ON Organic

January 2013

Welcome to ON Organic

Evan Elford, New Crop Development Specialist, OMAFRA

In This Issue...

Happy New Year to all of our readers!

Many of us are currently planning and looking for organic seed sources for the coming growing season. Two online databases come to mind when planning your organic seed orders:

1. Canadian Organic Grower's (COG) Organic Seed Database available at www.FindOrganicSeed.ca, and
2. The Ecological Famers Association of Ontario (EFAO) Organic Seed Directory found at www.efao.ca, (follow the link on the sidebar to the directory).

As always we welcome your comments and any suggestions for topics in the newsletter. Thank you once again to our contributing authors and to EFAO, OCO and others who pass along our newsletter on a regular basis.

Subscription to this newsletter is easy and free. For details go to the webpage:
http://www.omafra.gov.on.ca/english/subscribe/indx.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

The ON Organic Team

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Hugh Berges - OMAFRA, Manager Horticultural Technology
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Does Your Farm Have a Rodent Problem?

Al Dam, Provincial Poultry Specialist, OMAFRA and George Jeffrey, Territory Manager, Vétoquinol

Producers should not be embarrassed to admit they have a rodent problem. Surveys in Ontario indicate that 80% of poultry producers and 89% of swine producers have rodent problems. The probability is that mice or rats currently exist on your farm. The embarrassment and costs occur if something is not done to confront the problem.

Why Control Them?

Rodents are the first and second most destructive vertebrates in the world to man. It is thought that they damage/spoil/consume 1/5th of the world's food. It has been estimated that rats can eat/spoil more than $35 worth of feed/rat/year. They can be vectors for over 200 diseases and are responsible for greater than 25% of fires in rural farm houses and barns because of their propensity to chew on electrical wire *(Figure 1.).*

They also have an enormous ability to reproduce. A pair of rats (or mice) can generate a population of 15 000 rodents in one year and 20 000 000 in three years.

The following are signs of rodent infestation:

Sounds. Gnawing, climbing noises in walls, squeaks.

Droppings. Found along walls, behind objects and near food supplies.

Burrows. Rat burrows are indicated by fresh diggings along foundations, through floorboards into wall spaces.

Runs. Look for dust-free areas along walls and behind storage material.

Gnawing marks. Look for wood chips around boards, bins and crates. Fresh gnawing marks will be pale in colour.

Figure 1. *Signs of chewing on electrical wire*

Rodent odours. Persistent musky odours are a positive sign of infestation.

Visual sighting. Daylight sighting of mice is common. Rats are seen in daylight only if populations are high. Quietly enter your barn at night, wait in silence for 5 minutes and listen for the sound of rodent activity. Look around with a powerful flashlight; rat eyes will reflect the light.

Smudge marks. These may be found on pipes or rafters where dirt and oil from their fur leave a greasy film. It is a generally accepted rule of thumb that there are approximately 25 mice or rats for every one that is seen.

Is It a Rat or a Mouse Problem?

Since rats and mice require different control strategies, determine whether the problem is rats or mice *(Table 1).* The simplest way to differentiate between the types of infestation is by examining the droppings. Mouse droppings are black and rice-kernel size *(Figure 2.),* whereas rat droppings are black and bean-sized.

Figure 2. *Droppings are a clear sign of rodents.*

What Do Mice and Rats Like to Eat?

Rats and mice can be considered to be omnivorous. Given a choice, they prefer cereal grains. Rats eat meat when available. However, when food supplies are scarce, they will eat almost anything, including plaster and even soap or animal carcasses. Mice have been known to nest over winter inside the carcass of a deer stricken with rabies, consume the meat and become infected. They then become vectors of this disease. Rats and mice eat every day and prefer a water supply. Rats usually drink every day, but mice can survive several days without water.

Table 1. *Physical and behavioural characteristics of adult rats and mice*

Characteristic	Norway Rat	Mouse
Size (including tail)	42 cm (16.5 in.)	16 cm (6 in.)
Average weight (adult)	500 gm (18 oz)	20 gm (0.7 oz)
When active	nocturnal	nocturnal
Sight	poor (1.5 m) (4.9 ft)	poor (1 m) (3 ft)
Smell, touch, taste	excellent	excellent
Hearing	highly accurate	highly accurate
Range from nest	45 m (148 ft)	9 m (30 ft)
Fear of new objects	3-7 days	3 min-5 hr
Water requirements	daily	2-4 days without
Food per day	28 gm (1 oz)	3 gm (0.1 oz)
Water	57 gm (2 oz)	3 gm (0.1 oz)
Favourite foods	rolled oats, meat, fish, vegetable oil	grains, rolled oats, sugar, raisins
Droppings	bean size	rice size
Minimum width for entrance (hole diameter)	12 mm (0.5 in.)	6 mm (0.2 in.)
Can enter building through a hole the size of:	your thumb	your pinkie finger
Can chew through (given edge to gnaw on)	rubber, aluminum, cinder blocks, plastic, wool	same as rats

Habits and Biology

To control mice and rats, we have to understand their habits and biology first. Mice and rats are similar in their habits and biology, although there are some differences between the two (Table 1).

- Both are highly reproductive and extremely capable of surviving in all kinds of conditions. Theoretically, if there is one pair of mice (1 male and 1 female) in your barn at the beginning of a year, under fair living conditions, by the end of the year, you may have thousands of them on your farm.
- On farms, mice and rats will be near a food source such as barns, granaries, livestock buildings and silos.
- Mice live in the barn and rats live outside the barn and travel in for food.
- Rats and mice can climb and jump. Rats can jump vertically as high as 91 cm (36 in.) and horizontally as far as 122 cm (48 in.).
- Mice and rats can climb brick and other rough walls, and travel along utility wires.
- Rats can cross (sneak in) through openings as small as 1 cm (½ in.) and mice can squeeze through openings of 0.6 cm (¼ in.), or less, in diameter.
- Both mice and rats are active at night, particularly right after dusk.
- Rats are smart and tend to avoid new objects. Therefore, it may take a few days for traps and baits to work.
- Rodents need to chew. Their incisors never stop growing, up to 12.5 cm (5 in.) per year. They damage the structure of the building itself, but they love chewing on electrical wire, hence the fire risk.
- They are excellent diggers/excavators

Rodent-Proofing Farm Buildings

Proper construction and maintenance of buildings helps prevent rodents from entering your barn. Initial construction footings should extend 0.5 m (19 in.) into the ground. A gravel perimeter that is 30 cm (1 ft.) deep and at least 1 metre (3 ft.) wide will prevent rodents from burrowing into your building. To prevent frost damage, footings may have to be deeper. Examine your building at least once a year for possible entry ways for rodents. Remember, a mouse needs only a 0.6-cm (¼-in.) opening to gain access (the size of your pinkie finger). Rats need a 1-cm (½-in.) opening (the size of your thumb). Cracks around door frames, under doors, broken windows, water and utility hook-ups, vents and holes surrounding feed augers are all potential points of entry. Use coarse steel wool, hardware cloth or sheet metal to cover any entrances. Do not use plastic, wood or insulation, as rodents simply gnaw their way through.

When constructing walls, ensure that sheeting lies flush to the wall studs rather than on strapping. This keeps nesting sites confined to a single section between studs rather than allowing complete access to all wall spaces. For further information, see Plan No. M 9451 of the Canada Plan Service Series, *Rodent and Bird Control in Farm Buildings*. A well-maintained structure is your first defence against rodents. Most rodents enter your barn directly from the fields, and then the population builds. It is important to maintain good sanitation outside the barn. Eliminate vegetation for 1 m (3 ft) around buildings, clean up spilled feed, remove loose wood, garbage, etc. Do not attract rodents from fields to your operation. The more open space you have around the building the better.

Eliminating Hiding Places and Nesting Sites

Rodents do not like to be exposed. Maintain sound housekeeping, eliminate loosely piled building materials, old feed bags or anything else that a rodent can hide in or under. Keep piles of lumber, miscellaneous equipment 24-30 cm (9-12 in.) off the floor and at least 24 cm (9 in.) out from a wall. Look for entrances into double wall construction. Most rodents nest in the insulation of double walls. Block off all entrances into walls and destroy all nesting material.

Remove Food and Water

Eliminate water sources such as leaky taps, open water troughs, sweating pipes and open drains. Keep all feeds in rodent-proof bins, covered cans or metal hoppers. Reduce feed spillage and immediately dispose of dead animals. Without readily available food and water, populations cannot build.

Control of Existing Population

If there is already a rodent problem inside the barns, prevention alone won't solve the problem. In this case, consider a population-reduction program. In this article we will be discussing rodenticides in general. Organic growers should be aware that many rodenticides are not permitted by certifying bodies.

Snap Traps

For small populations, snap traps or box traps are very useful for eliminating rodents. Rats prefer fresh bacon, fish and meat, while mice favour cheese, peanut butter or seeds. Try several baits to find out which your rodents prefer. Rats are distrustful of anything new in their environment, so leave baited non-set traps out for 4-5 days to allow them to get used to the traps. Ensure that previous baits have been taken before actually setting the traps. If rats are the problem, use rat traps. After you catch a rat you have to remove the carcass immediately otherwise other rats will stay away from that trap location. You may need to move the trap to another location and start baiting non set traps again till you know they are taking the bait before you set them again.

If mice are the problem, use mouse traps. Mice are naturally curious so there is no need to put on baited, non-set traps before-hand. Locate traps close to walls, behind objects, in dark corners, where you see droppings or gnaw marks. When trapping next to a wall, set the trap at right angles to the wall with the trigger and bait closest to the wall. Orient multiple-catch traps with the entrance hole parallel to the wall.

Live traps can work very well near runways used by mice and rats. When setting and baiting for any traps wear rubber gloves so that your scent does not get on the baits or the traps as deterrence to the rodents *(Figures 3 & 4)*.

Figure 3. *Live trap*

Does Your Farm Have a Rodent Problem? (cont'd)

Figure 4. *Live trap*

Figure 5. *Cats may limit low-level mouse or rat problems*

Glue Boards

Glue boards are very effective against mice and are the method of choice in locations where toxic baits are a concern. Glue boards will not work well if there is too much dust. They are only recommended where dust can be kept away from them. Check glue boards and traps daily and remove and dispose of dead mice and rats. Wear rubber gloves when handling them to prevent any chance of disease infection.

Abundant food supplies make baited traps less effective. Eliminate as many sources of food as possible before starting the program. For barns and poultry houses with moderate infestations, set 50-100 traps. The trapping program should be short and decisive to prevent trap shyness. Odours from humans or previously caught rodents do not cause trap shyness.

When disposing of dead rodents use plastic gloves and place the rodents in tightly sealed plastic bags.

Predators

Cats may limit low-level mouse or rat populations *(Figure 5.)*. However, if conditions are ideal for rodents, cats cannot eliminate a problem. Cats may introduce disease into a facility by bringing in rodents caught in fields. Cats will not be able to catch mice as quickly as they multiply. The same can be said for terriers.

Sound and Ultrasound Devices

These two methods may not be effective. Rodents may be frightened by strange noises in the first few days but then quickly become used to them.

(*This article was co-authored by Al Dam, Provincial Poultry Specialist, OMAFRA and George Jeffrey, Territory Manager, Vétoquinol, referencing OMAFRA Factsheet 400/680 Rodent Control in Livestock and Poultry Facilities and Vétoquinol presentation material).*

New Detections of Brown Marmorated Stink Bug in Ontario

Hannah Fraser, Entomology-Horticultural Program Lead, OMAFRA

The brown marmorated stink bug (BMSB) is an invasive alien species native to China, South Korea, Taiwan and Japan. It was most likely introduced to North America in the mid 1990s, and was first positively identified in Allentown, Pennsylvania in 2001. While BMSB is capable of natural spread, the pest is also an excellent hitchhiker and can be moved over large distances in cargo and vehicles. At present it has been found in 39 states and several Canadian provinces, though many of these are simply detections rather than confirmed as established in the field.

BMSB has a very broad host range that includes tree fruit, berries, grapes, vegetables, agronomic crops, ornamental trees and ornamental shrubs. Damage results when nymphs and adults feed on either vegetative or fruiting plant parts. BMSB is well-adapted to a diversity of landscapes and does not require a specific host to facilitate establishment or spread. Patterns of dispersal between hosts during the season are not well understood and contribute to difficulties in managing BMSB. The pest is highly mobile and can readily switch hosts, moving between crops throughout the growing season.

New Detections of Brown Marmorated Stink Bug in Ontario (Cont'd)

Adults overwinter in sheltered areas that may include homes and other heated buildings. As they can aggregate in very large numbers (up to several thousand where populations have reached severe agricultural level status), BMSB has become a considerable nuisance pest for home owners. Aggregation in artificial structures is not common among stink bugs, and is a behaviour that provides an early warning of where BMSB has become established. Shelter-seeking behaviour contributes to the widespread distribution of this pest through hitchhiking by various means of transportation including cargo, vehicles and railroads.

There have been numerous interceptions of BMSB coming into Canada with goods and vehicles since 1993. Following several homeowner finds from 2010 and 2011, a population of BMSB was identified by OMAFRA during the summer of 2012 in Hamilton, Ontario. Hundreds of nymphs and adults were found in buckthorn located within a wildlife sanctuary and along parts of the Niagara Escarpment. Despite province-wide surveys in 2011 and 2012, BMSB has not yet been detected in crops.

As days chilled down in late September and early October, adult BMSB began to move indoors. Not surprisingly, calls and emails from homeowners started to come in to the OMAFRA Agriculture Information Contact Centre (AICC). Although the majority of specimens were collected in Hamilton, there were over thirty finds scattered all over Burlington, which most likely indicates BMSB is established there as well. Adults were also collected at two locations in Toronto and in Newboro. Homeowners reported finding multiple individuals in gardens and indoors. Information collected from homeowners and the known distribution of BMSB suggests that this pest has been established locally for several years.

The majority of the Hamilton specimens are showing up along the Escarpment. A likely reason for this is because this part of the city is heavily forested, and it contains many of the woody non-crop hosts that BMSB use through the season such as Tree of Heaven, catalpa, maple ash, etc. (and apparently buckthorn). Populations can build up in these unmanaged areas. BMSB tend to become established in urban areas first then disperse to agricultural crops. The abundance of suitable landscape hosts and proximity of BMSB populations pose a serious immediate risk to adjacent agricultural areas in Brant, Halton, Hamilton and Niagara counties. Growers in these areas should be particularly vigilant about monitoring for BMSB.

Three conventional pest control products have been registered for managing BMSB in Canada, with other solutions identified at the National Minor Use Priority Setting Meeting in 2012.

The Canadian Hort Council and Agriculture and Agri-Food Canada's Pest Management Centre have formed an Invasive Alien Species Coordination Group to facilitate and coordinate pest management research issues and outreach efforts to support the development of mitigation strategies for Canadian growers affected by BMSB (and spotted wing drosophila, another designated invasive). A national technical working group has been established to prioritize research needs, including potential management solutions. There have been considerable efforts in the US to develop monitoring tools, evaluate natural enemies, and screen chemical controls. Knowledge gained from this work will be valuable to growers in Canada.

Figure 1. *BMSB adult. Look for two obvious white bands on otherwise dark antennae, inward-pointing white triangles between dark markings along the edge of the abdomen, and a smooth edge along the pronotum or "shoulders". They are mottled brown-grey dorsally and a have a pale underside. Legs have faint white bands. (Photo credit: Jennifer Read, NRCan)*

Management is particularly challenging in organic crops. None of the products registered to date in Canada or the US are options for organic production. Funding for research into the management of BMSB in organic production has recently been made available by the United States Department of Agriculture Organic Agriculture Research and Extension Initiative. Up-to-date information on research into organic management tactics, including trap cropping, can be found at www.stopbmsb.org/managing-bmsb/organic-bmsb-links and http://www.bmsb.opm.msu.edu/.

New Detections of Brown Marmorated Stink Bug in Ontario (Cont'd)

Early detection is important to the long term success of management programs. We need to have a better understanding of where this pest is and how well it is established. There is a monitoring network for this pest and we hope to conduct surveys in 2013/2014; however, we have a better chance of finding pockets of small populations if more people are actively looking. Tracking the distribution and spread is essential.

Many of those reporting BMSB indicated they've been seeing them for 3 or 4 years; they just didn't realize they were looking at something new. A sample is required to confirm BMSB. For pictures of BMSB and look-alikes, visit www.ontario.ca\stinkbug. If you think you have found BMSB, contact the OMAFRA AICC at 1-877-424-1300 or email ag.info.omafra@ontario.ca, and we will provide you with instructions on what to do with the sample. High resolution pictures are useful for identification. For the most recent map (US and Canada), as well as reports and presentations, visit www.stopBMSB.org.

OMAFRA Articles and Updates

HORTICULTURE

Spotted Wing Drosophila in Ontario: what did we learn in 2012?

Pam Fisher, Berry Crops Specialist, OMAFRA; Denise Beaton, Crop Protection Program Lead, OMAFRA; Hannah Fraser, Entomology – Horticulture Program Lead, OMAFRA; and Anne McDonald Horst, SWD project coordinator

Spotted wing drosophila (SWD) was detected in California in 2008 and spread rapidly through the west coast berry producing regions in 2009-2010. It quickly invaded the south-eastern USA, up the east coast in 2010-2011 and is also moving throughout Europe. In Ontario SWD was first detected at a single location in 2010, and by the end of 2011, SWD was present in traps in 60% of the sites monitored by OMAFRA . Nevertheless, in 2012, the rapid spread and build-up of SWD in Ontario and neighbouring regions was a shock.

In this article, we will briefly outline our SWD monitoring project in 2012 and what we learned. For more details, and a full report, please visit the OMAFRA website at www.ontario.ca/spottedwing . Our project was funded by the Ontario Berry Growers Association with funding from Growing Forward, a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of several Growing Forward programs in Ontario. Apple cider vinegar was donated by the H.J. Heinz Company in Leamington. We also had assistance from the Ontario Fruit and Vegetable Growers Association, and many crop consultants, scouts and farmers.

We made our own SWD traps using 500 mL deli cups trimmed with red duct tape and punched with 17 3-mm holes around the rim *(Figure 1).*

Figure 1. SWD traps used in 2012

Apple cider vinegar was used as a bait. Traps were placed at 110 sites, at the edges of fields, in wild hosts and within crops of strawberries, raspberries, blueberries, specialty berries, tree fruit, grapes and tomatoes. The bait was changed weekly and trap contents were identified by OMAFRA students or at the Pest Diagnostic Clinic in Guelph through the OMAFRA-University of Guelph lab agreement. Results were posted weekly on the SWD website.

The first SWD was captured in traps collected on June 29, 2012, 6 weeks ahead of last year. By August, SWD had been trapped at 90% of the sites and in all the counties monitored, from Leamington to Ottawa to Barrie and even in New Liskeard. Populations started to increase at the end of raspberry harvest and climbed dramatically into the fall. (*Figure 2*: SWD trap catches in Ontario 2011 and 2012).

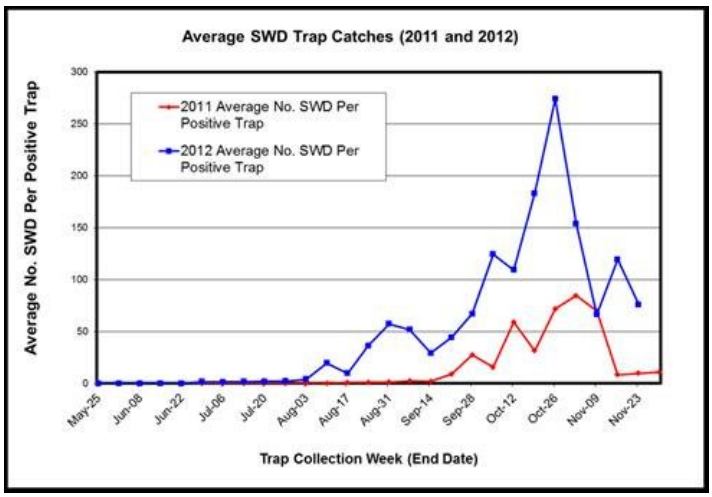

Figure 2. *SWD trap catches in Ontario 2011 and 2012*

In 2012 we found damage in many berry crops, including raspberries, elderberries, day neutral strawberries, blueberries, blackberries and even some of the specialty berry crops such as goji-berry and sea buckthorn. We reared the first flies from fruit collected around July 11, indicating that damage was occurring in the field at this time. First fruit damage in the field was observed July 25, in both raspberries and blueberries. **Significant damage occurred at some sites before flies were caught in traps**. By August 14, damage was easy to find in blueberries, raspberries and fall bearing raspberries where sprays had not been applied. We also reared SWD adults from many, many different wild hosts, such as wild brambles, dogwood, pin cherry, pokeweed, buckthorn, mulberry and nightshade. This indicates that SWD is a landscape-level pest that is all around, not just in susceptible crops.

How to manage SWD in 2013:
Management of SWD will require expensive and major changes to how you manage your berry crops, and it will also require organically registered insecticides to control this pest.

Organic Insecticides: Plan to protect your fruit from SWD while it is ripening and throughout harvest. In 2012, there were 5 insecticides registered through the Emergency Use Registration Program that could be used on the major berry crops, 2 of which were organic (PyGanic and Entrust 80 W). As always, before applying either of these products, consult with your certification body to confirm they are permitted for use. We hope for similar registrations in 2013. Spray strategies for berry crops will be posted on our website. Meanwhile think about how you can improve spray coverage by pruning or trellising blueberries and raspberries this winter. You might need to purchase new spray equipment.

Wild hosts: Think about the location of wild hosts around your fields. It is not possible, nor is it a good idea, to rid your land of these wild hosts, but you should know where they are. This will be important for early detection of SWD next year.

Frequent harvest: The most important part of an SWD control program is harvesting on a tight schedule. Pick early, clean and often. This is challenging for raspberries and strawberries, and even more difficult in blueberries, but it is really critical. Plan on harvesting every 2 days in raspberries, blackberries and strawberries. Think about the changes which will be required to manage labour and your pick-your-own customers.

Monitoring: Learn as much as you can about SWD. Make sure you know what to look for and what the damage looks like in berry crops. Monitoring for larvae is more important than monitoring for adults in traps. It will show you how well your pest control program is working. Learn how to do the salt test, as outlined on our website (Go to www.ontario.ca/spottedwing then follow the links to monitoring and then fruit sampling).

Learn all you can in 2013.

Information for Ontario growers is updated frequently at www.ontario.ca/spottedwing. Plan to attend these meetings and conferences to learn about SWD.

February 19, 2013, Ontario Berry Growers Association Annual Meeting, Embassy Suites, Niagara Falls

Guest speaker: Nate Nourse.

February 20-21, 2013: Ontario Fruit and Vegetable Convention, Scotiabank Convention Center, Niagara Falls
Guest speakers: Tracy Hueppelsheuser and Susanna Acheampong, Entomologists, British Columbia Ministry of Agriculture

Visit the OMAFRA both in the trade show for demonstrations on monitoring, trapping and pest identification. For more information and registration, visit www.ofvc.ca

March 16, 2013: Ontario Highbush Blueberry Growers Association Annual Meeting, Port Elgin
Guest speaker: Rufus Isaacs, Michigan State University.
Contact Bill Parks (chair) at bill@parksblueberries.com

March 2013: IPM Technical Update, Date TBA. Contact Margaret Appleby at margaret.appleby@ontario.ca

(From OMAFRA newsletter Ontario Berry Grower)

Food Safety Snippets

On Farm Food Safety: Your Business Advantage

The importance of creating Standard Operating Procedures (SOPs)

Sandra Jones, On-Farm Food Safety Program Lead, OMAFRA

Standard Operating Procedures or SOPs build food safety best practices into your farm processes, help keep food safe and have a positive impact on your business' bottom line. SOPs provide clear, step-by-step instructions for completing daily, weekly and monthly tasks such as cleaning, calibrating and equipment maintenance. Having a consistent, well documented approach reduces the risk of a food safety incident on your farm because all your staff use the same and proper techniques every time.

You can use SOPs to train new employees, reinforce proper performance of employees, provide proof to auditors that your business is meeting quality standards and demonstrate assurance to buyers that you have food safety best practices in place.

Farm Buildings and Access

Sandra Jones, On-Farm Food Safety Program Lead, OMAFRA

Clothing, footwear and vehicles can carry pathogens between high risk and low risk areas potentially cross contaminating food, surfaces and equipment. Whenever possible plan your "clean" activities first, followed by your "dirty" activities.

This could be as easy as using the tractor to move the compost before using it to move raw manure.

If you can't alter your schedule, take the extra minute to clean or change your equipment, clothing and footwear in between activities to prevent the spread of unwanted germs and residues.

Food safety practices keep agri-food businesses competitive, productive and sustainable. For more information, visit the Ontario Ministry of Agriculture Food and Rural Affairs website at www.ontario.ca/goodagpractices or call us at 1-877-424-1300.

New OMAFRA Publications

The following products are available to order in early January from www.serviceontario.ca\publications:

Paid publication:

Guide de protection des légumes de serre 2012-2013, Publication 835F; cost is $15.00; please recycle all former editions.

Paid CD:

Guide de la floriculture en serre, Publication 370F (on CD, no printed book); cost is $10.00 (vs. $20.00 for the former book); please recycle all former editions. Note: An accessible (tagged PDF) will also be available on the OMAFRA website.

Free Brochure:

Best Management Practices for Phosphorus – new colour brochure (produced in partnership with our federal counterpart and the OFA).

Factsheets:

12-053: *Soil Erosion* – Causes and Effects, Agdex 572/751; replaces 87-040, which should be recycled.

12-054: *L'érosion du sol* – Causes et effets, Agdex 572/751; replaces 89-064, which should be recycled.
12-047: *Quality Concrete on the Farm,* Agdex 715; replaces 06-023, which should be recycled.

12-049: *Programs and Services for Ontario Farmers,* Agdex 871; replaces 11-041, which should be recycled.

Funding Opportunities

Agricultural Management Institute (AMI) Event and Speaker Funding

The AMI currently has funding for speakers and events related to farm business management. Registered organizations, associations, and groups located in Ontario can apply for up to $5000. For more information on the funding program and to download an application form, please visit the AMI website at www.takeanewapproach.ca/

Ontario's Regional Development Funds for Job Creation

The new Southwestern Ontario Development Fund (SWODF) and renewed Eastern Ontario Development Fund (EODF) are now receiving applications from companies for projects that drive innovation, grow Ontario's economy and create local jobs.

The Funds are discretionary, non-entitlement programs with limited funding. There are two funding streams, one for established businesses and a regional stream for economic development organizations including municipalities.

- Under the business stream, the Funds may provide up to 15% of eligible project costs to a maximum grant of $1.5 million. For project investments of $10+ million that create 50+ jobs, funding may be available in the form of a secured repayable loan, to a maximum of $5 million in provincial support.

In order to be eligible for the **business stream**, businesses must:Employ at least 10 people and meet minimum job creation thresholds as outlined in the Business Application Guide

- Be able to provide 3 years of financial statements
- Be part of an eligible sector
- Be located in, or plan to locate in southwestern or eastern Ontario
- Have a multi-year project that involves a minimum investment of $500,000 in eligible project costs.

Smaller businesses with 5-10 employees may be eligible under the Small Community Pilot, in either the east or southwest regions.

Not sure which fund your company can apply to? Check out the EODF map or the SWODF map.

EODF: www.ontariocanada.com/ontcan/1medt/econdev/en/ed_eodf_main_en.jsp

SWODF: www.ontariocanada.com/ontcan/1medt/en/swodf_en.jsp

Learning Opportunities

IOIA/COG Basic Crop Inspection Training – Ontario

Date: March 4-8, 2013

Location: 1 Stone Road, Guelph, Ontario
Canadian Organic Growers (COG) and IOIA will co-sponsor basic crop inspection training in Ontario. The course includes comprehensive training on the Canadian Organic Standards and four days of instruction including a field trip to a certified organic operation, plus one-half day for testing.

This training is geared primarily for inspectors, but others such as certification agency staff, regulators, industry consultants, and educators are also welcome.

For more information: Contact Beth McMahon at COG, e-mail beth@cog.ca or phone 613.216.0741. Information is also available online at www.cog.ca/news_events/inspector/.

Beef Symposium
Date: January 19, 2013
Location: University of Guelph, Guelph, Ontario
The Beef Symposium is part of the annual FarmSmart Conference.
For more information: Please visit the website at www.uoguelph.ca/farmsmart/conference/

32nd Annual Guelph Organic Conference
Organics…What's The Buzz?
Date: January 31-Feb 3, 2013
Location: University of Guelph
For more information please visit the website at: www.guelphorganicconf.ca

Ecological Farmers Association of Ontario – Workshops
Date: January 31 & Feb 1, 2013
Location: 1 Stone Road, Guelph
Workshops include Direct Marketing, Soil Tests for Organic Farmers, Labour on the Market Garden (Panel Discussion), Intro to Beekeeping, Working with your Butcher, and Techniques for Small Scale Intensive Organic Market Gardening.
Cost: $50 for members, $70 for non-members. Please note that EFAO workshop registration and parking is separate from the Guelph Organic Conference.
For more information: Please visit the EFAO website at www.efao.ca or contact Karen Maitland at 1.877.822.8606.

Ontario Organic Awards
Date: February 2, 2013, 6pm-10:30pm
Location: River Run Centre, Guelph, Ontario
The Ontario Organic Awards recognize and celebrates innovation in organic agriculture in Ontario. Awards will be given to individuals and businesses which show consistent and pioneering efforts within Ontario's organic sector.
For more information: Please contact Mary Ellen Wales at the Organic Council of Ontario by phone 519.827.1221 or visit the website at www.organiccouncil.ca/awards2013

7th Annual Organic Consumer Conference - Organic: The Way Forward
Presented by Canadian Organic Growers Toronto in association with The Big Carrot
Date: Saturday, February 16, 2013.
Time: 9:00 am - 5:00 pm
Location: University of Toronto Conference Centre, 89 Chestnut St., Toronto, Ontario
Registration: $65 ($85 after Feb. 5); COG members $55 ($65 after Feb. 5)
Rates for students, retirees and unwaged. Organic lunch included!
For more information and registration please call: 416.466.4420 or visit the website at www.cogtoronto.org

Topics and speakers
Organic is not just about lifestyle, it is about the way forward in a highly toxic world. Raising the stakes is what is required. Demanding organic is about demanding health. And it is about demanding fair treatment for our animals and the environment we all share. How our food is produced is worth fighting for!

Keynote Speaker: Deborah Koons Garcia, a documentary film maker, who focuses primarily on films about agriculture and the food system. Also joining the conference is Gilles-Eric Séralini from France. Mr. Séralini recently led a team of researchers in a two-year study of the effects of feeding GM corn and glyphosate formulations to rats. Other topics include:

- The real story behind chicken and egg production,
- A first-hand account of organic food production in China
- A paediatrician speaks out,
- What are the meals that heal,
- The organic farmer's perspective,
- What is the future of organic, and more.

Ontario Berry Growers Association – OFVC Pre Conference Berry Program
Date: Tuesday, February 19, 2013
Location: Embassy Suites, 6700 Fallsview Blvd., Niagara Falls, Ontario
For more information: Please contact Pam Fisher, OMAFRA Berry Crop Specialist at pam.fisher@ontario.ca

Ontario Fruit & Vegetable Convention
Date: February 20-21, 2013
Location: Scotiabank Convention Centre, 6815 Stanley Avenue, Niagara Falls, Ontario

The Ontario Fruit and Vegetable Convention is an annual gathering of horticultural crop producers, primarily involved in the production of fruits and vegetables, from across Ontario.

The 2-day convention is located at the Scotiabank Convention Centre in Niagara Falls, Ontario, and features a great line-up of horticultural experts, topical sessions, trade show exhibitors and great networking

opportunities. Now entering its 11th year, discover for yourself why it is called Canada's Premier Horticultural Event.

Registration is now available online.
For more information: Registration by phone please call Glenna Cairnie at 905.945.5363 or visit the website at www.ofvc.ca

Eco Farm Day, 2013
Date: February 23, 2013
Location: Cornwall, Ontario
Theme: "Water - Emerging Issues for the Organic Producer".

Keynote Speaker: Maude Barlow is the National Chairperson of the Council of Canadians and chairs the board of Washington-based Food and Water Watch. In 2008-2009, she served as Senior Advisor on Water to the 63rd President of the United Nations General Assembly and was a leader in the campaign to have water recognized as a human right by the UN.

She is also the author of dozens of reports, as well as 16 books, including the international best seller *Blue Covenant: The Global Water Crisis and The Coming Battle for the Right to Water*.
For more information: Please visit the website at www.cog.ca/ottawa/eco-farm-day

Links to Organic Agriculture Information

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

Links to Organic Agriculture Information

Organic Council of Ontario (OCO)
http://www.organiccouncil.ca

Ecological Farmers of Ontario (EFO)
http://www.efao.ca

Canadian Organic Growers (COG)
http://www.cog.ca

Organic Agricultural Centre of Canada (OACC)
http://www.oacc.info

OMAFRA Organic Agriculture
http://www.ontario.ca/organic

FarmStart www.farmstart.ca