ON Organic

MAY 2011

Welcome to "ON Organic"

Hugh Martin, Organic Crop Production Program Lead, OMAFRA

May is upon us. Spring planting seems to be late on many farms but to some extent that is because we are comparing it to the exceptionally early season last year. I have included a number of articles this month from recent OMAFRA newsletters. We also have a new Urban Agriculture website and there are some links to factsheets from the Ministry of Labour for young workers (and good for everyone) on working safely.

Thanks to the contributing authors and to OCO and EFAO and others who pass it on to other colleagues in the organic sector. We always appreciate your comments on how to improve the newsletter.

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/news-organic.html

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

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

In This Issue...

- Green is Good for Organic Beef
- Step Up—Where Enthusiasm Meets Experience
- Urban Agriculture Business Information Bundle
- New and Young Workers Stay Safe on the Job
- Step Up—Where Enthusiasm Meets Experience
- *Organic Farm Exchange (Michigan State University)*
- *OMAFRA Articles*
- *Food Bulletin - Industry News*
- Funding and Related Opportunities
- Training
- Events

The ON Organic Team

Hugh Martin – editor, OMAFRA, Organic Crop Production Program Lead
Jack Kyle – OMAFRA, Grazier Specialist
Dorene Collins – OMAFRA, Customer Service and Marketing Program Lead
Hugh Berges – OMAFRA, Manager Horticultural Technology
Katie Meagher – OMAFRA, Marketing Specialist
Mario Mongeon – OMAFRA, Livestock Specialist
Linda Cooper – OMAFRA, Client Service Representative

Ministry of Agriculture, Food and Rural Affairs

Ontario

Green is Good For Organic Beef

Tom Hamilton, Beef Program Lead – Production Systems, OMAFRA

Like all beef farmers, those who produce for the organic market have to manage their operations to have as low a cost of production as possible. With the stringent restrictions on what technologies and products are permitted in a certified organic system, organic producers have to focus on exploiting the opportunities which are available to them. Optimizing forages in the feeding program is one of those opportunities.

Maximizing the contribution which forages make to both organic cow-calf production and organic cattle finishing is a key to lowering costs. Forages can be divided into 2 separate categories: pasture, where animals are eating fresh or stockpiled dormant plants which have not been machined harvested, and preserved forage such as silage or baled hay, which may be fed in confinement or on pasture land. In conventional cattle production, the cost of feeding cattle on pasture is less than half of what it is when feeding stored feeds. On pasture, cattle are self propelled forage harvesters who also spread manure as it is produced. Harvesting and storing forage in bales or by chopping costs money for fuel, supplies, operator time and wear on machinery. More costs are incurred when the tractor is started for feeding, pen cleaning and manure spreading. For both conventional and organic producers, it makes sense to maximize the use of pasture in beef production.

Nitrogen is usually the most limiting nutrient in forage production. Since organic farmers are not allowed to use synthetic fertilizers such as urea and ammonium nitrate, they must use other means to supply forage crops with nitrogen. Beef producers can effectively utilize manure on grass based pastures and hay fields. Adding a legume species to forage stands is an excellent way of supplying nitrogen, through the legume's ability to take nitrogen from the air and "fix" into a usable form. Pastures with 50% or greater legume content do not usually require nitrogen fertilizer.

If cattle are to be fed organically produced grains and oilseed meals in a feedlot situation, then the costs of these commodities have to be considered. The prices for both conventional and organic grains and oilseeds are volatile, changing yearly and seasonally depending on weather, size of last year's crop and current demand. Reducing the need for these commodities in beef production minimizes the risk of input prices increasing beyond profitable levels. Since organic grains and oilseeds may command significant premiums, their price volatility is even greater than that for conventional commodities.

Well managed pastures and high quality forages can support good gains on both growing and finishing beef cattle. A trial conducted on a commercial farm on Prince Edward Island showed that pastured yearlings can achieve acceptable rates of gain (2.0 lbs/day), during the finishing phase. In this study, while barley-fed feedlot cattle gained weight more quickly (2.4 lbs/day), they had a much higher cost of gain ($0.57/lb) than pasture cattle ($0.29/lb). The pasture finished cattle were more profitable, showing a net return of $68 per head, while the feedlot cattle just broke even.

Pasture finished cattle may exhibit a yellowish fat colour on the carcass. This can cause them to be penalized if they undergo official grading. In this study, yellow fat was not present, and the authors referred to other experiments where pasture finishing did not cause yellow fat. It appears that the occurrence of yellow fat on forage or pasture finished cattle is sporadic. For producers with a direct to consumer market, where official grading is not utilized, this unlikely to be an important concern.

Maximizing the use of forages in organic beef production makes sense from both production and economic standpoints. Green, high quality pasture and stored forages can be an important part of an organic beef production system. Green is good for organic beef !

R.W. Jannasch et al. **A Comparison of Pasture-fed and Feedlot Beef.** Department of Plant Science,Nova Scotia Agricultural College **http://www.organicagcentre.ca/ResearchDatabase/res_grass_vs_feedlot.asp**

Urban Agriculture Business Information Bundle

New Website - Welcome to the Urban Agriculture Business Information Bundle (BIB)
http://www.omafra.gov.on.ca/english/livestock/urbanagbib/welcome.htm

Producing Food in Cities
Urban agriculture refers to food production in urban areas, whether it is for personal consumption, commercial sale, education or therapy. It can take a variety of forms, including:

- gardening and livestock raised in backyards
- container gardening on balconies or rooftops
- community gardening and city allotments

Despite the density of urban development, there are many opportunities to grow fruit and vegetables within city limits and even raise fish and livestock. Currently about 15 per cent of the world's food is grown in urban areas, according to the United States Department of Agriculture.

However, there are risks and issues that must be considered, particularly when it comes to raising livestock in cities. For this reason, many municipalities have established bylaws governing urban agriculture.

Using This Site
This Business Information Bundle serves as a central website for information about urban agriculture for you, whether you're a city-dweller who wants to produce fruit or vegetables or raise livestock, or you're a municipal policy maker exploring the topic.

Finding Space looks beyond the backyard to container gardening, rooftop gardening and community gardening. Soil Quality will help you assess and improve your soil, while the Composting section offers tips on how to convert table scraps and garden waste into organic material to enrich your soil.

On the Growing Vegetables, Growing Herbs, Growing Fruit and Raising Livestock pages, you'll find information on general production practices, food safety and biosecurity, pest and disease management and relevant legislation, as well as information on specific crops and animals.

Under Ontario's Cosmetic Pesticide Ban, most urban producers are prohibited from using pesticides. The Organic Production page provides more information on using organic techniques to ensure a good harvest, as well as details on organic certification.

While many urban residents are interested in simply producing food for their own consumption, Selling Your Products covers marketing, food safety and legislation/regulations for those considering commercial production. Dealing with Wildlife offers tips on minimizing the damage that can be caused by neighbourhood pests and a wide range of wildlife found within city limits.

Relevant Legislation and Regulations is required reading for producers and policy makers alike. Finally, in Other Links, you'll find links to courses, workshops, organizations and other helpful websites.

Visit the website at: http://www.omafra.gov.on.ca/english/livestock/urbanagbib/welcome.htm

New and Young Workers Stay Safe on the Job

The Ministry of Labour has a number of resources on their website for new and young workers, parents of workers and for employers.

For more information go to http://www.labour.gov.on.ca/english/atwork/youngworkers.php

Step Up—Where Enthusiasm Meets Experience

The Canadian Farm Business Management Council, Canadian 4-H Council, Canadian Young Farmers' Forum, and Canada's Outstanding Young Farmers' Program have joined forces to present: **The All New STEP UP Mentorship Program!**

STEP UP is an on-farm learning placement that matches those planning or considering a farming career with an experienced farm manager so that they can learn critical aspects of farm business management in a hands-on setting.

We are accepting applications for Mentors and Mentees now!

Are you ready to STEP UP? To apply visit the STEP UP webpage at www.farmcentre.com today!

Links to Crop Updates

OMAFRA regularly publishes a series of Crop Updates which are often weekly during the growing season for specific crops. These have topics related to crop conditions as affected by weather, pests and other crop factors. In most cases recommendation relate to larger scale non-organic production give a good background to help organic vegetable producers understand issues as they are developing throughout the region. Here are links to some useful updates:

Vegetable Crop Update

- Cole Crops, Roots, Bulbs and Leafy Vegetables
- Sweet Corn, Beans and Peas
- Tomatoes and Peppers
- Vine Crops

You can subscribe to each of these at http://www.omafra.gov.on.ca/english/crops/updates/vegetable/index.html

There is also the ONvegetables blog at http://onvegetables.com/

There is a full list of the OMAFRA Crop Updates at (including vegetable, fruit, field crops and turf) at http://www.omafra.gov.on.ca/english/crops/updates.html. The page also has details for the format of each (phone, podcast, online, etc) and how to subscribe.

Organic Farm Exchange (Michigan State University)

MSU has a number of links to useful information on vegetable crops and field crops.
See the page at http://www.michiganorganic.msu.edu/
Useful links on this page:

- Information to help farmers transition to organic, and the process of organic certification.
- Farming practices for Michigan organic vegetable crop farmers and organic field crop farmers.
- Organic research reports

OMAFRA Articles

Monitoring for Spotted Wing Drosophila: getting started

By Hannah Fraser- Entomology Program Lead (Hort), OMAFRA; Denise Beaton - Crop Protection Program Lead/ OMAFRA; Pam Fisher - Berry Crop Specialist/OMAFRA

Spotted wing drosophila (SWD) is an invasive vinegar fly that has the potential to cause extensive damage to many fruit crops. The first detection of SWD in Ontario was in fall 2010 at a single residential site. We do not know how well this pest will survive the winter, or how quickly it will become established in Ontario. Based on experiences in western North America, we expect it will become a chronic pest to deal with in years to come. Early detection is the key to limiting economic damage.

We are coordinating a SWD monitoring program so we can learn more about the build-up and distribution of this pest in Ontario. We are placing traps at 50 sites with susceptible crops, representing the major fruit growing regions in the

province. Results from the sample collections will be reported weekly in OMAFRA newsletters and bulletins.
In addition, we hope that all growers with susceptible crops will be alert to possible SWD outbreaks on their farms. The most susceptible crops include blueberry, raspberries, sweet cherries, although strawberries, grapes, and other fruit with soft flesh, are also at risk.
Growers and scouts can monitor for the presence of SWD adult flies by placing baited traps in susceptible crops and checking the contents once or twice a week. You can purchase pre-made traps or make your own.
Traps can be purchased from Contech Enterprises Inc. (website: www.contech-inc.com or phone: 1-800-767-8658). These traps have red markings on them that the SWD find more attractive.

Traps can also be made with small plastic containers (250-750 mL) with tight fitting lids. Drill 4 small holes (0.5) cm in diameter, in the sides of the containers, which will exclude larger insects but allow vinegar flies to enter.

There are several options for baiting the traps. Apple cider vinegar is very effective, easy to use and relatively inexpensive.

Traps should be placed in the crop canopy, at least 2 weeks before the crop begins to ripen. Traps should be checked and the bait replaced at least once a week.

For information on making and using traps for SWD, see http://www.al.gov.bc.ca/cropprot/swd_monitoring.pdf
The next step is to identify SWD flies in your traps! Although the male flies have distinct spots on their wings, the females, which are more numerous and actually cause the damage, do not have spotted wings.

Information on SWD identification will be provided at the OMAFRA IPM scout training workshops in spring 2011. Samples can also be sent to the Pest Diagnostic Clinic in Guelph.

A half-day SWD Identification Training workshop will be held on April 27th at the University of Guelph - Pest Diagnostic Clinic in Guelph. Dr. Brad Sinclair from the Canadian Food Inspection Agency will be the training instructor. Space is limited, so please register with Denise Beaton at 519-826-6594 (or email denise.beaton@ontario.ca) by April 22nd. There is no registration fee, but there is an on-site parking fee.

From OMAFRA HortMatters newsletter http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2011/04hrt11a1.htm

Damping-off, Wirestem and Bottom rot in Cole Crops

By Michael Celetti - Plant Pathologist - Horticulture Crops Program Lead/OMAFRA

One of the most common problems encountered in cole crop seedling transplant production this time of year is "damping-off" (Figure 1). Damping-off is a disease that results in the rotting, collapse and finally death of seedlings just before or soon after they emerge. It often starts out in a few plants in a flat of seedlings growing in the greenhouse but can spread quickly throughout the entire flat and into neighbouring flats.

The most common damping-off pathogen encountered in cole crop seedling production is *Rhizoctonia solani* which can also cause seed and root rot on many vegetable seedlings. Other pathogens such as *Pythium* and *Phytophthora* can cause severe damping-off particularly if the soil is kept too wet for a long period of time. Proper identification of the damping-off pathogen is critical since seed treatments that control damping-off caused by *R. solani* are different than those that control *Pythium* and *Phytophthora* (see below).

Seedlings that survive damping-off prior to transplanting may succumb to *R. solani* infection later in the field. Often, *R. solani* will rot young secondary roots and girdle the stems of recently transplanted cole crop seedlings just above or below the soil line, leaving only the stiff vascular tissue to hold up the seedling. The stiff vascular tissue looks and feels like a wire with the plastic insulation removed from which the disease gets its name "wirestem" (Figure 2). Infected plants appear stunted, wilted and blue or purple in colour. They are easily pulled out of the soil due to the absence of secondary roots that would normally anchor the seedling.

Bottom rot on cabbage, Chinese cabbage and other head forming cole crops is a disease also caused by *R. solani* (Figure 3). The symptoms are often noticed much later in the season. Leaves and petioles of head forming cole crops that come in contact with *R. solani* infested soil develop dark brown to grey oval lesions. Often the lesions will develop concentric rings as the pathogen colonizes the lower leaf petioles and leaves. Eventually the pathogen colonizes the entire head which appears to rot from the bottom up.
The following are a few tips to help cole crop growers avoid or reduce the risk damping-off, wirestem and bottom rot from becoming established in their greenhouse and field production.

Sanitation

Many outbreaks of damping-off and wirestem can be traced

to poor sanitation practices in the greenhouse. *Rhizocotnia solani* produces persistent sclerotia that can stick to surfaces of seedling trays and benches. Power washing dirt off of surfaces and disinfect equipment, benches, and particularly seedling trays in the greenhouse with a 1-part bleach to 4-parts water solution before planting will significantly reduce the potential of the damping-off pathogens surviving on these surfaces and re-infecting.

Growing Medium

Use sterilized or heat-treated growing mediums. Soil-borne pathogens that cause damping-off can occasional occur naturally in peat moss and soiless mixes.

Seed Treatment

When ordering seed, be sure to choose the correct seed treatment. Maxim 480 FS is a good seed treatment for reducing damping-off in seedling flats caused by Rizoctonia but will not control damping-off caused by *Pythium* or *Phytophthora*. Apron XL LS seed treatment controls damping-off caused by *Pythium* and *Phytophthora* but not Rhizoctonia. Seed treatments usually provide protection for about a 4-6 weeks depending upon the environment conditions. As the seedling grows, the seed treatments either get diluted within the plant or are broken down rendering them less effective particularly if conditions that favour damping-off persist during the spring. However, by the time the seed treatments are no longer effective, plants are usually well established and less susceptible to damping-off.

Chemical Drench

Maestro and No-Damp are fungicides that can be applied as drenches to vegetable seedlings or soil to help control damping-off. Always read and follow the directions on fungicide labels carefully prior to mixing and applying.

Seeding Depth

Never plant seeds too deep and ensure that the right temperature is maintained for rapid seedling emergence and growth. Deep seeding causes stress on seedlings as they emerge through the soil and results in a greater area of susceptible stem tissue exposure below the soil line to the wirestem and damping off pathogens.

Fertilizer

Provide seedlings with the proper nutrients. Applying too much or too little fertilizer will affect the health of the seedlings and their ability to defend against disease.

Watering

Avoid over water seedlings and always allow the seedling plugs to dry out between watering. The longer the soil stays wet or saturated, the more likely water molds will infect and cause disease problems. However, allowing soil to dry too much between watering may stress the seedlings and encourage wirestem caused by Rhizoctonia.

Transplanting

Avoid transplant diseased seedlings into the field. Inspect all transplants growing in seedling trays for disease symptoms prior to planting. It is best to discard entire trays that have seedlings with symptoms if possible, since the pathogen could have spread to adjacent seedlings in the tray even though they may appear healthy at the time of transplanting.

From OMAFRA HortMatters newsletter http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2011/04hrt11a2.htm

Soil Compaction Danger for Today and Tomorrow Remains - HIGH!

By Anne Verhallen - Soil Management Specialist/OMAFRA

"Only YOU can prevent soil compaction!" This misquote of Smokey the Bear was in a recent Penn State Field Crop News by Sjoerd Duiker, a Soil Management Specialist. But he is certainly right. He notes that with moisture content at or above field capacity in the entire soil profile, soil is highly sensitive to compaction from traffic, animals or tillage. We are approaching prime planting time for many crops and everyone feels the clock ticking. However, we do need to keep the threat of compaction in mind - it can hurt yields significantly. Many of our vegetable crops are not aggressive in their root development. At some point the rain will turn off - root systems that have been restricted by compaction will not fare well under hot dry conditions that we can expect about mid summer.

Soil compaction can take several forms:
Surface compaction (<12" deep) is caused by high contact pressures. Road tires inflated to 100 psi cause high contact pressures. Surface compaction can cause very high yield losses the year immediately following the act. Using flotation tires or tracks helps reduce surface compaction. Reducing the number of trips over the area can also help.
Subsoil compaction below 12" depends on axle load, not on contact pressure. This means that reducing soil contact pressure by using flotation tires or tracks will not reduce subsoil compaction, although it helps to reduce surface compaction. If you traffic soil that is really too wet with axle loads of 10 tons or higher, you're likely causing subsoil compaction below 20 inches. Freeze-thaw and wetting-drying cycles will not remove this compaction, nor will biological forces such as earthworms, roots, or microbial

activity. The key to subsoil compaction avoidance is to reduce axle load.

It is hard to avoid compaction completely, particularly in vegetable rotations but it is well worth the effort to reduce the impact as much as possible. Prevent soil compaction by:

- Staying off the field until soil has dried out sufficiently OR in the case of spray operations in perennial crops like apples - allow the soil to drain as much as possible
- Not tilling soil when it is too wet
- Using flotation tires, duals, or tracks to reduce surface compaction - remember to use lowest allowable inflation pressure in flotation tires or duals.
- Using cover crops - the root mass acts like a shock absorber making the soil resist compaction better

Adopting no-till where possible and as long as possible - the increased biological activity creates a soil that is full of macropores (thousands of little drain tiles) and covered with a layer of residue that acts as a bit of a buffer for traffic.

Adapted from The Soil Compaction Danger Level for today is HIGH - Sjoerd Duiker, Soil Management Specialist, Penn State Field Crop News Vol 11:06 April 19, 2011

From OMAFRA HortMatters newsletter
http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2011/07hrt11a7.htm

Weighing the Cost of Production

Anne Verhallen, Soil Management Specialist, OMAFRA

"Stay off wet soil" is the best advice to prevent compaction but with wet forecasts and the calendar marching on what to do?

Don't fool yourself; sand does pack. Most of our soils have poorly sorted sands so with high soil moisture, weight and a bit of vibration, the soils particles readily move and pack together .

At What Cost?

Field crop research on the impact of compaction has suggested yield reductions of 0 to 75%. Of course weather, soil type, rotation and other management factors influence the long-term impact of compaction. Generally you can count on compaction and poor soil structure to make a field more prone to stress in the poor years. That is just the impact in field crops.

More disturbing is some work from Cornell in New York with a variety of vegetable crops that suggests the impact is a bit more severe, with yield reductions of 20 to 50 per cent plus.

Vegetable Crop	Impact of Compaction as % Reduction in Yield
Sweet corn	6 to 66
Cabbage	29 to 73
Cucumbers	41 to 55
Watermelon	13
Snap Bean	45 to 75

Options to reduce the compaction

The potential for compaction is a bit different in the spring. Most of the operations do involve lighter equipment so are less likely to pack at subsoil depth, however the packing although shallow will have a significant impact on developing root systems. Research has suggested that 80% of the packing happens with the first pass in the spring.

- Stay off wet soil as long as possible – shift to better drained fields, change hybrids or varieties, select different herbicides if possible etc.
- Minimize the weight of the equipment
- Increase the footprint, e.g duals will help to increase flotation
- Improve weight distribution – lower tire pressure, keep axle weights below 5 ton, etc.
- Reduce the number of trips over a field

Using Biological Control for Root Weevils in Strawberries

Pam Fisher, Berry Crop Specialist, OMAFRA

Strawberry root weevils are difficult to control. The larvae feed on plant roots, protected from insecticides by several inches of soil. In addition, black vine weevil and their larvae are naturally resistant to many naturally occurring toxins and commercial insecticides.

One option for root weevil control is the use of beneficial nematodes. These are specialised, entomopathogenic nematodes, which infect and multiply in root weevil larvae. Commercial formulations of beneficial nematodes work well in container-grown crops, and are widely used in the turfgrass industry. However, in strawberry fields, control can be variable. The effectiveness of beneficial nematodes for root weevil control depends on how and when they are applied. It is important to remember that these are living organisms and have special storage and handing requirements.

The best method for application of beneficial nematodes is with a flood nozzle in lots and lots of water. Don't use sprayers with piston pumps, and remove all screens finer than 50-mesh. Apply nematodes in early morning or evening in a high volume of water to already moist soil, pre-irrigating if needed. Apply another 1/4 inch of irrigation after application to wash them through the straw and into the soil. Straw mulch is a barrier to effective application, so be sure to use lots of water.

Soils temperatures at the time of application also influence the success of beneficial nematodes for root weevil control. Soil temperatures in a strawberry field in spring can be below the optimum temperature for nematodes to disperse, find, and infect their host. Check the specifications of the product you are using for optimum soil temperatures.

A good product to try in the cooler soils of Ontario is Nemasys L (*Steinernema feltia*) or *Heterorhabditis megadis*. There are several suppliers of these products in Ontario. Be sure to place your order early and store the product in a cool place until it is applied. Most products have a shelf life of just a few weeks.

Figure 1 - Root weevil larvae, pinkish discolouration is evidence of infection by beneficial nematodes. ***Photo credit: Becker Underwood***

From OMAFRA HortMatters newsletter
http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2011/07hrt11a3.htm

Site Selection for New Orchard Plantings

By Leslie Huffman - Apple Specialist/OMAFRA

Selecting the best site for your new orchard is a critical factor in the success of your planting. Just because there WAS an orchard in a field doesn't mean there SHOULD be an orchard there. So it's important to critically assess your site before proceeding. Collecting soil samples, topographical maps, drainage maps, weather and wind information are an important first step. Also a long-term cropping history of the site will be helpful.

Excellent water drainage is important for apples and especially for certain rootstocks. Apple trees do not like "wet feet", especially during the growing season. Many sites should be systematically tiled before planting, although some may be improved by installing an additional tile line between existing tiles. Another consideration is to plan the tile lines to avoid planting trees or support posts directly over them.

Soil type and fertility is another consideration. Sandier soils often have better drainage, but may not have good water-holding capacity. Soils with high levels of organic matter are preferred, both due to natural fertility and to improved water-holding capacity. Your soil test will indicate nutrient deficiencies and soil pH issues that should be corrected before planting. Most new planting systems use tall trees as a natural way to manage growth, and fertile soil with good water holding capacity will make it easier to achieve tree height in less time.
Availability of water for irrigation or spraying may be a consideration for some orchards. Many new orchards will be trickle irrigation or fertigated so a reliable source of quality water nearby is important.

Air drainage is also important, to avoid cold pockets during winter freezes, and frost pockets during bloom or at harvest. Windbreaks and neighbouring forests can create problems with cold, although these features may offer some benefits with wind abatement. Recent losses due to spring frosts has encouraged some Ontario growers to invest in wind machines, so it may be prudent to consider where machines could be located to be effective if needed.

Wind can also be a concern for orchards. Strong winds can hamper good spray coverage, which can be critical during wetting periods in the spring. Strong winds may also hamper bee activity during pollination time. Mild winds are useful as apples enlarge to promote quick drying and less russetting. But wind and soil erosion during this period may increase skin russetting.

Consider whether it will be practical to align rows north-south. The orientation of "hedge-rows" of trees is important to align N-S to capture the most sunlight and allow quality fruit to be produced throughout the canopy.

Previous orchard sites should be assessed for the risk of Apple Replant Disease (ARD). Replant issues can rob 30-50% of an orchard's profitability, but is not always present, and is difficult to predict. Sampling for nematodes, presence of fungal diseases, and soil fertility and pH is important to start. Analyze issues in the previous orchard as a start. The longer a site is left without apples, the risk of replant issues will be reduced.

Take a hard look at this short list of potential problems, and decide what can be done to correct things before proceeding with a new orchard.

From OMAFRA HortMatters newsletter
http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2011/04hrt11a3.htm

Nursery Trees for the New Orchard

Leslie Huffman - Apple Specialist/OMAFRA

Starting an orchard with high quality nursery trees is the first key to a successful planting. High quality trees will quickly establish, grow to the desired height, and fill their space. The right trees will be ready to produce fruit in the 2nd year, and will reach full production a few years later. Planting the right tree means early cropping, which is the key to profitability of your new orchard. Trees of lesser quality can eventually fill their space and produce good yields, but the early returns are lost, so profitability over the life of the planting will be less.

The ideal nursery tree will have these qualities:

- at least 1.7 m (5 ft) tall, preferably 2-2.2 m (6-7 ft)
- an abundance of healthy roots
- a dominant straight leader
- 6-10 "feathers" that are 12-25 cm (6-12") long
- the bottom feather no lower than 24" (60 cm) above the soil when the tree is in place in the orchard
- feathers distributed along the leader at regular intervals
- delivered unbroken, with moist roots and no disease.

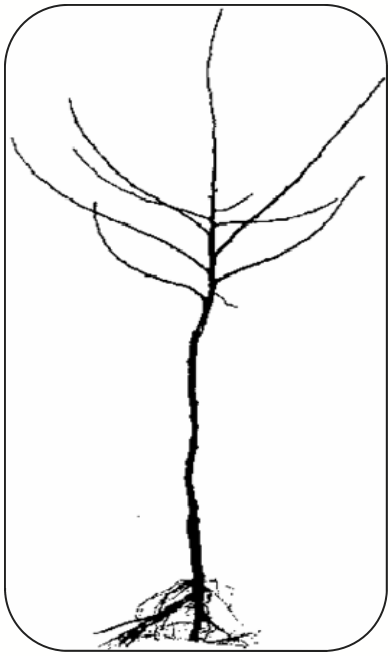

Figure 1. Example of well feathered tree

A feather is a branch that is produced in the same year as the leader. Feathers are sometimes produced in strong growing first year budded trees (although usually not enough feathers), or by a Knip-boom tree technique (where the one-year nursery tree is cut at the 60 cm (24") height and re-grown a 2nd year, producing feathers on a strong-growing leader). Research is ongoing to test plant growth regulators to induce feathering as well.

Some nurseries sell a 2-year branched tree, produced by growing the trees for a 2nd year in the nursery, but without the Knip cut (as above). On these trees, the side shoots are called branches, and are often not as precocious as feathers. Growing a tree with feathers takes extra care and expense in the nursery, so feathered trees are more expensive. When combined with the proper care, however, feathered trees will return the cost many times over.

Trees should be ordered at least 2 years in advance. This will ensure that the desired cultivar/rootstock combinations are available, and allows the nursery grower to grow the trees you want.

From OMAFRA HortMatters newsletter
http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2011/06hrt11a1.htm

Preparing for Planting the New Apple Orchard

By Leslie Huffman - Apple Specialist/OMAFRA

When to plant: Trees do best when planted as early in the spring as possible. Early planting will allow them to initiate new roots before the heat of the summer arrives. Wait until the soil is in good condition, not too wet, and when soil temperatures begin to rise. New roots will form when soil temperatures reach 7°C, and existing roots start to grow at temperatures lower than 7°C.

Ideally, the site was well prepared the previous fall, with only row marking to be done. Communicate with your nursery to ensure that trees arrive early in good condition. Use a tarp and water pails to ensure that roots stay moist.

Fall planting can also be successful in southern Ontario, but trees must be dormant before they are dug, with planting completed as early as possible after leaf fall to allow roots time to grow. Watering after planting is critical to ensure the trees stay hydrated through the winter.

What to plant: Inspect nursery trees on arrival, especially for damage, disease or insect pests. Crown gall, root rots, cankers or storage molds may be found on the roots or bark. If trees are not in good condition, contact the nursery immediately. It is better to return diseased or infested trees than to take a chance on your investment.

Be prepared to store trees if weather turns inclement. Trees need to be maintained in a dormant condition, and roots need to be moist at all times. Cold storage is excellent but make sure it is free of any ethylene gas from previously stored apples. Ethylene can severely damage new trees and prevent budbreak. Heeling in the roots in a trench outside is preferred to common barn storage.

Before planting, trim off excessively long roots, and damaged or dead roots. The goal is to maintain the root-to-shoot ratio. The advantage of well feathered trees may be lost if excessive root loss happens from digging and replanting.

Equipment required: Using a tree planter and crew can be a very efficient way to get trees in the ground quickly and accurately. Take the time to mark rows accurately or use GPS technology to ensure rows are straight. Transporting trees to the planting site, while protecting roots from drying out is a major challenge. Be prepared with water, barrels to soak roots if needed, and a good source of water both during and after planting. Good soil-root contact is most important on planting date to ensure good tree survival, and this is achieved by physical stomping and by soaking afterwards.

From OMAFRA HortMatters newsletter
http://www.omafra.gov.on.ca/english/crops/hort/news/hortmatt/2011/07hrt11a4.htm

Lowering Predation Losses

Barry Potter - Livestock Specialist/OMAFRA

Livestock predation costs. Predation costs the farmer time, money and emotional stress when production animals are destroyed. Predation costs the government time, money and emotional stress as public servants and municipal evaluators investigate livestock kills and compensate producers for their losses.

In 2010, the Ontario government paid out over $1.4 million to producers as compensation for their livestock losses. These payments have more than doubled in the last 5 years.

Table 1. Livestock compensation claims for predation in Ontario

Fiscal Year	# of Claims	# of Animals Injured (Killed)	Compensation
2006/2007	2,928	4,563	$ 990,775
2007/2008	3,163	4,829	$ 1,038,617
2008/2009	3,779	5,964	$ 1,292,921
2009/2010	3,834	6,153	$ 1,392,822

Neither government nor producers wish to see livestock killed by predators. However, communicating to predators that farm animals are "friends not food," remains a challenge. Mitigating losses would seem to be the only course of action in living in a world with both predators and predated animals, i.e. livestock.

Several wild animals will attack and consume cattle. Bears, wolves, and coyotes would be the most frequent culprits. In the last few years, coyotes are killing more and more calves.

How do you know if your cattle are the victims of predation? Bleeding and bruising only occurs in live animals or for a brief time after death. Other tell-tale signs include punctures, cuts and tears from teeth or claws. Quick investigation after an animal's death can determine if the animal was killed by a predator, or died from other causes and was scavenged by a predator, crows or other animals. Other signs of a predator attack can include broken and flattened vegetation, drag marks, blood or trails of blood. Some other visible indications of predators include: alert,

nervous livestock, injured livestock, mother calling and searching for her young, predator hair on fences, dig holes under fences, fresh predator tracks near a carcass, or predator feces near a carcass.

Once you have determined you have a predator problem, what can you do to help mitigate further losses? The first step is making sure you dispose of any dead livestock, stillborns, or afterbirth. These tissues, if left around, will attract predators, helping them make the leap from cows as friends to cows as food. OMAFRA has information on line at http://www.omafra.gov.on.ca/english/livestock/deadstock/index.html as to how to dispose of carcasses by burial or composting.

Confinement and Fencing

Farms with brush and forest are subject to more attacks than unforested open areas. Attacks tend to occur more at dawn and dusk. One option with smaller herds is to bring the cattle in at night to a confinement area. Costs for predator proof fencing become somewhat prohibitive when large numbers of cattle are involved, plus the labour involved can be overwhelming. A recent study on a sheep farm on Amherst Island put costs in 2001 at $2.37 per foot of predator exclusion fencing. Other costs of confining cattle include increased coccidiosis load, fly build up and reduced growth.

Figure 1. Predator exclusion fencing

Electric fencing can be an important component of any predator control program. Perimeter fences must be at least 5 strands, alternating live and ground wires. Anything less is not effective in deterring coyote predation, especially if predation has already occurred on that farm.
Spacing of wires is also important. Make sure the lower 3 wires are 6 in. apart to ensure that coyotes come in contact with both live and ground wires when attempting to pass through the fence. Wires in the top part of the fence can be further apart to increase the total height of the fence. For more information on fencing see the OMAFRA fact sheet entitled Sheep Fencing Options for Predator Control.

Livestock Guardian Animals

Donkeys, llamas, dogs and horses have all been used as livestock guardian animals. Most large sheep producers rely on dogs. Dogs that are raised with cattle have shown that they have protective instincts. They are expensive, but effective. A recent cost study indicated that it costs roughly $800 per year per dog for protection. The dogs act as a deterrent by living with the cattle and attacking all intruders including stray dogs, coyotes or humans. The dog patrols the area around the cows, scent-marks its territory and barks. These three activities alert the coyote or wolf to the presence of dogs. As the coyotes adapt to guardian dogs, more dog power per cow is required. Generally, the coyotes will either try to draw the dogs away from the cows, sending in pack members from behind, or will determine that it is not worth trying to attack a guarded herd. Recently there have been instances of dogs being attacked by coyotes. This remains very rare, as the dogs are usually bigger than the predators.
Donkeys will work to protect cattle as well. The concept seems to be that donkeys have an inherent dislike of dogs and will bray, bare its teeth, kick or bite dogs and coyotes. One thing to watch for with donkeys is the female's willingness to kidnap new born calves and kick the cow away from its baby.
Sometimes scaring devices will work for a while with wolves and coyotes. Scientists in Wisconsin and Michigan have used electronic signal motion detectors which can set off either sirens or strobe lights to frighten the predators away. While these are costly, they are a very effective short term deterrent. Eventually, the coyotes determine that these are not life threatening and will adapt to the sound or light show.
Removal of problem predators has been effective in the past. Coyotes or wolves which identify calves as food need to be killed as soon as possible, so they don't train their fellow pack members to hunt cattle as well. A pilot removal program in 1997 and 1998 had trappers hired to remove suspect coyotes. During the short trial, harmed livestock dropped from around 4000 to below 3200 by the year 2000. Shortly after the pilot removal program cancellation, livestock claims started rising again, and have continued to increase to current levels of nearly 6000 coyote and wolf kill claims per year.
One of the challenges of problem coyote removal in

southern Ontario is the prohibition against non lethal restraint mechanisms. These devices are a proven method of catching coyotes, through identifying trails and setting the restraint mechanisms at travel or fence hole locations. These snares are a legal option in northern Ontario. A trial for the use of non lethal restraint mechanisms, as well as other potential prevention tools will be occurring this summer in southern Ontario.

There is divided research on whether a total coyote hunt will reduce overall livestock predation. In the short term, kill numbers would go down. In the long term, there is a suggestion that coyote numbers will increase to fill a vacuum. The species is very adaptable to its environment. Depending on where your farm is located, hunting can be socially acceptable, or cause problems with your neighbours. A coyote drive can provide an excellent opportunity to reduce the numbers of coyotes. By using hunting dogs, planes, and hunters spotted around a block of land, coyotes can be effectively driven out and shot. As indicated, drives can greatly reduce coyote numbers, but would have to be repeated every year.

Another hunt option would be den hunting. Finding the coyote dens in spring/early summer and destroying the pups will lower population as well.

The Ministry of Agriculture, Food and Rural Affairs is working with the Ministry of Natural Resources and agricultural groups to reduce the incidence of wildlife-livestock interaction on the farm.

References

Coyote Predation of Livestock
Livestock Valuation Guide for Ontario Municipalities
Predation and Wildlife Damage

From OMAFRA Virtual Beef newsletter http://www.omafra.gov.on.ca/english/livestock/beef/news/vbn0511a3.htm

Temporary Field Storage of Manure in Winter

By Christine Brown, Nutrient Management Lead - Field Crops/OMAFRA

The opportunity to get bedded-pack cattle manure was too good to pass up. But now as the field in front of me is a sea of white with deep drifts, one question arises, "Where is the best location to temporarily store the manure?"
Temporary field storages are an alternative to field applied manure on snow covered and frozen fields. Temporary field storages can be a great solution to limited barn storage of manure and can also be a time saver during the busy spring season for transporting manure. However, when the snow is deep and the ideal place for a temporary storage may not be easily accessed, what are the options?
There are guidelines that help determine the best place for temporary storages. They are in place to minimize the risk of contaminating water sources and also to help prevent complaints from local residents.

1. **How solid is the manure?**
   The more bedding in the manure, the greater the dry matter content and the less likely the manure will move.
2. **Is the manure nutrient rich?**
   The more concentrated the nutrient content of the manure (ie from broilers), the more risk that some of the nutrients will move through leaching or volatilization. Concentrated manures would ideally be stored until field application on a concrete pad, where runoff is collected or prevented through coverage.
3. **Where are the field tiles located?**
   A tiled field is not the best location for a manure pile. Temporary storages should have at least 3 meters (10 ft) between the edge of pile and the nearest tile drain. Storages should also be located away from exposed bedrock.
4. **What is the soil texture?**
   Sandy or light textured soils (Hydrologic group A soils) are risky for temporary storages. Infiltration in the spring will increase the risk of nitrogen leaching.
5. **Distance to neighbours or watercourses.**
   No one likes a manure pile beside their property, especially if there are odours or flies associated with the temporary storage. It should take about 2 to 3 minute to walk to a temporary storage from the edge of a field (100 m from edge of field or 125 m from the nearest residence).
6. **Distance to water or surface inlets.**
   We all know that manure needs to stay out of water, whether a river or water course, a catch basin or areas where water flows or floods during spring melts. A 3 minute walk (~150 m) to get to the water source ensures that there is adequate distance to minimize risk of nutrient contamination.
7. **Should the temporary storage be covered?**
   Covering a storage is much easier said than done, and usually isn't very practical for short term storages. However, covering a storage with a tarp would be warranted when there is increased risk for an adverse effect. For example, tarping a temporary storage of heavily bedded broiler manure with a high concentration of nutrients, will ensure that the nutrients will still be in the pile at the time of field application.
8. **How long is "temporary"?**
   Although it seems obvious, manure piled in the field as

temporary storage should be applied to the field to meet the upcoming growing season's crop needs. In a few cases, temporary storages have been in place until grain harvest. In those situations, extra precautions should be taken to ensure that environmental risks (including odours and insects) are minimized.

Temporary field storages are regulated under the Nutrient Management Act. Farms not phased in to nutrient management regulations are encouraged to follow the guidelines. Information regarding the specifics of temporary manure storages can be found on the OMAFRA website. http://www.omafra.gov.on.ca/english/engineer/facts/10-039.htm

From OMAFRA newsletter CropTalk at http://www.omafra.gov.on.ca/english/crops/field/news/croptalk/2011/ct-0311a6.htm

Food Bulletin - Industry News

Listeria Policy for Ready-to-eat Foods Revised

Health Canada's *Policy on Listeria monocytogenes in Ready-To-Eat Foods* was updated on April 1, 2011 and affects all ready-to-eat foods, including meat, poultry, fish, fruit, vegetables and dairy products. This revised policy is an important tool used by both industry and the Canadian Food Inspection Agency (CFIA) to identify steps to reduce the risk of contamination in all ready-to-eat foods. The full policy is available on Health Canada's website http://www.hc-sc.gc.ca/fn-an/legislation/pol/policy_listeria_monocytogenes_2011-eng.php .

A compendium of analytical methods used by the Health Products and Food Branch of Health Canada is also available on the website. These are the methods used to verify compliance in the food industry, to assess food quality and investigate food-borne disease (link http://www.hc-sc.gc.ca/fn-an/res-rech/analy-meth/microbio/index-eng.php). The CFIA will soon issue detailed, program-specific information regarding compliance verification. Anyone with concerns about the scope of the detection methods or the extent of application is invited to contact the Microbiological Methods Committee at Micro_Methods_Committee@hc-sc.gc.ca.

Tackling Childhood Obesity

Canada has launched its first national dialogue on rising childhood obesity rates and the initiative has the potential to have a significant impact on food and beverage producers. Health ministers across the country have together launched *Our Health Our Future* and are asking for input from individual Canadians, from government, non-government and industry stakeholders (http://ourhealthourfuture.gc.ca/home/).

Businesses are welcome to contribute to their online forum. Key stakeholders will also be invited to face-to-face meetings to explore strategic options for action, which will be shared at a national summit this fall. A report and recommendations for action will later be presented to federal, provincial and territorial health ministers.

Online Opportunity Capitalizes on Local Food Movement

A new online marketplace is gearing up to pitch Ontario's food community and take advantage of the growing local food movement. Ontariofresh.ca will be connecting growers, producers and distributors with bulk buyers, chefs, restaurants and caterers from all across the province. It will also address such questions as location, availability, seasonality and traceability. Set up your Ontariofresh profile now (http://www.ontariofresh.ca/) and be prepared to take advantage of this free online business building opportunity. The website should be fully operational this September. For more information call 1-888-249-9399 or 647-426-8420.

(You may also want to look into the Broader Public Sector Investment Fund which is now in its third round. See details under Funding & Related Opportunities.)

Hazard Analysis Critical Control Point support

Whether you're a globally-traded business or an organic farmer selling produce at the local farmers' market, food safety is critical. That's why the Hazard Analysis Critical Control Point (HACCP) program is widely accepted as *the* mainstay of food safety today. Today's HACCP food safety and its seven principles, takes the entire production process, from farm to fork, under systemic control, with an emphasis on preventative measures and end-product testing. The University of Guelph's Agriculture & Food Laboratory (http://www.guelphlabservices.com/AFL/index.aspx) offers a range of testing services to support your HACCP plans. You can call for more information at 519-767-6299 or toll free at 1-877-863-4235.

Advantage Program

The Ontario Ministry of Agriculture, Food and Rural Affairs' Advantage Program has also adapted food safety programs to suit smaller and mid-sized processors. *Advantage* Programs for Food Processors http://www.omafra.gov.on.ca/english/food/foodsafety/processors/advantageprocesssing.htm

For producers (the agriculture sector): *Advantage Good Agricultural Practice http://www.omafra.gov.on.ca/english/food/foodsafety/producers/good-ag-practices.htm*

Funding and Related Opportunities

Showcasing Water Innovation Program

The province is providing $17 million in grants over three years to projects that demonstrate leading edge, sustainable and cost-effective solutions for managing drinking water, wastewater and stormwater systems in Ontario communities. Although for-profit businesses can not be the lead applicant, a large industrial water user could be a project partner. Communities can receive funding for up to 50 per cent of eligible project costs to a maximum of $1 million. Applications from small rural, remote and northern communities are strongly encouraged to apply. The Showcasing Water Innovation program is an opportunity for industry and communities to collaborate http://www.ene.gov.on.ca/environment/en/funding/showcasing_water_innovation/index.htm .

Food Safety Research Program

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has established a competitive research fund to enhance food safety in Ontario and letters of intent from interested applicants are due May 30, 2011. The purpose of the program is to lessen the frequency and impact of agri-food emergencies. Research projects should address at least one of the following five priority areas: threat identification and prioritization; detection and surveillance; pathway analysis; prevention and control of disease; benefit/cost analysis.

Selected research projects may be up to two years in length and be eligible for as much as $100,000 in funding. Researchers can find more information on the program and apply online using the Research Management System (RMS) http://www.omafra.gov.on.ca/english/research/foodsafety/cfp/callforloi2011.htm , the ministry's new e-grant method for managing its research programs. You can also call toll-free at 1-888-466-2372 ext. 64554, locally at 519-826-4554, or email research.omafra@ontario.ca.

Third round of funding: The Broader Public Sector Initiative

Applicants interested in the third round of funding must submit their letter of intent (LOI) by June 1, 2011 to info@greenbeltfund.ca. The Broader Public Sector Initiative supports efforts to increase the amount of Ontario food bought by municipalities, universities, schools and hospital food services and enhances the capacity of the two sectors to do business together http://bpsinvestmentfund.ca/?page_id=78.
Program staff will be reviewing incoming letters on an ongoing basis, but won't accept anything longer than two pages (excluding budget summary). Those selected will be invited to send in full proposals, which must be submitted before August 1, 2011. Successful applicants will be able to implement their projects this fall and all projects must be completed by March 31, 2012.

Funding for Sodium Reduction Research

Health Canada's report, Sodium Reduction Strategy for Canada, released in July 2010, recommended a multi-staged, three-pronged approach to help reduce Canadians' mean daily sodium intake by 1,000 mg a day. In response to the recommendations, the Natural Sciences and Engineering Research Council of Canada and the Canadian Institutes of Health Research launched the *Initiative for Sodium Reduction in the Canadian Food Supply* to stimulate research focused on the challenge.
The Collaborative Research and Development Grants Program is providing researchers and their industry partners with matching funds to tackle the challenge. Applicants must partner with a Canadian-based firm, industrial association or producer group and small- and medium-sized enterprises are encouraged to become involved. Industry partners must contribute to the direct project costs in an amount at least equal to the sum requested from the fund and must be in a position to apply successful research results. There is no cap on the funding amount. Health Canada's report also encouraged the food industry to

consider the research as a non-competitive venture to allow for greater sharing of techniques and technologies in order to meet sodium reduction targets that will benefit all Canadians. There are four key areas of research eligible for funding.

See complete details on this funding initiative here http://www.nserc-crsng.gc.ca/Professors-Professeurs/RPP-PP/Sodium-Sodium_eng.asp

Training

Guelph Food Technology Centre (GFTC)
The following training opportunities are available at GFTC's Guelph facility.

- May 16-17, 2011 Train the Trainer (HACCP III)
- May 18, 2011 Lean Manufacturing and Process Improvement for the Food and Beverage Industry
- May 19, 2011 Country of Origin Labelling (COOL) in Canada and the U.S.
- May 25-27, 2011 Foundations in Food Science (Culinology Workshop I)
- May 26, 2011 Dairy Industry: Milk Processing and Dairy Technology
- May 30-June 1, 2011 Microbiology III: Pathogen Detection in Food
- June 22-24, 2011 Safety, Regulations, Packaging and Sensory Evaluation of Food (Culinology Workshop II)

For more information and to register for these and other spring training opportunities see GFTC's course calendar http://www.gftc.ca/courses-and-training/course-details.aspx?course=HAC03.

May 17, 2011 Migration of Substances from Inks and Adhesives into Foods – Fact or Fiction?

Sponsored by The Packaging Association of Canada (PAC)

Where: Mississauga Convention Centre
What you'll learn: Are leaching oils and inks from food packaging posing a risk to consumers? What can be done to prevent health hazards and what should manufacturers know about flexible packaging and adhesives? These topics are up for discussion and discovery at this food safety seminar.
Cost: Members $99, Regular $175
Register online http://www.pac.ca/index.php/ePromos/food_safety_paperboard_flexible_packaging_seminar.

Events

May 26, 2011 How Literacy Can Affect Your Bottom-line
An estimated 40 per cent of adult Canadians struggle with low literacy levels – and the majority of them are employed. This can have an enormous impact on any business. As a manufacturer in today's global economy learn how literacy affects your company on the shop floor, in your daily business activities and in global initiatives. Find out what your company can do to help employees communicate more effectively at EMC's Workplace Literacy and Multiculturalism event http://www.nserc-crsng.gc.ca/Professors-Professeurs/RPP-PP/Sodium-Sodium_eng.asp.

- **When:** Thursday, May 26, 2011 from 9:00 a.m. to 12:00 noon
- **Where:** Hosted by Hartmann Canada Inc., 58 Frank Street, Brantford
- **Register:** RSVP to Bren at bdeleeuw@emccanada.org to have your name added to the guest list

(The Excellence in Manufacturing Consortium (EMC) is Canada's largest not-for-profit organization of manufacturers, devoted to facilitating member development. The EMC calendar lists a variety of training opportunities.)

EFAO Events

June 5 Tools and Equipment
July 17 Finding the Balance: Soil Tests for Organic Farmers
August Direct Marketing
Sept 25 Composting

All EFAO courses and workshops are open to the general public.

Course registration fees are $70/day. EFO members will receive a $20/day discount on 1 course per year. Join now!

Special rate for CRAFT apprentices who are already, or become an EFO member: $40 per course when you register for three or more courses in the series. This is great value for the knowledge you'll gain from these courses and the benefits of EFO membership for the year! If you take three courses in the series you'll recognize a $70 savings in course fees. We ask that you pay for the series of courses you wish to take upon registration, or at the first course you attend. For more details contact the EFAO office, Tel: 1-877 822-8606, 519-822-8606 or email: **info@efao.ca**

The Dirt on Soil

May 28th (Saturday) - 12:30 pm – 4:30 pm, Hearts Content Organic Farm, Brantford
June 4th (Saturday) - 12:30 pm – 4:30 pm, McVean Incubator Farm, Brampton

The root of all life, including human life, is in the soil. Successful, sustainable organic farming is all about building healthy soils. In this half-day workshop, join Tarrah Young from Green Being Farm, to learn the basics of soil science in an accessible and hands-on way. Rather than relying on inputs for fertility, get ready for ideas on how to optimize your soil's health, and ultimately the health of your crops, by using the biological community to unleash the tremendous potential in your soil!

An intimate understanding of soil dynamics is critical for any good farmer or gardener. You will be amazed at what lies beneath your feet!
Cost: $55 or $100 per farm team pair. For more information or to register: Please visit the FarmStart website or call Cherie Bauman 519-836-7046 ext. 103.

Oxford Organic Growers Summer Crop Tour - Princeton

June 28th Oxford Organic Growers Summer Crop Tour Time: 7:30 pm at Yeandle Farms, 747099 Township Rd 4. Everyone is welcome to join this tour. For more information call 519 424 - 3113.

June 22, 2011 – OMAFRA Soil Management Workshop 2011

Whether you are looking to expand your soils knowledge or just update your Soil and Water CEUs with some practical training – don't miss the Soil Management Workshop 2011. We have revised the course content and we are in a new location. This hands-on, in-field workshop/bus trip features a wealth of soils and soil and water management information. The new format offers opportunities to really get to know the issues and approaches being taken with soil and water management in the Simcoe County area.

Where: Simcoe County

For more information or to register contact:
Woodstock OMAFRA Resource Centre, 519-537-6621.
http://onvegetables.com/2011/05/09/soil-management-workshop-2011/

June 1 – 2, 2011 PROFIT

Ontario Food Export's highly regarded, New-to-Exporting Seminar - PROFIT, scheduled for June 1 – 2, 2011, is returning to Toronto and Buffalo, New York. Whether you are new to exporting, or have colleagues who need export training, this program is an outstanding opportunity. This two-day seminar is critical in assisting you to build your organization's export strength. Featuring industry speakers and key contacts that know the export process, PROFIT will prepare you and your company for what is needed to succeed in the U.S. market.

For over 20 years, PROFIT has been an important step in the export success of hundreds of Ontario manufacturers. Some graduates have returned several times to update their skills and contacts.

This affordable course, specific to the needs of the food industry, is ideal for:

- New Marketing staff
- Inside & Outside Sales
- Shipping & Logistics staff
- Marketing/Sales Support staff
- Skills upgrade and development

Anyone interested in exporting to the USA!
The cost to participate is only $350 + tax per person, which includes the two-day seminar, bus transportation to Buffalo, one night hotel accommodation in Buffalo and all meals. For more information, please contact Dean Post at (519) 826-4477 or dean.post@ontario.ca.

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