg soil	Not found in roots



Figure 1: root lesion nematodes brushy root symptoms on raspberry



Figure 2: Root lesions on strawberry roots



Figure 3: Root knots nematode symptoms on strawberry



Figure 4: Leaf mottling is a symptom of virus disease, spread by dagger nematode on raspberry

## What's your Goal? Using Goal 2XL herbicide to control weeds on strawberries

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*Pam Fisher, Berry Crop Specialist and Leslie Huffman, Weed Management Specialist (Horticultural Crops), OMAFRA*

Pre-mulching is an important window for weed control in strawberries. Strawberry plants are more tolerant to herbicides as they become dormant. Goal 2XL can be safely used **only** when plants are fully dormant. Sinbar is registered at its highest application rate (and most efficacy) when plants are dormant. Both these herbicides will burn off small weed seedlings and prevent early germinating weeds next spring.

Some growers choose not to apply a herbicide before mulching. In these fields an application of Devrinol, Dacthal or Sinbar in early spring is essential. However, because the weather is often

adverse in spring, and because plants are very susceptible to Sinbar at this timing, most growers prefer to control weeds before mulching, instead of the following spring.

Goal 2XL herbicide is a relatively new tool for weed management at the pre-mulch timing. It was registered in 2002 through the Minor Use registration program. Goal 2XL works very well on field violet or wild pansy and also helps to control yellow wood sorrel, or oxalis. Plants should be fully dormant before applying Goal 2XL.

### **Applying for a permit to use Goal:**

You need a permit to apply Goal 2XL herbicide, but the paperwork is not too difficult.

- 1) Obtain the permit request from the Ontario Berry Growers Association (613-258-4587) or your local Ministry of Environment Pesticide Control Office (see page 233, of OMAFRA Publication #360).
- 2) Fill out the form (it's short) and sketch the field location.
- 3) Goal 2XL is labeled for control of field pansy and oxalis (yellow wood sorrel), purslane, redroot pigweed, cupped nightshade, wild buckwheat, lamb's-quarters, oak-leaved goosefoot and maple-leaved goosefoot. Don't mention any other weeds on the application form.
- 4) Fax it back to the Ministry of Environment Office. They will fax you the permit.
- 5) Take the permit to your dealer when you buy the product.

### **Questions and answers about Goal 2XL:**

**Question: Why do plants have to be fully dormant for Goal 2XL application and how do you know when plants are dormant?**

*Answer:* Strawberry plants acquire dormancy gradually, and it is difficult to know when they are fully dormant. The process of becoming dormant generally takes 4-6 weeks of short days and cool temperatures, during which several frosts occur. About the time that strawberry plants are acclimated for winter, their leaves attached to the crown begin to flatten. Some varieties develop a reddish colour. Goal 2XL should be applied to dormant plants; if it is applied to plants that are actively growing, plant injury can occur.

**Question: If Goal 2XL is applied in the fall, how does it control weeds in the spring?**

*Answer:* Goal 2XL is a selective preemergence and post emergence herbicide. It will control small weeds that are emerged at the time of application, and it continues to control weeds that come into contact with the material during emergence. Weather conditions affect the breakdown of a herbicide over time, but usually, there is enough residue left in the spring to provide control of early germinating weeds in strawberries.

**Question : What is third party liability?**

*Answer:* Third party liability refers to a clause added to many minor use labels in Canada, including the Goal 2XL label. Remember that Goal 2XL was registered for use on strawberries through the minor use registration program.

Registrants are sometimes reluctant to add new uses to their pesticide labels, especially if the new use is for a low-acreage and high value crop. In these cases, there is little economic incentive for the registrant to add the new minor use to the label, and the risks associated with

liability can be very high. To encourage registrants to support important minor use registrations, the third party liability clause was developed.

You will find a third party liability clause on the Goal label, as well as on many other herbicides registered by the minor use program. This is the 3<sup>rd</sup> party liability clause on the Goal label:

*The DIRECTIONS FOR USE for this product for the use(s) described on the Supplementary Label were developed by persons other than Dow AgroSciences Canada Inc. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Dow AgroSciences Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed on this Supplementary Label. Accordingly, the Buyer and User assume all liability arising, and agree to hold Dow AgroSciences Canada Inc. harmless from any claims based on efficacy and/or phytotoxicity in connection with the use(s) described on this Supplementary Label.*

In other words, if the herbicide causes crop damage or if it fails to control the labeled weeds, the user cannot sue the registrant for damages.

However, the registrant remains responsible for the environmental impact and toxicological effects of their product, as they supplied the information in support of the original registration.

The 3<sup>rd</sup> party liability clause has been an important factor in the success of the Minor Use program, which has provided our industry with several important registrations.

### **New Resources For Berry Growers:**

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**“Our Strawberries”** by Shahrokh Khanizadeh and Jennifer DeEll

This new publication includes descriptions of over 170 strawberry cultivars, plus information on strawberry breeding programs, insects, diseases, production methods and post harvest handling. For more information, <http://publications.gc.ca> or <http://cyberfruit.info/book/>

**"Farm Food Safety Booklet"** The region of Waterloo Public Health Unit has prepared a Farm Food Safety Booklet for growers who sell food from the farm, about food safety requirements enforced by the health unit. It includes information on government roles and the acts and regulations which govern food safety on farms. This booklet is now available on-line in PDF at [www.region.waterloo.on.ca/ph](http://www.region.waterloo.on.ca/ph). Once here select "Reports and Fact Sheets" and then choose the "Farm Food Safety Booklet". Or if you live in Waterloo region, call 519-883-2374 for a copy.

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