



# HORT MATTERS

OMAFRA Specialists in Horticulture and Specialty Crops

VOLUME NO. 7, ISSUE NO. 25 October 4, 2007

## Improving Weed Management in Young Trees (Late Summer/Fall)

Leslie Huffman, Weed Management Specialist (Horticultural Crops)

Previous articles have explored different tactics to manage weeds in the first orchard year. By late summer, we often see weed escapes and some problem areas that need attention. Here are 3 more suggestions to help reduce and manage weeds in young trees:

- **Mow weed escapes to reduce seed shed:** By September, further herbicide treatments are not very effective, and may be dangerous to trees as they harden off and store carbohydrates in their roots. Some weeds may have shed seeds, but many others will continue through the fall so mowing can reduce this.
- **Manage mulches:** Where organic mulch like straw, sawdust or wood chips were applied, extra care is required to prevent rodent damage (pulling back from the trunks, mowing sod to assist bird predation, applying baits). Fall may allow time to apply or enhance your mulch layer, but it needs to be well composted to avoid quick N release. Plastic mulches may need some edge touch-up by mowing or spot treatments.
- **Spot treat perennial weeds:** Investing in spot treatment equipment like a hand sprayer, wick wiper, hand flamer and/or herbicide dripper-selector may be the best use of your money. Be sure to also invest some time in walking and treating patches of weeds. For directed glyphosate treatments, wait for the most sensitive stage of the weed and apply the high rates listed on the label for perennial weeds.
- **Fall orchard cleanup:** Annual fall applications of 2,4-D at a postharvest timing will reduce many broadleaf weeds, and are safe in the fall of planting year. Spot applications of glyphosate on quackgrass are very effective in the fall – but care is needed to avoid tree trunks.

It's been a busy year, establishing a new orchard, and weeds have likely given you a challenge every month along the way. Remember that your goal is improved tree growth, which will result in earlier yields and better fruit size. These last final touch-up steps will set your orchard up for reduced weed problems next spring and in the following years.

### IN THIS ISSUE...

- Fertilizer for turf in the fall
- Reducing common groundsel in strawberry fields
- Wireworms and millipedes on root vegetables
- Minor Use Updates

# Reducing Common Groundsel in Strawberry Fields

Leslie Huffman, Weed Management Specialist (Horticultural Crops)

Common groundsel is an annual weed that continues to cause problems for strawberry and vegetable growers. It is a fairly short weed, with slightly fleshy leaves similar to dandelion. Like its cousins in the Composite family, groundsel has a distinctive composite flower with many florets. Look for the cluster of small yellow flowers that quickly shed an abundance of seeds, flying away on the wind.

The problem is that groundsel can germinate, flower and shed seed in a very short time, especially under warm conditions. We often find very tiny plants with flowers and seeds shortly after mowing. These seeds continue the cycle, as they are not dormant and germinate almost immediately after hitting the ground. Usually 50% of the seeds germinate immediately after dispersal.

Common groundsel is a particular problem for strawberry growers because our common strawberry herbicides – Treflan, Sinbar, and 2,4-D – do not control it well. So growers who notice a few small plants in the spring may find their field totally covered in common groundsel by the fall, and many strawberry fields have been removed a year or two early because of common groundsel.

Fortunately, Devrinol herbicide will prevent groundsel germination. Our strategy in strawberries has been to target Devrinol in early September for winter annuals.

Recent research in Ohio has shown that groundsel that germinates in the fall produce seeds with a longer dormancy that will persist in the seedbank. This study also showed that 94% of groundsel seed that is buried will either germinate or die within 24 months. This indicates that a focused effort for 2 years can practically eliminate groundsel, especially if control efforts are focused in the fall.

Several approaches will be needed to reduce common groundsel:

- Frequent cultivation in the year of planting are needed. Groundsel seedlings are most susceptible to cultivation before the first true leaf, and can easily re-root if cultivation is delayed until weeds are larger.
- Application of Devrinol at Labour Day (followed by irrigation if ½” of rain does not fall) will prevent establishment of winter annual forms that produce dormant seed.
- Using Lontrel in your renovation program will reduce groundsel, although weeds that have already formed seeds will continue to shed them.
- Using Sinbar regularly also reduces groundsel to some extent.
- Hand weeding of groundsel escapes will be important, especially on new fields, and during the early fall.

Where groundsel has become a severe problem, growers have had success in switching to a reduced-till system using chemical renovation (ie. narrowing rows with Gramoxone, with no soil tillage). By the 2<sup>nd</sup> year, groundsel problems have been drastically reduced, especially if weed escapes are removed as well.

We know that several approaches are needed to manage common groundsel, and focusing efforts to eliminate the fall population will help reduce long-term problems. Another example where knowledge of the weed’s biology can help us achieve the control level we need.



Common groundsel (*Senecio vulgaris*) can be significantly reduced with diligent prevention efforts over 2 years



Dandelion and other broadleaf weeds can be controlled with post-harvest applications of 2,4-D in orchards

# Wireworms and Millipedes on Root Vegetables – Which is which?

Melanie Filotas – Specialty Crops IPM Specialist

Until recently, wireworms and grubs have been thought to be the main soil insects affecting root vegetables in Ontario. In contrast, millipedes have generally been considered beneficial due to their habit of feeding on decaying plant material, which helps to incorporate organic matter into the soil. However, under favourable conditions (e.g. cool, wet soil that is high in organic matter), millipede populations can build to high levels and possibly damage the roots and seedlings of a variety of crops. In recent years, millipedes have become an increasing problem in field corn grown under no- or low-till cultivation. Millipedes have also been observed causing substantial damage to ginseng seedlings and, in the last two growing seasons, we have found large populations of millipedes in root vegetables where crop damage was originally attributed to wireworms.

Could millipedes be a new pest of root vegetables in Ontario, or perhaps secondary feeders entering these crops after they have been damaged by other pests? Unfortunately we don't yet fully understand what role millipedes play in causing damage to these crops. However, a project, funded by a Canada-Ontario Research and Development Program grant from the Fresh Vegetable Growers of Ontario and conducted by University of Guelph researchers and OMAFRA staff, is currently underway to study soil pests in root vegetables. Results are not yet available, but we hope to have some answers in the near future.

In the meantime, be aware that wireworms and millipedes are often mistaken for one another. Here is a quick guide to some of the key differences between the two.

	<b>Millipedes</b>	<b>Wireworms</b>
Body shape	elongate, very hard, cylindrical	slender, somewhat flattened, hard-bodied
Body structure	numerous, uniform body segments	body segments divided into 3 distinct parts (head, thorax, abdomen)
Legs	many (2 pairs of legs per body segments)	only 3 pairs of legs (on thorax)
Color	typically dark	shiny, tan to copper to dark brown
Length	1 - > 10 cm	1 – 4 cm long when mature
Other comments	Are not actually insects. Tend to coil up when disturbed.	Are the larvae of click beetles. Don't typically coil when disturbed.



Figure 1 – Millipede. Note the number of legs. This is a key characteristic to use when distinguishing millipedes from wireworms.



Figure 2 – Wireworm. Note that there are only 3 legs located on the middle portion (thorax) of the body.

# SCHOLAR 50WP fungicide Granted 1<sup>st</sup> Canadian Registration for Post Harvest Diseases of Pome Fruit and Stone Fruit

J. Chaput, Provincial Minor Use Coordinator

Syngenta Crop Protection Canada and the Pest Management Regulatory Agency (PMRA) recently announced the registration of **Scholar 50 WP** (fludioxonil) fungicide for control of several important post harvest diseases on pome fruit (apples, pears, quince) and stone fruit (peaches, apricots, nectarines, cherries, plums) in Canada. This is the 1<sup>st</sup> registration of this product in Canada and marks an important milestone in addressing the pest management technology gap.

Previously the active ingredient (fludioxonil) was only available in Canada as the seed treatment ‘Maxim’ or in combination with the active ingredient cyprodinil in the product ‘Switch’. Scholar 50WP fungicide offers growers a novel mode of action to control several important post harvest diseases of pome fruit and stone fruit.

The following table provides a summary of the crop and pest registrations on the new Canadian Scholar 50WP fungicide label:

Crops	Pests	Product Rate	
		Drench application	Dip application
Pome fruit (apple, crabapple, loquat, mayhaw, pear, quince)	Bold mold ( <i>Penicillium expansum</i> ) Gray mold ( <i>Botrytis cinerea</i> ) Mucor rot ( <i>Mucor piriformis</i> )	Mix 227 g of product in 378 L of water, for the crop being treated. Can treat up to 90,000 kg of fruit.	Mix 227 g of product in 378 L of water, for the crop being treated. Dip for approximately 30 seconds and allow fruit to drain. Can treat up to 90,000 kg of fruit.
Stone fruit (apricot, nectarine, peach, plum, plumcot) Cherries (sweet, tart)	Bold mold ( <i>Penicillium expansum</i> ) Gray mold ( <i>Botrytis cinerea</i> ) Brown rot ( <i>Monilinia fructicola</i> ) Rhizopus rot ( <i>Rhizopus spp</i> )	Mix 227 g of product in 378 L of water, for the crop being treated. Can treat up to 11,500 kg of fruit.	Mix 227 g of product in 378 L of water, for the crop being treated. Dip for approximately 30 seconds and allow fruit to drain. Can treat up to 11,500 kg of fruit.

Do not make more than 1 (one) post harvest application to pome or stone fruit. Follow all other directions for use on the Scholar 50WP fungicide label carefully.

Scholar 50WP fungicide should be used in an Integrated Pest Management program and in rotation with other management strategies to adequately manage resistance. Consult provincial guidelines and local extension specialists for monitoring protocols and treatment thresholds.

We wish to thank the personnel of **Syngenta Crop Protection** Canada for their support of this registration and the personnel of the Pest Management Regulatory Agency for evaluating and approving this new pest management tool.

For copies of the new Scholar 50WP label contact Jim Chaput, OMAFRA, Guelph (519) 826-3539, Jennifer DeEll, OMAFRA, Simcoe (519) 426-1408 or visit the Syngenta Crop Protection Canada website at [www.syngenta.ca/en](http://www.syngenta.ca/en). The product is being sold through Engage Agro Corporation [www.engageagro.com](http://www.engageagro.com)

*Note: This article is not intended to be an endorsement or recommendation for this particular product, but rather a notice of registration activity.*

# Golf Course Turf, Sod Farms and Turf Areas receive Minor Use Registration for Bentgrass Deadspot Disease

J. Chaput, Provincial Minor Use Coordinator

The Pest Management Regulatory Agency (PMRA) recently announced the approval of a minor use label expansion for **Chipco Aliette Signature Fungicide** (fosetyl-al) for control of bentgrass deadspot disease on turfgrass in golf courses, sod farms and turf areas. Chipco Aliette Signature fungicide was already labeled in Canada for control of *Pythium* and Anthracnose diseases in golf course turf, sod farms and turf areas as well as for control of *Pythium* and *Phytophthora* on greenhouse ornamentals and bedding plants. This minor use label expansion adds **bentgrass deadspot** (*Ophiosphaerella agrostis*) to the list of diseases controlled on golf course turf, sod farms and turf areas and addresses an identified minor use priority for turf production.

Chipco Aliette Signature fungicide can be used for preventative control of bentgrass deadspot on turf for golf courses, sod farms and turf areas at a rate of 120 g product per 100 square metres in 6 - 10 L water/ 100 square metres. 2 - 4 applications 14 days apart can be applied as a preventative treatment in spring and/or summer to turf areas with a history of bentgrass deadspot disease. Applications should be

initiated when conditions are favourable for disease development.

Follow all other directions for use on the Chipco Aliette Signature fungicide label carefully, including beginning applications when indicated by field monitoring.

Chipco Aliette Signature fungicide should be used in an IPM program and in rotation with other management strategies to adequately manage resistance.

This label expansion submission was sponsored by the minor use office of OMAFRA. We also wish to thank the personnel of **Bayer Environmental Science** for their support of this registration and the personnel of the Pest Management Regulatory Agency for evaluating and approving this important pest management tool.

For copies of the new supplemental label contact Pam Charbonneau, Turfgrass Specialist, OMAFRA, Guelph (519) 824-4120 ext 52597 or Jim Chaput, OMAFRA, Guelph (519) 826-3539.

## OMAFRA Crops Content Corner

**For Fruit Growers:** With apple harvest underway, decisions are being made about proper maturity for harvest, as well as pricing, assessing pest management strategies, and using SmartFresh on storage apples. There's lots of reading in the most recent Orchard Network newsletter, now online at <http://www.omafra.gov.on.ca/english/crops/hort/news/orchnews/2007/on-0807.htm>

**For Vegetable Growers:** It's time to focus on planting fall cover crops. Learn more about cover crop choices at this time, and their ability to scavenge nitrogen in Anne Verhallen's latest article, "Plant Cover Crops to Build Soil and Scavenge Nitrogen!" now online at <http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2007/24hrt07a1.htm>

**For Specialty Crop Growers:** There are 2 times during the fall season when it is a good idea to fertilize grass, and one time when it should be avoided. Read (or listen) to Peter Zwart's Sound Advice recording on "Fertilizer for Turf?", now online at <http://www.omafra.gov.on.ca/english/crops/updates/soundadvice/index.html#reports>

**Brought to you by your OMAFRA Crops Content Team**

Visit the OMAFRA Crop Technology web page at [www.ontario.ca/crops/](http://www.ontario.ca/crops/)

**Celebrating 10 years of putting you in touch with the information you need!**

**Agricultural Information Contact Centre: 1-877-424-1300**

**E-mail: [ag.info.omafra@ontario.ca](mailto:ag.info.omafra@ontario.ca)**

**Northern Ontario Regional Office: 1-800-461-6132**

**[www.ontario.ca/omafra](http://www.ontario.ca/omafra)**