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Welcome to "ON Organic"

Evan Elford, New Crop Development Specialist, OMAFRA

Last fall there were a number of presentations and discussions about the benefits of windbreaks on crop production. This month's edition of ON Organic features an article on the multi-functional aspects of windbreaks in addition to some key points to consider when planning a windbreak on your farm.

Additionally, as the growing season gets underway, it is important to develop a crop monitoring (scouting) program for your farm in order to predict and assess pest problems. A list of crop specific scout training workshops hosted by OMAFRA specialists is included in this issue.

We hope these and other articles in this month's newsletter will be helpful in planning a successful growing season. As always we welcome your comments and any suggestions for topics in the newsletter.

Thank you once again to our contributing authors and to COG, EFAO, OCO and others who pass along our newsletter on a regular basis.

Subscription to this newsletter is easy and no cost. For details go to the webpage: <http://www.omafra.gov.on.ca/english/subscribe/index.html#organic>

The newsletter is also posted on the OMAFRA website at: <http://www.omafra.gov.on.ca/english/crops/organic/news/newsorganic.html>

The French version of these newsletters is available at: <http://www.omafra.gov.on.ca/french/crops/organic/news/newsorganic.html>

The OMAFRA Organic pages are linked from: <http://www.ontario.ca/organic> and <http://www.ontario.ca/biologique>

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Are Windbreaks Multifunctional?

Dr. Jason S.T. Deveau, Application Technology Specialist, OMAFRA and
Todd Leuty, Agroforestry Specialist, OMAFRA

In January, 2012, the Nottawasaga Valley Conservation Authority hosted a two day conference on multifunctional field windbreaks. It was very well attended by both industry and growers. There were excellent speakers hailing from as far west as Regina, AB and as far east as Kamouraska, QC.

There was a lot of information about the value of planting windbreaks (aka hedgerows). In fact, there was too much to do justice here in one short article, but here are the headlines in bullet form. Windbreaks can:

- Reduce odours by absorption and dilution
- Reduce spray drift by intercepting spray & deflecting wind
- Reduce noise by baffling sound
- Control snow drift (on the down-wind side)
- Reduce dust, which also prevents sand-blasting crops
- Create privacy
- Increase crop yield for certain crops at a given distance from the break
- Enhance biodiversity
- Create the possibility of secondary production (e.g. timber, biomass, fruit)
- Enhance aesthetics
- ...and, of course, manage damaging wind

There is always the bad with the good, however. Windbreaks have also been known to:

- Reduce the plantable area in an operation by encroachment or shading
- Create a habitat for pests (e.g. birds, insects, deer, etc.)
- Increase the labelled buffer zone by creating a natural habitat
- Create cooler temperatures, further reducing plantable area
- Create conditions that might favour disease incubation
- Create a lot of additional work through windbreak management
- Create roots that compete with adjacent crops or destroy drainage tile

One interesting outcome of the conference was the message that not all windbreaks are created equal. Considerable thought and effort should go into the planning and preparation for a windbreak. Speakers emphasized the following considerations:

- Ground preparation is essential to creating a strong and healthy windbreak, just as it is in any perennial planting.
- Windbreak maintenance includes pruning, weed control, irrigation, fertilization and many other activities to ensure the windbreak forms as desired.
- Choice of plant is very important. Trees can grow quickly and require lots of maintenance (e.g. poplar) or slowly and mostly take care of themselves (e.g. cedar). Some plants are more tolerant of drought than others. Some fill in completely, while others are sparse. Some grow tall, some don't. Some have roots that grow laterally, some grow down.
- Plant spacing is very important. Wide spacing means the windbreak is less effective early on, but requires less maintenance (e.g. removing every second tree) as it grows and fills.
- Plan for annual management – windbreaks can become infested with invasive buckthorn shrubs and wild grapevines which can damage the health of a windbreak, where not cut out on a regular basis.

What was really interesting was that the nature of the windbreak should reflect the job for which it is intended. For example, a windbreak to stop snow drift is not the same as one that effectively filters pesticide drift. To understand this, you have to know more about how windbreaks work.

Figure 1 shows how wind speed is faster the farther away from the ground. This is because friction slows wind.

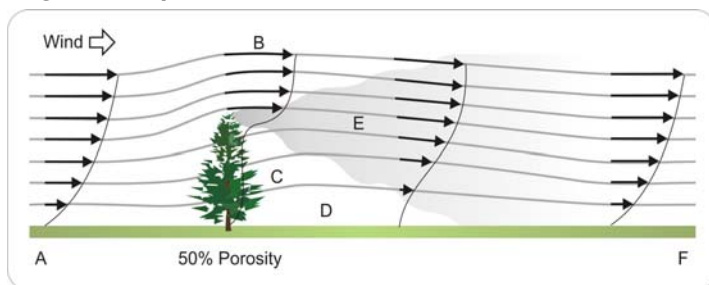
Figure 1. Wind is slower nearer to the ground



Are Windbreaks Multifunctional? (cont'd)

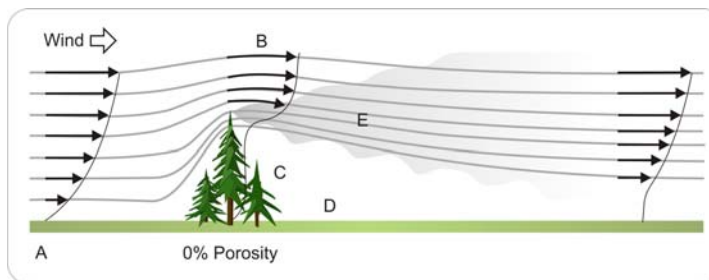
Imagine putting a narrow row of trees in the wind. If they are somewhat sparse you should be able to see through them. This can be considered “50% porosity” and appears in Figure 2. Note that some air ramps over the tree (B) and some passes through (C). The grey area (E) denotes turbulent air mixing and (D) is all but still air. By the time the air passes by, over or through the tree, it returns to normal (F).

Figure 2. A porous windbreak filters air



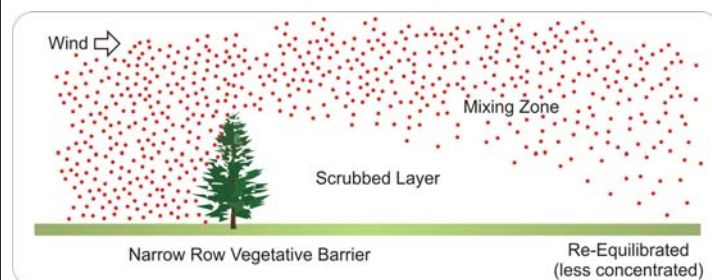
Now imagine the windbreak is so dense as to form a wall (Figure 3). Almost all the air compresses and ramps over the obstacle (B) and the dead air zone extends farther away from the windbreak (D).

Figure 3. A dense windbreak deflects air



Which situation is best for removing pesticides or odours? The porous barrier is best because it filters particulates out of the air. In fact, trees with needles outperform those with leaves. Figure 4 shows how suspended particulates are scrubbed from the upwind air, creating a clean zone downwind. Eventually, the particulates re-equilibrate, which means the size of the scrubbed area depends on the height of the windbreak. If the windbreak were intended to stop noise snow, a denser break would be preferred.

Figure 4. A porous windbreak filters suspended particulates



The shear amount, and occasionally conflicting, information got a little overwhelming, but fortunately there are specialists that can help. Contact your local Conservation Authority and they can assign someone to come to your operation and help you determine the windbreak that is best for you. Contact Conservation Ontario at 905.895.0716 or visit their website at www.conservationontario.ca.

To summarize, windbreaks offer many advantages both economic and aesthetic, but are only as effective as the planning that go into them.

Dry Cows are Susceptible to Heat Stress Too!

Mario S. Mongeon, Livestock Specialist, OMAFRA

Summer is just around the corner and soon, the herd will head back to pasture. The warm summer months can be challenging for the milking herd when temperatures and relative humidity soar. We tend to forget that dry cows can suffer from heat stress too.

It is well known that the dry period in dairy cattle is critical in many ways. Optimum conditions during the dry period will influence positively the outcome of the subsequent lactation. When dry cows are exposed to heat stress, the effects may extend well into the following lactation.

During the dry period, the mammary system undergoes many changes. Tissue grows and extensive cell turnover takes place. This process is required to compensate for the cell loss that took place during the previous lactation. The extent of the regeneration process dictates the number of milk producing cells as well as their production capacity. The absence of a dry period is associated with decreased milk production in the subsequent lactation since the mammary gland regeneration process is altered.

Dry Cows are Susceptible to Heat Stress Too! (cont'd)

Environmental factors such as photoperiod and temperature have been demonstrated to affect subsequent lactation as well. For example, cows exposed to short-day photoperiod during the dry period produce more milk and have improved immune function than similar animals dried-off under long-day photoperiod.

Temperature is another important environmental factor. Dairy cows prefer cool temperatures. As the temperature gets warmer, especially if the relative humidity is high, signs of heat stress may start to show up: lower dry matter intake and reduced milk production for lactating animals. Dry cows can be negatively affected by warm temperatures as well and this is a less known fact. Furthermore, not only will dry cows exhibit signs of heat stress during the warm spell but the effects may extend well into the following lactation.

From May to November of 2009 a study involving dry cows was conducted at the University of Florida in Gainesville. The objective of the project was to evaluate the effect of heat stress on the development of the mammary gland of dairy cows. Cows in late lactation were dried off about 46 days before the expected calving date, separated in 2 groups statistically similar, exposed to a fixed photoperiod of 10 hours of darkness, fed the same ration and housed in the same barn.

The only difference between the 2 dry cow groups was exposure to heat stress. The heat stressed group was not provided with means to mitigate the effect of heat whereas the area of the barn housing the other group of dry cow was equipped with fans and sprinklers that would automatically turn on if the ambient temperature exceeded 21.1°C. The sprinklers, when activated, were on for 1.5 minutes every 6 minutes.

Various data were collected during the dry period as well as the following lactation for the first 40 weeks.

During the dry period, cows exposed to cooling had a lower body temperature as well as a lower respiration rate compared to cows in heat stress. Furthermore, heat stressed dry cows had a shorter gestation length and consequently shorter dry period. The calves from the cooled dry cows were heavier than those from cows exposed to heat stress.

During the first 40 weeks of lactation following the experimental treatment, cows that were exposed to heat stress during the dry period produced on average 5 kg of milk per day less than the cows exposed to cooling. In term of milk yield during the 40 weeks, this represents 1400 liters of milk and more than a thousand dollars at current milk prices in Ontario.

The analysis of udder tissues sampled during the study provides evidence that heat stress during the dry period alters cell proliferation in the udder. Fewer secretory cells are produced and this in turn reduces milk yield capacity.

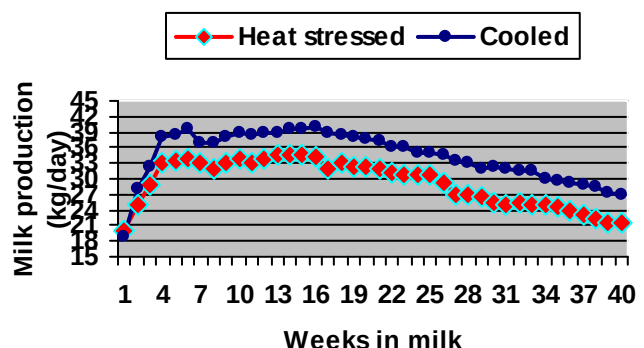
This study emphasizes the necessity to take measures to reduce the impact of heat stress on cows. When temperatures rise above the animal's comfort zone during the dry period, it could compromise the development of the mammary system, which decreases milk production in the following lactation.

During the summer months, several means are available to mitigate the effects of warmer temperatures. Providing plenty of drinking water and making it easily available for the dry cows is an excellent first step. Make sure that the dry cows have access to shade and good air movement. These are simple means to reduce the impact of heat on the herd.

Effect of heat stress on dry cows:

- Decreased milk production in the following lactation
- Decreased milk solid yields
- Negatively affect liver functions in early lactation
- Decreased immune functions during the transition period

Figure 1. Lactation curves for 2 groups of dairy cows following exposition to heat stress or cooling during the dry period



(Adapted from Tao et al., 2011.)

OMAFRA Crop IPM Scout Training Workshop Schedule

Here are the updated IPM scout workshops available for those who will be scouting horticultural crops this year.

To register contact: Agricultural Information Contact Centre at 1-877-424-1300

Workshop	Date & Time	Location	Workshop Leader	Materials needed	Follow-up field training
Introduction to IPM	April 30 8:30 a.m. to 4:00 p.m.	Lab Services bldg. 93 Stone Rd. Guelph	Margaret Appleby	Lunch on your own Handouts provided	
Tomatoes & Peppers	May 1 8:45 am to 2 pm.	Wilson Hall Conference Room Ridgetown College	Janice LeBoeuf	Lunch on your own Handouts provided	
Tender Fruit Grape	May 2 9 a.m. to Noon	Rittenhouse Hall Vineland OMAFRA advisory building	Wendy McFadden-Smith	Handouts provided. Lunch on your own	
Apples	May 10 9:00 a.m. to 4:00 p.m.	Simcoe Location (TBA)	Margaret Appleby	Handouts provided If possible bring copy of Pub #360 & 310 Lunch on your own	
Cole Crops	May 2 9:00 am to 2:00pm	1 Stone Rd., Guelph Room TBA	Marion Paibomesai	Handouts provided Lunch on your own <i>Have to pay for parking</i>	
Lettuce, Celery, Onions, Carrots	May 3 9:00a.m. to 2:00.p.m.	1 Stone Rd., Guelph Room TBA	Marion Paibomesai	Handouts provided Lunch on your own <i>Have to pay for parking</i>	
Asparagus – learn, lunch and field walk	July 10 11:00 a.m. to 2:00 p.m. (tentative)	Norfolk County	Elaine Roddy	NOTE: 11 am start time Handouts provided. Lunch provided by OAGMB	on request
Strawberries	May 7 9 a.m. to 3:30 p.m.	Woodstock OMAFRA Boardroom	Pam Fisher	Required: OMAFRA Publication #360 <i>Guide to Fruit Production</i> \$20 Lunch on your own.	On request
Cucurbit Crops	May 9 9:30 a.m. to 3 p.m.	Wilson Hall Conference Room Ridgetown Campus	Elaine Roddy	NOTE: 9:30 am start time Lunch on your own	on request
Ginseng Garden Walkers Workshop	May 16 1 to 3 p.m.	Simcoe Research Station Library - Simcoe	Sean Westerveld Melanie Filotas	Bring ginseng disease samples for diagnosis. NOTE: Workshop will only be held if there are a minimum of 5 registrants by Friday, May 11.	
Sweet Corn, Peas and Beans	May 17 10 a.m. to 3 p.m.	Woodstock OMAFRA Boardroom	Elaine Roddy	NOTE: 10 am start time Lunch on your own	
Potatoes	May 24 10:00 a.m. to 3 p.m.	1 Stone Rd., Guelph Room TBA	Eugenia Banks	<i>Potato Scouting Manual Provided</i> <i>Recommended: OMAFRA publication #823; Potato Field Guide</i> Lunch on your own <i>Have to pay for parking</i>	Field training dates TBA

For more information contact:

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IPM Systems Specialist

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Watch Out - Those cover crops are growing!

Anne Verhallen, Soil Management Specialist – Horticulture, OMAFRA

Cover crops had a good winter for growth. The early warm temperatures have really brought the cover crops along. By now your wheat and rye cover crops should be well tillered and starting to stretch in height. A warm, wet spell could mean some hard to manage cover crops.

While we seem to be getting some showers now, soils have dried quickly this spring and the long range forecast appears to be for a bit drier summer. Cover crops can do a great job of drying out soils – it is probably time to slow down that moisture loss.

With good growth on cover crops come concerns about controlling them. Options for controlling overwintered wheat and rye cover crops this spring:

- Tillage – a light disking will knock the growth back but won't kill the cover crop consistently across the field. A good option if you want to keep scattered plants for wind abatement.
- Rolling and crimping – this is a system of cover crop control that has gained some followers particularly in the US. Growers like Steve Groff of Pennsylvania and researchers like Dale Mutch at Michigan State University and Darren Robinson of the Ridgetown Campus of the University of Guelph are doing research to fine tune the process. The rye cover crop has to be at the boot stage or fully headed out to get good control by just breaking stalks. Generally that means that you are looking at planting well into June in most years. It may be best to combine this with a herbicide application if possible.

From OMAFRA newsletter Hort Matters (modified from the original version)

Grain Storage - Problems to Avoid

Helmut Spieser, Engineer, Field Crop Conditioning & Environment, OMAFRA

"Maintaining grain in good condition in storage doesn't just happen, but requires careful, routine inspection and good storage practices." This is crucial to successful storage of grain for extended periods of time. Good storage practices are not just about putting good quality grain into a weather-proof container. Keeping good quality grain over for a long time requires good management.

The quality of the grain loaded into storage is as good as it will ever be. Over time, the quality of this grain will only decrease, and seldom (if ever) improve. The best you can

hope for, is to maintain grain quality at the same level as when the grain went into the bin.

If you have grain stored on your farm you should be monitoring these bins on a routine schedule. Sometimes it's easy to forget to check the bins because of other jobs which require your attention. Blowing snow, renewing your grower pesticide certificate, getting ready for the sap run and other things may distract you from the monthly bin check. Consider telling your farming partner to remind you to check the bin. After all, when you move that grain out, it's worth dollars.

Monthly Bin Check Ups

1. Turn on your aeration fan.
2. Climb up and look inside the bin. Look for signs of moisture on the underside of the roof. If water droplets or ice are present, you need to aerate your bin. Moisture from the grain has been carried into the attic space and condensed on the roof metal.
3. Sometimes snow can be driven into the top of a storage bin. If there is a light dusting, don't worry. When you run the aeration fan this snow will sublimate and be discharged as harmless water vapour. When much greater amounts of snow are found, shoveling may be required to remove it from the bin.
4. Take a big sniff. Do you notice any off-odours? Your nose will pick up strange odours at very low concentrations. The air should smell like clean grain.
5. Look at the grain surface. Does it look the same as the last time? If it looks dull or off-colour, investigate further.
6. Check the static pressure, or the working pressure of the fan, in the plenum under the aeration floor. Has this pressure changed from last month? If it has gone down, there is no cause for concern. If the static pressure has gone up, something has increased the resistance of the air as it moves through the grain mass. Investigate deeper into the grain mass.
7. Record your notes in a monitoring log book. Next month you can see how things have changed in the various bins.

Aeration of stored grains is done to keep the whole grain mass at a uniform temperature, as well as maintain the grain mass temperature within 5°C of the average outside air temperature. In this way convective air movement is not possible. As bin surfaces are warmed by the sun or mild air, air currents start to move in the grain mass. Moisture from the grain is carried up and condenses on colder surfaces. Spoilage can occur if this convective air movement is not arrested. Routine aeration of the bin contents will prevent convective air movement.

Basics of Aeration

1. Bring the whole grain mass to the same temperature.
2. Operate the fan only when relative humidity levels will not add moisture to the grain.
3. Operate the fan for sufficient time to totally change the whole grain mass temperature.
4. Changing the whole mass temperature may require a number of days.
5. Relative humidity levels of night-time air can add moisture to small grains and beans.

The aeration time required to completely change the mass temperature is as follows: hours of aeration = 20/ CFM per bushel.

Winter 2012

So far this winter, we have seen temperature fluctuations that we don't typically see in December, January and February. Outside temperatures have drifted above and below freezing for extended periods of time, so things may be a little out of the norm in the bins as well. The key to preventing uncontrolled air movement in your bins is to keep all the grain within 5°C of the average outside air (ambient) temperatures. With fluctuating ambient temperatures, this temperature differential could exceed that. Aerate your grain on cold evenings to get it down to your normal mid-February temperature.



Figure 1. Successful grain storage requires routing inspection and aeration to avoid spoilage

If you are feeding grain regularly from a storage bin you are in essence continuously seeing the quality of that grain. Don't forget to check the bins where you are not removing grain on a routine basis. Grain can go out of condition quickly. With careful and diligent monitoring you should see the warning signs of possible spoilage problems and be able to take appropriate action to prevent further quality reductions.

From OMAFRA newsletter Crop Talk

Counting nematodes? Proper sampling and handling is key! Part 1

Janice LeBoeuf, Vegetable Crop Specialist, OMAFRA

If you've ever sampled for nematodes in soil, you've probably (hopefully!) read the guidelines for sampling and handling of samples. But what if things don't go according to plan and they didn't get refrigerated right away or the person you gave the sampling job to didn't quite follow your instructions? Are the samples ruined? What can you get away with and what will result in completely inaccurate results? When you've gone to the trouble of sampling and are about to invest in paying a lab for nematode counts, this is something you need to know. OMAFRA staff tested some scenarios in the spring of 2011 to look at some of the ways nematode samples can go wrong and find out what impact to expect.

Four sites that were in a processing tomato rotation and were known to be infested with plant parasitic nematodes were selected. The recommended sampling and handling treatment was based on OMAFRA Factsheet 06-099, [Sampling Soil and Roots for Plant Parasitic Nematodes](#) and discussions with experienced laboratory personnel. Treatments followed the recommended protocols, except for the differences listed.

Recommended protocol - key points:

- Sample approximately 8" deep, and discard the top 1-2" of the soil core.
- For row crops, sample in the row, so that samples contain feeder roots.
- Take 10-20 soil cores/acre. Ideally each sample should represent no more than about 6 acres.
- Mix the soil cores thoroughly, but gently.
- Place soil samples in a cooler with ice. Keep cool (not frozen) until delivery. Samples should not be subjected to sudden temperature changes.
- Deliver samples to the lab as soon as possible -- no longer than 3-4 days.

Sampling

Part 1 of this article will focus on the impacts of sampling. See part 2 for what we found when we handled the samples improperly.

Sampling Treatments:

- Recommended protocol. Stored in cooler or refrigerator. Delivered to lab within 1 day.
- Recommended protocol, except sample depth of 0-6" instead of 2-8". Delivered to lab within 1 day.
- Recommended protocol except soil cores not broken up or mixed before taking subsample out for lab. Delivered to lab within 1 day.
- Recommended protocol except sampled within a ½ acre square instead of a full 6 acre area. Delivered to lab within 1 day.

OMAFRA Articles & Updates (cont'd)

Results:

Results are shown as percentages, where the average count (4 sites) from the recommended protocol is shown as 100% and the average count (4 sites) of each treatment is shown as a percent of the recommended count.

	Root lesion	Cyst	Spiral	Root Knot
Recommended	100%	100%	100%	100%
Wrong depth (0-6")	58%	14%	113%	180%
Poor mixing	75%	35%	138%	
Grid	125%	128%	100%	

We would have expected lower nematode numbers when sampling the 0-6" depth compared to the 2-8" depth, but that didn't hold true for all species in these samples. At the time of sampling, the top layer of soil had not become extremely hot and dry, so it could have still supported some nematodes. Nevertheless, established nematode thresholds are based on sampling to 8", but removing the top 1-2". Also, to compare nematodes counts over time, it is important to be consistent in your sampling.

Consistency in depth, sampling locations in the field, time of year, and laboratory are all important. And of course use consistently proper handling, as we will see in part 2 of this article, next issue.

Nematode populations are notoriously variable across a field, even in the distance between two plants. When you consider that some soil cores might contain no nematodes and some might be crawling with hundreds of them, it becomes clear that thorough mixing of the soil cores before taking out the sample for the lab is very important! You can actually kill nematodes with overly vigorous mixing, they tell me, so gentle (but thorough) mixing is recommended. Isn't it amazing that nematodes would be so easy to kill once you get them in a pail! In the test, you can see that we got very different results from grabbing a sample without mixing, compared to the same sample after thorough mixing.

In the final treatment, we simulated grid sampling (taking sample from within a half acre square) compared to taking a sample from across approximately six acres, the maximum recommended area to include in one sample. The differences we found seem small, but this is after averaging four sites. When we look at individual sites, we see differences like this (using root lesion nematode as an example):

	Site A	Site B	Site C	Site D
0.5 acre sample	2080	260	480	200
6 acre sample	280	260	1800	80

Not all crops will support the expense of detailed grid sampling for nematodes, but be aware that there may be clusters of high nematode populations within a field that may not be picked up when a larger area is included in the sample.

From OMAFRA newsletter Hort Matters

Counting nematodes? Proper sampling and handling is key! Part 2

Janice LeBoeuf, Vegetable Crop Specialist, OMAFRA

In part 1 of this article, we outlined a project in which OMAFRA staff tested some nematode sampling and handling scenarios in the spring of 2011 to look at some of the ways nematode soil samples can go wrong and find out what impact to expect.

Part 1 covered the impacts of sampling: proper depth, proper mixing, size of sample area. Here in part 2, we will find out if there's any point in sending the lab a nematode soil sample that for one reason or another didn't end up being stored properly or delivered right away.

Four sites that were in a processing tomato rotation and were known to be infested with plant parasitic nematodes were selected. The recommended sampling and handling treatment was based on OMAFRA Factsheet 06-099, [Sampling Soil and Roots for Plant Parasitic Nematodes](#) and discussions with experienced laboratory personnel. Treatments followed the recommended protocols, except for the differences listed.

Recommended protocol – key points:

- Sample approximately 8" deep, and discard the top 1-2" of the soil core.
- For row crops, sample in the row, so that samples contain feeder roots.
- Take 10-20 soil cores per acre. Ideally each sample should represent no more than about 6 acres.
- Mix the soil cores thoroughly, but gently.
- Place soil samples in a cooler with ice. Keep cool (not frozen) until delivery. Samples should not be subjected to sudden temperature changes.
- Deliver samples to the lab as soon as possible -- no longer than 3-4 days.

Handling

Part 1 of this article focussed on the impacts of sampling. This article, part 2, will focus on what we found when we handled the samples improperly.

Treatments:

1. Recommended protocol. Stored in cooler or refrigerator. Delivered to lab within 1 day.
2. Recommended protocol except samples left in vehicle. Delivered to lab within 1 day.
3. Recommended protocol except samples left in office. Delivered to lab within 1 day.
4. Recommended protocol except samples stored in refrigerator and delivered after 1 week.
5. Recommended protocol except samples stored in freezer for 2 days before delivery to lab.

Results:

Results are shown as percentages, where the average count (4 sites) from the recommended protocol is shown as 100% and the average count (4 sites) of each treatment is shown as a percent of the recommended count.

	Root lesion	Cyst	Spiral	Root Knot
Recommended	100%	100%	100%	100%
Left in vehicle overnight	61%	13%	100%	130%
Left in office overnight	43%	46%	38%	53%
Left in fridge 1 wk	62%	6%	22%	75%
Left in freezer 2 days	0%	27%	13%	91%

Nematode numbers are extremely variable within a field, and even thorough mixing of a sample before taking subsamples for each treatment would not give identical samples. However, the results indicate that indeed, handling does have an influence on nematode counts. It would also appear that some species are more sensitive to improper handling than others.

We can see that root-knot counts were less affected by improper handling than the other three species. Although it appears that leaving a sample in the vehicle (in full June sunlight) for part of two days is not as detrimental as a week in the refrigerator or two days in the freezer, sample variability must be taken into account. I don't think anyone wants to take the chance that their nematodes will like the environment in their vehicle as much as my root knot nematodes found my vehicle a comfortable place to stay.

The other species of nematodes reported here showed dramatic impacts from improper storage or late delivery.

The point? Nematodes may be very hard to kill in your field, but they are very easy to kill in a sample. Labs can only count the nematodes that they extract from the sample and to be extracted the nematodes need to be alive and moving. Do you want to base management decisions on a count that represents the population in the field or the number of nematodes that managed to survive

your sampling and storage?

By the way, after you have made the effort of proper sampling, sample handling, and lightning-fast delivery, you will want to ensure that the lab refrigerates your samples and starts to process them as soon as possible. When delivering the samples, make sure to let the reception staff know that they are nematode samples and need to be refrigerated and processed right away. Don't be afraid to quiz the lab on their sample handling protocols and on when they will start to process them. Not only is your time and money invested in the samples, but the management decisions you make based on the lab report (eg. to plant a susceptible crop in that field, to fumigate or not, to purchase or rent a new piece of ground) likely have significant financial implications.

From OMAFRA Newsletter Hort Matters

Survey for Horticultural Producers

On behalf of the Canadian horticulture sector, Agriculture and Agri-Food Canada's Horticulture Value Chain Roundtable (HVCRT) is conducting a survey to validate the results of research conducted on the industry's skills requirements and the training and education available to the horticulture value chain in Canada. The results of this survey will help us confirm the direction for future efforts related to helping Canadian academic institutions and other educational organizations enhance their capacity to train and develop horticulture sector employees.

Your commitment to distribute this survey to your members and partner organizations would be greatly appreciated as the better the participation, the more successful our initiative will be and this will benefit us all. We realize that each association has a preferred communication mechanism to their membership (email, newsletter, website, etc) and we would ask that consideration be given to distributing our invitation to participate through what you believe would be the most timely and effective manner.

Our questionnaire, to be completed in the months of February, March, and April 2012 using an online process will take no more than 15 minutes to complete and participants can be assured that their responses will remain completely anonymous.

If you have any questions, comments, or concerns, please contact: Tom Baker, HR Committee, The Ontario Greenhouse Alliance (TOGA), tebaker10@gmail.com to obtain further information.

To fill out the survey English:

<https://www.surveymonkey.com/s/236FYRZ>

French: <https://www.surveymonkey.com/s/WZSP3JV>.

From OMAFRA Connects Newsletter (Eastern Ontario Region)

OMAFRA Food Safety Snippets

Be Proactive With Your Record Keeping System Don Blakely, On-Farm Food Safety Specialist, OMAFRA

If you are participating in a food safety program you know one of the major components of your program is keeping specific records to support the safe production practices on your farm. If you have experienced preparing for a yearly audit you also know the time it takes to gather the records to have them ready for auditor review. During the hectic production season records often get collected on pieces of paper and forms that can be misplaced and take many hours to locate. Now is the time before the growing season gets started to get organized. Gather all the blank record templates that will be required for the season and put them in one binder or folder and locate it where it is easily accessible as a reminder to complete the data when the practice occurs. Being organized during the growing season will save you valuable hours at the end of the season.

Don't Become a Statistic – Train Your Workers in Proper Hygiene Practices

Colleen Haskins, On-Farm Food Safety Program Lead, OMAFRA

Did you know that poor worker hygiene is the 2nd leading cause of food borne illness? Are your workers headed towards becoming a part of this statistic? Worker hygiene involves hand washing, worker cleanliness and suitable, clean clothing. With the new season brings an influx of workers to the farm. Are you prepared to provide effective food safety training? Many workers are veterans at the job, but we all forget and (re)training is always a great way to reinforce important messages, especially when it comes to food safety. OMAFRA's hand washing training easel and new weather durable posters are great tools to assist in training your workers properly. Don't become a statistic – train your workers in proper hygiene practices.

For these tools and other food safety resources, visit our website at www.ontario.ca/goodagpractices or call us at 1-877-424-1300. Food safety question? Ask us.

Risk Management Program Update

Production Insurance Update – May 1, 2012 Organic Deadlines

It's that time of year again and Production Insurance (PI) deadlines for spring-seeded crops are fast approaching. Agricorp offers PI coverage for both organic and conventional crops. Here are some PI options for your organic crops:

- Specialized organic plans are available for organic corn, organic soybeans, organic fresh market carrots, organic fresh market cabbage, organic winter wheat and organic winter spelt. Proof of certification is required to receive a claim payment at the organic claim price.
- The forage rainfall plan works equally well for both organic and conventional producers. New for 2012, a new coverage option is being piloted for hay that covers excess rainfall during your intended harvest period.
- As always, other crops or crops in transition can be insured under the general production insurance plans.

The deadline to apply for organic corn, organic soybeans and coverage, without winterkill, for organic winter wheat and organic winter spelt, and the forage rainfall plan is **May 1, 2012.**

For more information on these plans please visit agricorp.com or contact us at 1-888-247-4999.

AgriStability Commodity Code Changes for 2011

To avoid delays in processing AgriStability and AgriInvest 2011 forms, participants and agents should refer to the [revised 2011 commodity code list](#). Commodity codes are used to identify sales and purchases of specific commodities on program forms. Changes to these codes have been made in an effort to simplify reporting requirements for producers and to remove duplicate or redundant codes.

Keep your receipts handy for RMP

Starting in 2012, participants in the RMP plans for livestock are required to report their livestock sales, either quarterly or semi-annually, so that Agricorp can determine payment. Producers should keep their sales and purchase receipts or production records in a convenient place so they can easily fill out their sales reports.

What do you need to report?

Depending on which livestock categories you are enrolled in, you may need to report the following information:

- Date of each sale
- Total number of head sold and breakdown by type

Risk Management Program Update (cont'd)

- (heifer or steer, grain-fed or milk-fed)
- Average sale weight for each sale (individual sale weights required for grain-fed veal)
- Weight type (live, rail or carcass)
- Origin of sold animals (number raised from birth and number purchased)
- Purchase date and average purchase weight
- Point of sale including name of auction, private treaty or broker
- Number sold as breeding stock (cattle and hog only)

When do you need to report?

Sales reporting deadlines are quarterly for all livestock categories except cow-calf and sheep, which are semi-annual.

Sales reports will be mailed and made available on agricorp.com in April for quarterly categories and in July for the semi-annual categories.

Save time, go online!

In April, you will be able to submit your sales report online by visiting agricorp.com and clicking **Online tools**. By completing your sales report online you will receive a confirmation number immediately. You will also be able to save an electronic copy for your own records.

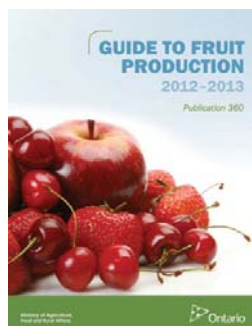
For more information

For more program details, refer to your *2012 Handbook – RMP for livestock*, available on agricorp.com and mail in your renewal package, or contact Agricornp at 1-888-247-4999, Monday to Friday from 7a.m. to 5 p.m.

New Publications

OMAFRA Publications - The following paid publication and free Factsheets are available from www.serviceontario.ca/publications:

Guide to Fruit Production, 2012-2013, Publication 360 [new title for Pub 360]; the cost is \$20.00; please recycle all former editions of Pub 360 and any supplements.



11-057: Rooftop Solar Installations on Rural Buildings, Agdex 768; New.

12-007: Hazelnuts in Ontario – Biology and Potential Varieties, Agdex 240; New [first Factsheet in a new series on Hazelnuts]

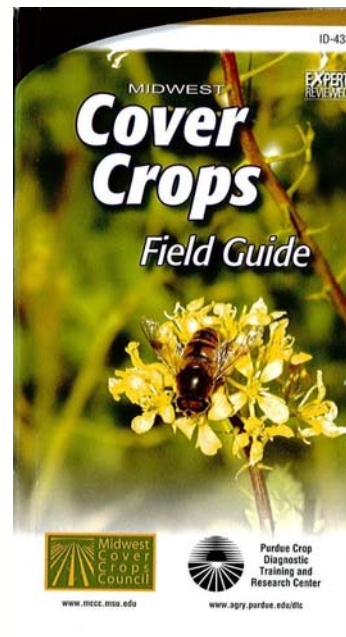
12-009: Hazelnuts in Ontario – Pests, Agdex 240; New [second Factsheet in the series]

New Midwest Cover Crops Field Guide with input from OMAFRA specialists and Ontario based research.

Other Publications

NEW! Purdue Cover Crop Guide – This guide is an in-field reference booklet and contains management information on many different cover crops. The guide was written by members of the Midwest Cover Crops Council and includes information developed by OMAFRA field specialists and University of Guelph researchers. It is available through the Purdue Extension Education Store at www.theeducation-store.com or by calling 1-888-EXT-INFO (398-4636). Individual copies of the guide cost \$5 each, and boxes of 25 are available at a 10 percent discount, \$112.50.

The guide is divided into two sections. The first contains general information about cover crops, including selection and planting methods, killing methods, concerns about insects, and ways to keep the crop from becoming a weed. The second contains photos, seeding dates, depth, planting and killing methods, benefits and cautions for specific crops, each given a ranking according to their benefit type and amount.



Funding Opportunities

2013 Nuffield Farming Scholarship Applications Open

The Canadian Nuffield Farming Scholarship Trust is accepting applications for their 2013 program. Applications are due by **April 30, 2012** and forms can be downloaded from the Nuffield Canada website at <http://www.nuffield.ca>. Three scholarships of \$15,000 each are available for 2013. Nuffield Farming Scholarships are awarded to enthusiastic individuals, with a passion for agriculture and a desire to expand your knowledge, pursue new ideas and to share your findings with others. Applicants should be in mid-career, be between the ages of 30 and 45 (although exceptions are made) and must have a minimum of five years agricultural business or farming experience plus the management ability to step away from their current duties. The Scholar must travel for a minimum of ten weeks, with a minimum leg of six consecutive weeks. Scholarships are not for those involved in full-time studies or for the purpose of furthering research projects.

"The Canadian Nuffield Farming Scholarship provides innovative Canadians with the funding to travel internationally to expand their personal horizons while exploring agricultural issues and opportunities in a global context," said Barb Stefanyshyn-Cote, Chair and 2003 Scholar. "We are focused on developing the practical, managerial and commercial capacities of each scholar to enable them to be better farmers, business managers and leaders and to make a significant contribution to the future of Canadian agriculture." The scholarships are awarded to men and women who are judged to have the greatest potential to create value for themselves, their industries and their communities through the doors which will be

opened and the opportunities provided for life-long learning and improvement. The scholarships are awarded on the strength of the applicants' vision, enthusiasm and determination to pursue their goals. A Nuffield Farming scholarship is a life changing experience. Scholars receive a 'golden key' to the best production, management and marketing systems in every corner of the world. In addition to embracing the 'world's best' in agriculture, scholars gain life-long friends from around the world, and a deep understanding, and global perspective, of the politics, cultures and challenges of world agriculture. A key part of the scholarship is the opportunity for winners to study a topic of interest to themselves throughout their travels. Scholars must complete their project within two years of winning the award and are expected to produce a written report and present their findings at the Nuffield annual general meeting as well as to others in their industries. Canadian Nuffield Scholars are also required to participate in the Contemporary Scholars Conference (CSC) where they will meet with scholars from other countries including the United Kingdom, Ireland, Australia, New Zealand and France to exchange ideas and experiences, and join a network of people who are at the cutting edge of primary industry. Applications must be received by April 30, 2012. Application forms are available from the Nuffield website www.nuffield.ca. For more information on Nuffield Canada, visit www.nuffield.ca or for questions about the international element, visit www.nuffieldinternational.org. For more information: Rod Bradshaw Secretary, Nuffield Canada secretary@nuffield.ca (403) 224 2633 or Karen Daynard Program Manager Email: karen@nuffield.ca Phone: (519) 836-2583

From OMAFRA Connects Newsletter (Region of Brant, Haldimand & Norfolk)

Learning Opportunities

EFAO Kitchen Table Meetings, 2012

Date: Ongoing

Location: Various

For more information on dates, events and topics please visit the EFAO website at www.efao.ca

Digging into Farming Hosted by FarmStart

A three day course for new farmers who are at the stage of business planning. The course introduces participants to the different elements of starting and managing a new

farm business: business goals, production, marketing, financial management, human resources, social responsibility, land access, business structure and regulations. On Day 1 each topic will be presented and key questions and issues discussed. On Day 2 a panel of successful farmers will present their first hand experiences and lessons learned in these different areas and participants will be introduced to critical resources and advisors that can help with farm planning and start-up. Day 3 will review relevant regulations and key financial documents (i.e. cash flow, income statement, statement of net worth) and guide participants in developing a New Farm Development Action Plan that outlines their next steps to making their farm dream a reality!

Learning Opportunities (cont'd)

Dates:

Peterborough Course

Day 1: Sunday April 15, 2012

Day 2: Wednesday April 18, 2012

Day3: Saturday April 21, 2012

Guelph Course, Ignatius Farm

Day 1: Saturday May 5, 2012

Day 2: Wednesday May 9, 2012

Day 3: Saturday May 12, 2012

Cost: Free of charge

For more information please contact Ali English, FarmStart Training and Resources Program Manager at ali@farmstart.ca or 519.836.7046 x104.

Cheese Making Technology Short Course

Date: April 30—May 4, 2012

Location: Department of Food Science, University of Guelph

Learn the scientific and technological principles of cheese making through interactive lectures, and apply them in hands-on cheese making laboratories. For more information and registration please visit <http://ennect.com/e1483> or call 519.824.4120 ext. 52183

Permaculture Design Course

Date: July 22 - August 4, Caledon

The Permaculture Design Course is a 13 day (72 hour minimum) intensive program combining theory and practical activities. Through lectures, discussions, slide shows, field trips, and hands-on learning, participants learn the basic permaculture design principles and develop the skills to design and implement sustainable systems. There will be a wide variety of topics covered by Gregoire Lamoureux (experienced permaculture instructor) and invited guest teachers, tours to local sites, and opportunities for hands on learning as well as practice of the design principles.

Cost: \$988 early registration by June 10 for the 13 days. This includes field trips, access to onsite facilities, and a course manual. (\$1088 after June 10) Additional Costs: \$390 for 3 delicious, organic, home-cooked meals per day. \$140 for a campsite and outdoor facilities OR \$210 for trailer accommodation and outdoor facilities OR \$420 for a room in Greenhaven and indoor facilities (if available) OR ask about commuter rates if living or staying nearby.

For more information or to register please contact Brenda Dolling at 519-942-4010 or email bdolling@wholevillage.org.

Conferences and Events

12th International Conference on Biocomposites: Transition to Green Materials

Date: May 6 – 8, 2012

Location: Niagara Falls, Ontario

For more information please visit www.biocomposites-toronto.com

Fruit & Veg Organic XPO

Date: July 12–14, 2012

Location: St. Williams, Ontario

This year the Canada's Fruit & Veg Tech X-Change will feature an organic category to educate both organic and non-organic producers on the size and scope of the sector, and the exceptional products and services offered to support on-farm organic activities.

The Organic Council of Ontario (OCO) and National Farmers Union (NFU) are supporting partners for the event and will be onsite to provide guidance to both existing and new organic producers.

Willsie Equipment will provide live demonstrations of their organic tillers and Underhill Farm Supply will exhibit a plot of radish root to showcase the application of natural soil aeration and organic matter regeneration.

A "Meet the Buyers - Broker Brunch" will take place on opening day, with a chance to meet organic buyers such as Whole Foods Market. Immediately following, the Organic Council of Ontario will be holding an informal seminar on farm transition to certified organic.

For more information please visit the website www.fruitvegtechxchange.com/organic

Canada's Outdoor Farm Show

Date: September 11–13, 2012

Location: Woodstock, Ontario

For more information please visit the website www.outdoorfarmshow.com or call 519-822-2890
Toll free: 1-800-563-5441

Events (cont'd)

International Plowing Match and Rural Expo

Date: September 18-22, 2012

Location: Roseville, Ontario

For more information please visit www.plowingmatch.org

or call 519.631.1234 Toll free: 1-800-661-7569

Email eventadmin@plowingmatch.org

BioFach America - All Things Organic

Date: September 20-22, 2012

Location: Baltimore, Maryland, USA

For more information please visit

www.biofach-america.com

CanBio Annual National Conference and Trade Show

Date: October 12-13, 2012

Location: Delta Chelsea Hotel, Toronto, Ontario

For more information please visit www.cdea.ca/event/canbio-annual-national-conference-and-trade-show

Links to Organic Agriculture Information

Organic Council of Ontario (OCO)

<http://www.organiccouncil.ca>

Canadian Organic Growers (COG)

<http://www.cog.ca>

OMAFRA Organic Agriculture

<http://www.ontario.ca/organic>

Ecological Farmers of Ontario (EFO)

<http://www.efao.ca>

Organic Agricultural Centre of Canada (OACC)

<http://www.oacc.info>

Agricultural Information Contact Centre:

1-877-424-1300

E-mail: ag.info.omafra@ontario.ca

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

www.ontario.ca/omafra