ON Organic

July 2013—Volume 6, Issue 7
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In This Issue...

Welcome to ON Organic

Evan Elford, New Crop Development Specialist, OMAF & MRA

Mark your summer calendar with OMAF and MRA's Natural Enemies Workshop taking place on August 7th at the Simcoe Research Station, 1283 Blueline Road, Simcoe, ON. The afternoon workshop will be focused for field grown vegetable and specialty crop growers, scouts and agribusiness persons. A combination of classroom and outdoor activities are planned including monitoring for natural enemies and information on biological control and parasitoid projects. To register for the workshop, contact the Agriculture Information Contact Centre at 1.877.424.1300 or email: ag.info.omafra@ontario.ca

Also coming up on September 12th is the 2013 Bilingual Agricultural Workshops Day at the Alfred Campus, University of Guelph. This event is organized by OMAF and MRA and the University of Guelph-Alfred Campus. One of the primary objectives of the day is to provide producers and industry stakeholders with useful and up-to-date information on dairy production practices, farm business management and research findings pertaining to the industry. Much of the program will be devoted to interactive workshops, networking and meeting researchers. Participants will be divided in small groups and each group will move from workshop to workshop every thirty minutes. For more information about the day, please see the events section of this newsletter.

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 OMAF and MRA 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 OMAF and MRA Organic pages are linked from:
http://www.ontario.ca/organic and http://www.ontario.ca/biologique

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Jacquie De Fields – OMAF and MRA, Client Service Representative
Julie Gamache – OMAF and MRA, Client Service Representative

Nuisance Insects in Organic Poultry Production

Al Dam, Provincial Poultry Specialist and
Kathleen Taylor, Poultry Research Assistant, OMAF and MRA

The summer of 2013 has many farmers noticing increased insect pest issues in their area. On occasion, these insects issues have caused increased tension among neighbours (high fly populations), and increased disease challenges (high darkling beetle populations). Some are suggesting that the weather this spring and summer so far – with high amounts of heat and moisture – could be contributing to the problem. Infestation with insects is an issue in the industry regardless of your production status as an organic or conventional poultry farmer. For this article, we will be discussing the biology, management, and control measures for flies and darkling beetles.

Regardless of the pest species, dealing with the problem is all about understanding the biology of the insect itself, and managing the population according to their life cycle. Pest management will not be as effective if you simply stick to a routine that's more convenient for you. It is also critical that you are aware that the problem goes beyond what you can see, as there are many insect life stages that are not visible to you. For example, the adult flies that you can physically see in your barns are a mere 15% of that total fly population. If you are not considering all stages of the life cycle in your control program, you may suddenly be faced with an infestation when adults emerge in droves. For this reason, understanding aspects of the insect's reproduction, behavior, habitat, and seasonality is essential.

Alphitobius diaperinus, also known as the darkling beetle is one of the most common pests found in poultry barns. The adult beetle is shiny brown or black in colour, and approximately 6 mm long. The larvae, (or grubs), can grow to 1 cm in length before they pupate. The darkling beetle goes by many other names, including the lesser meal worm, litter beetle, shining black wheat beetle, and black fungus beetle. This beetle traditionally consumes grain, however, poultry barns have provided an ideal environment for it to flourish, as it can survive on spilled feed and manure underneath feed lines.

The success of this insect's life cycle is dependent on temperature, humidity, moisture, and food availability, with cycles ranging anywhere from two months to 400 days (**Fig. 1**). During this time, females can lay an average of 5 eggs per day in their reproductive prime. Considering many poultry barns are home to thousands of darkling beetles at a time, the reproductive potential of this insect is astounding if conditions are optimal. A new adult darkling beetle can emerge only 29 days after an egg is laid. The highest hatchability of darkling beetle eggs occurs at 30°C and 90% humidity. After hatching, the beetles can remain in the larval stage for up to 133 days.

Newly emerged darkling beetles have a reddish colour that will become darker as they age. They can reproduce almost immediately after emerging. At some point during your poultry flock cycle, beetle larvae will begin to seek sites to pupate, and re-emerge at a later point, which could coincide with a succeeding flock. When birds are shipped out and the barn is empty, adult beetles will seek shelter in walls and under the floors. They too will re-emerge.

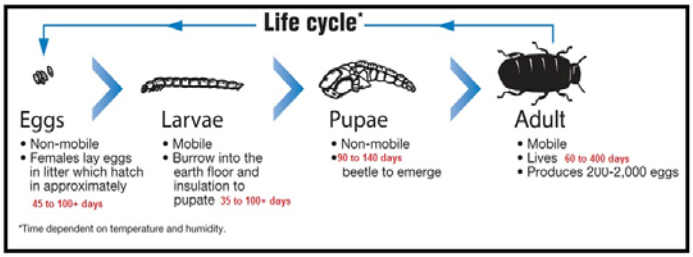

Fig 1. Life Cycle of the Darkling Beetle - *courtesy of Jim Skinner*

The darkling beetle poses an economic threat to poultry farmers on several levels. Firstly, these insects cause structural damage to insulation when they burrow into walls to pupate. Such damage can decrease the insulating ability of poultry barns. By burrowing through materials such as sytrofoam, these beetles can decrease the effectiveness of insulation by as much as 30%. In Georgia, USA, insulation deterioration from darkling beetles can result in as much as a 67% increase in energy costs required to keep the barn at an appropriate temperature.

Secondly, darkling beetles pose a significant threat to biosecurity. Their 400-day lifespan could extend over several flocks. Darkling beetles are known vectors of 60 or more diseases that poultry are susceptible to, such as Newcastle disease, avian influenza, Marek's disease, infectious bursal disease, *Salmonella spp.*, 26 pathogenic types of *E. Coli, Eimeria spp., Aspergillus*, and parasites such as coccidiosis and round worm. Both adult and larval darkling beetles can harbour disease, carrying pathogens in their gut and on their bodies. Studies have shown that darkling beetles can remain positive for *E. coli* for up to 12 days, and salmonella for up to 28 days. These time periods are sufficient enough to allow infection of a subsequent flock. It also should be noted that infected larvae can become infected adults.

Transmission of salmonella from darkling beetles to young chicks has been well documented, and these chicks will then proceed to spread the bacteria to others. It has also been shown that birds can become infected after ingestion of a single contaminated darkling beetle.

Nuisance Insects in Organic Poultry Production (Cont'd)

Ingestion of these beetles can also impair flock performance. As darkling beetles live around feed lines and feed pans, chicks and poults often choose to feed on darkling beetles first, and feed second (**Fig 2.**)This fills their gut volume with indigestible beetle shells instead of feed, and can cause distress to the birds when they defecate. In addition, darkling beetles act as an intermediate host for poultry tapeworms which can further reduce performance.

Fig. 2 Darkling Beetles in Crop of Broiler Chicken - *courtesy of Jim Skinner*

In severe infestations, if these beetles cannot find enough moisture in their environment when humidity in the barn is low, they have been known to bite birds around their vents and feather follicles. This can cause tissue damage and infection. Lesions from darkling beetle attacks can look similar to skin leucosis.

Darkling beetles can be problematic for human health as well. People that are continuously exposed to high numbers of darkling beetles can develop allergies. Neighbourhood relations could also be jeopardized in areas with an infestation of darkling beetles, as the beetles will remain in the manure when it is spread onto cropland. Being nocturnal and attracted to both light and heat, these beetles can fly or crawl out of the fields towards adjacent residential areas in search of a new home.

Elimination of a darkling beetle population is practically impossible. Though many farmers may assume that cold Canadian winters will kill off these insects, darkling beetles are surprisingly resistant. During cold weather, darkling beetles can undergo 'supercooling,' where their body fluids resist freezing solid, allowing this tropical beetle to survive in spite of the cold. Dissolved sugars in the beetle's hemolymph allow beetles to survive long winter months when there may not be birds in the barn as their metabolism runs at much slower rate. We tend to see the heaviest infestations of darkling beetles in the fall as they seek out shelter and warmth as the external temperatures fall. If they do not find these conditions, they may be able to survive in this hibernation state.

As an organic producer, there are limited options for darkling beetle management. These options include cultural and biological methods. Cultural strategies include mechanical upkeep of equipment to minimize excess litter moisture caused by leaky water lines and improving ventilation can reduce darkling beetle reproduction in your barn. Removing litter between flocks can also help to reduce beetle build up. Furthermore, avoid equipment sharing between neighbours and barns to prevent mechanical transmission of beetles.

Biological methods generally have poor success with a couple of exceptions. Predatory insects, parasitoids, and nematodes have not been commercially viable options for organic farmers. Diatomaceous earth (silica sand) is made up of tiny, sharp diatoms that, when the insect crawls through, will compromise the beetle's waxy cuticle. This leaves them vulnerable to desiccation and infection. Since the beetles need to crawl through it to be effective, diatomaceous earth should be spread where there is high beetle traffic on the floor along walls and posts, and cracks in the cement.
The biological agent that seems to be the most effective against darkling beetles is the fungal pathogen, *Beauveria bassinana.* This fungus infects both juvenile and adult stages of the beetle. The spore of the fungus will adhere to the insect and germinate, with hyphae extending into the body cavity to cause death.

Musca domestica, known as the common house fly or 'filth fly', is a prevalent nuisance species among all poultry production. Adults are under 3/4 cm in length and do not bite (**Fig. 3**). They breed and feed in warm, moist, organic material, and females lay 500 to 1000 eggs over her life time of three to four weeks. The life cycle (egg-to-egg) of the common house fly averages 21 days in length, though can be shorter or longer during higher and lower temperatures, respectively. Eggs hatch within 24 hours. The juveniles, or maggots, will undergo three instars (shed their skin as they grow) over 4 to 7 days and then pupate into an adult.

Nuisance Insects in Organic Poultry Production (Cont'd)

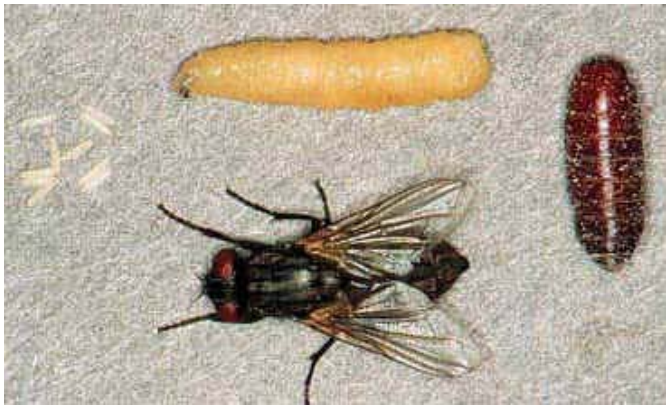

Fig. 3 Life Cycle of the Common House Fly

Flies, like darkling beetles can be a serious biosecurity risk as vectors of diseases such as *Salmonella enteritidis* and *E. coli.* One study documented flies that remained positive for salmonella for upwards of 7 days. Flies can also potentially be mechanical vectors of many other diseases as well.

House flies can be a nuisance to poultry and people alike. High fly infestations can cause stress among birds, resulting in production loss, whether it be meat or eggs. As a farmer, high levels of flies can make the barn uncomfortable to work in and potentially cause tension with neighbours. Flies can also pose a food safety concern, as eggs just laid by the hen are moist and warm, making them attractive to adult flies. These flies can transmit pathogens to the surface of the egg, which can then be drawn into the egg as the egg cools.

When it comes to dealing with fly infestations, there are cultural, physical, and biological methods of management. Success of fly management hinges on locating fly breeding grounds and eliminating them.

Cultural methods aim to reduce litter moisture or changing litter pH. Flies will lay eggs in organic matter that is between 20 and 80% moisture, with 60-80% being ideal. The drier the manure, the fewer flies you will have. Therefore, controlling water leaks and spills and ensuring proper ventilation can have a huge impact on your fly population. You must also minimize breeding and feeding sites around your property such as rotting vegetation, garbage, spilled feed, livestock manure, and long grass. Boric acid, citric acid, and lime will change the pH of the litter, making it inhospitable to fly development. However, this is only recommended if the manure is separate from the birds, i.e. slatted floors. Otherwise, acidic or caustic conditions can burn foot pads.

Physical control methods include sticky traps, bag traps, and light traps (attractants and bug zappers) to reduce adult populations, as well as proper manure composting to kill larvae. Sticky traps must be monitored and replaced frequently as they fill with dead flies or become covered in dust and dander. Bag traps must also be monitored to make sure they do not become too full. Light traps use UV light to attract flies, becoming less effective when they are dirty. Be cautious when using light traps, as they could potentially short out, and become a fire hazard. Also, little is known about the effects of UV light on poultry behaviour.

When manure is composting internal pile temperatures can reach temperatures in excess of 55C – hot enough to kill fly larvae. However, the exterior of the pile can be much cooler, causing larvae to migrate to the outside and complete their life cycle. By physically mixing and turning the pile, you will ensure that the outside of the pile (and any fly larvae and pupae) are also sufficiently heat treated.

Biological control methods include: parasitic wasps, nematodes, mites, hister beetles, earwigs, and certain fungi. When using any biological species, you need to start your program early – biological populations cannot increase as quickly as the fly population. It is also important to continue treating with biologicals even when you do not see adult flies present to keep the population suppressed.

There are ways to effectively manage darkling and flies without the use of chemical pesticides. However this requires a basic understanding of insect biology, monitoring, and both cultural and biological control methods. To quote Jim Skinner, CEO Terregena Inc.: "Pest control is a science. It is not some sort of trial and error, and if you think in terms of a scientific solution to addressing the pest problem, then you can get to where you want to go".

Organic Crop Production Aids and Materials Update

Growers are reminded that, in most cases, pest control products for organic production should be used only as a last resort, after all other management options have been exhausted, and only with the approval of their certifying body. All pest control products used in organic production in Canada must be registered by the Pest Management Regulatory Agency (PMRA) and adhere to the Permitted Substances List (PSL) before they can be considered by certification bodies for use by organic farmers. The Organic Products Regulations (OPR), the Canada Organic Standard and the Permitted Substances List (PSL) provide guidelines for the use of certain crop production aids and materials which may be permitted for use in organic production systems in Canada. Always follow all product label instructions, including (but not limited to) rates, timing and minimizing impacts on non-target organisms.

To access more information about the Canada Organic Standard and the PSL please visit the following pages on the Canadian Food Inspection Agency's website:
Canada Organic Standard
Permitted Substances List

To access product labels, visit Health Canada's website housing the PMRA's label search service:
PMRA Label Search

ORGANIC FIELD CUCURBIT PRODUCERS Receive Emergency Use Registration for PYGANIC® CROP PROTECTION EC for control of cucumber beetles.
Jim Chaput, Minor Use Coordinator, OMAF and MRA

The Pest Management Regulatory Agency (PMRA) recently announced the approval of an emergency use registration for **PYGANIC® Crop Protection EC 1.4 II (pyrethrins)** for control of **cucumber beetles on field cucumbers, squash, melons and processing pumpkins** in Canada. Pyganic® was already registered for use against several insects of beans, tomatoes, blueberries, grapes, raspberries and roses in Canada.

This emergency use for Pyganic® can be used only in Quebec, Prince Edward Island, New Brunswick and Ontario until October 31, 2013.

Cucumber beetles are the most common and serious pest of field cucurbits in North America and have been identified annually on the Canadian minor use priority list and more specifically by organic producers of field cucurbits. The emergency use registration of Pyganic® is an important temporary step towards improving the pest management toolkit for organic producers of cucumbers, squash, melons and processing pumpkins.
This emergency use submission was initiated by the provinces of Quebec, Ontario, New Brunswick and PEI in response to increasingly serious damage from cucumber beetles to organic field cucurbits as identified by producers. The following is provided as an abbreviated, general outline only. Users should consult the complete emergency use label before using Pyganic® Crop Protection EC.

PYGANIC®Crop Protection EC can be applied at a rate of **4.65 L product per hectare** as soon as cucumber beetles are observed. Apply in sufficient spray volume to ensure complete and thorough coverage of plant surfaces. Applications can be made on a 5 day interval if monitoring indicates a need. A maximum of 8 applications per year is permitted.

Follow all other precautions and directions for use on the Pyganic® label carefully. This product is highly toxic to honey bees and native pollinators exposed to direct spray on blooming crops or other vegetation. Avoid use when pollinators are actively foraging. This product is toxic to aquatic organisms. Do not contaminate any body of water by direct application, cleaning of equipment or disposal of wastes.

Pyganic® should be used in an IPM program and in rotation with other management strategies to adequately manage resistance. Although Pyganic® is OMRI listed in the U.S., growers should consult their organic certification body in Canada to confirm that it can be used here also.

We wish to acknowledge the **Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Quebec (MAPAQ)** for coordinating the submission on behalf of the participating provinces. We also wish to acknowledge the personnel of **McLaughlin Gormley King Co.** for their support of this registration and the personnel of the **Pest Management Regulatory Agency** for evaluating and approving this important pest management tool.

For copies of the new minor use label contact Melanie Filotas, OMAF/MRA, Specialty Crops IPM Specialist, Simcoe (519) 426-4434, Jim Chaput, OMAF/MRA, Guelph (519) 826-3539 or visit www.plantprod.com or www.bartlett.ca

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

New Resource Connects Ontario Growers to the Information They Need

The Ontario Ministry of Agriculture and Food and Ministry of Rural Affairs (OMAF and MRA) have developed a new online tool that helps produce growers understand the regulations and requirements to bring their foods of plant origin to market. Whether they are selling at the farm gate, to local farmers' markets or retailers, this tool, *Marketing Foods of Plant Origin in Ontario: A Guide to Legislative Requirements*, connects producers to the food safety, labelling and packaging requirements for their region.

Producers in the Northern Ontario region were facing a challenge to understanding how they could offer their locally-grown fruits, vegetables and other foods of plant origin through a variety of channels in their community. Regulations that influence the sale of these products can be from the federal or provincial government as well as the local health unit. Knowing where to go to get the right information was daunting.

The new tool allows growers to go online and answer a series of questions, the answers to which allow them to offer their products while complying with appropriate rules and regulations.

Questions include what is being sold, if any minimal processing is required before going to market, where the items are being sold and so on.

Links to the correct information from various sources are then provided (as applicable). These links indicate the regulation that is in place, and can relate to packaging, food labelling or processing.

While initiated due to a need identified by growers in Northern Ontario, this tool is available online to all Ontario producers of foods of plant origin. To use the tool online visit ontario.ca/producesafety

Growers who do not have access to the web-version may contact the Agricultural Information Contact Centre at 1.877.424.1300 for alternate versions.

Funding Opportunities

Ontario Farm Innovation Program

OMAF and MRA is supporting the development and adoption of on-farm innovations that can increase the ability of farmers to respond to changing demands and opportunities and improve on-farm profitability. The Ontario Farm Innovation Program (part of Growing Forward 2 a federal, provincial, territorial agreement) will provide funding for applied research projects and on-farm demonstration projects that showcase new on-farm innovations. The program is open to non-supply managed farm organizations and to individual farmers in partnership with commodity organizations. OFIP is delivered by the Agricultural Adaptation Council (AAC). For more information please visit the AAC website: www.adaptcouncil.org/program-details.php?id=0c4d8n5f1t2q

Growing Forward 2 - Helping You Reach Your Goals

Growing Forward 2 (GF2) is a comprehensive federal-provincial-territorial framework aimed at encouraging innovation, competitiveness and market development in Canada's agri-food and agri-products sector. In Ontario, farm, food and bioproducts businesses, collaboration and organizations can build their own plan and select opportunities to help grow their profits, expand their markets and manage risks.

With a focus on innovation, competitiveness, and market development, Growing Forward 2 programs are designed to help the industry capitalize on opportunities and contribute to the economy. Whether you are just starting out, or have been in business a long time, Growing Forward 2 will offer practical and flexible programs that can help you reach your goals.

Growing Forward 2 Client Information Sessions

Sign-up for a Growing Forward 2 client information session hosted by our delivery partners in collaboration with OMAF. For a list of session locations, dates and times and to register click here: GF2 Client Information Sessions.

GF2 Client Portal - New Approach

Farm businesses, processors and groups can enrol for upcoming Growing Forward 2 programming through the GF2 Client Portal. You only need to register once to get access to the full menu of programs and track submitted applications.

To receive regular Growing Forward 2 updates send us an email at growingforward2@ontario.ca.

For information on Growing Forward 2 Business Risk Management Programs visit Agricorp's website.

Apply For Growing Forward 2 - Start Here

1. Create Your Profile

New users need to register a user name and password to begin the application process.

2. Apply

Login to apply for Growing Forward 2 programs including education and funding.

Learning Opportunities

Theory and Principles of Sustainable Urban Agriculture and Horticulture
The University of Guelph will be offering a number of courses on sustainable urban agriculture in the Fall 2013 semester. For more information please visit the University of Guelph Open Learning and Educational Support website: www.open.uoguelph.ca/offerings/offering.aspx?hold=y&id=4313

Or call 519.824.4120 ext. 55000, email: info@opened.uoguelph.ca

Conferences, Meetings and Tours

EFAO Summer Farm Tours
Whitefield Farm Tour
Date: July 28, 3:00pm - 5:00pm tour, followed by a potluck
Owned by Blair and Jessica Morrison, Whitefield Farm is a new 80 ac mixed farm located in Lucknow, Ont., featuring organically raised CSA garden, pastured beef, chicken and eggs.
A new straw bale house built in 2012 features reclaimed and recycled materials, passive solar heating, imported wood cook stove, solar and horse power energy. Whitefield Farm is being developed with sustainability and self-sufficiency in mind and focused on creative solutions to the challenges of modern farming.

For more information on the tour and to register contact: info@efao.ca,

Tel: 519.822.8606 or 1.877.822.8606.

OMAF and MRA Natural Enemies Workshop
Date: August 7, 2013
Location: Simcoe Research Station, 1283 Blueline Road, Simcoe, Ontario

The afternoon workshop hosted by OMAF and MRA will be focused for field grown vegetable and specialty crop growers, scouts and agribusiness persons. A combination of classroom and outdoor activities are planned including monitoring for natural enemies and information on biological control and parasitoid projects.

For more information and to register for the workshop, contact the Agriculture Information Contact Centre (AICC) at 1.877.424.1300 or email: ag.info.omafra@ontario.ca

North American Manure Expo
Date: August 20 & 21, 2013
Location: 413 Arkell Road, Arkell, Ontario
The 2013 Manure Expo will focus on precision manure management and will include commercial field demonstrations, educational sessions and commercial vendor displays.

August 20: Half-day bus tour featuring lagoon agitation equipment demonstrations, a stop at a dairy-based anaerobic digester, a tour of Husky Equipment in Alma, followed by supper at the Alma Community Centre. Buses will be departing from the University of Guelph – Arkell Research Station at 11:30 a.m.

August 21: Informative seminars on manure management – including compaction, valuing manure, precision management and technology demonstrations – plus see the latest and greatest in manure handling equipment, including demonstrations of solid and liquid manure spreaders plus composting equipment.

Attendance is free for both days but pre-registration is required. Tour Day has limited seating so register early to avoid disappointment.

For more information and to register please visit the website at: http://www.agannex.com/manure-manager/manure-expo or by Tel: 1.888.599.2228

2013 EFAO Bus Tour to Eastern Ontario & Quebec!
Date: August 22 – August 24
Visit 8-10 farms, a mixture of vegetables, dairy, cash crops, and on–farm processing.
Overnight stays in Ottawa & Cornwall
Highlights:

- Anaerobic digester
- Sunflower milling
- Cover crop research
- Organic dairy research
- On-farm dairy processing
- And more!

To register for the bus tour contact: info@efao.ca, Tel: 519.822.8606 or 1.877.822.8606 to hold your spot now!

McVean Farm Harvest Table, 2013
Date: August 25, 3 - 8pm
Location: McVean Start-Up Farm, Brampton, Ontario
All proceeds go to start-up farms, farmers and programs and services through FarmStart. Tickets are $100.00 + HST each (all $100.00 ticket purchases may receive a charitable receipt for $50.00); $50.00 + HST for farmers; $50.00 + HST for children under 12; Babes in arms are free (under two years).
For more information please visit: www.harvesttable.ca or www.farmstart.ca.
To purchase your tickets please contact: Cherie Bauman, FarmStart Administration, email: cherie@farmstart.ca OR tel: 519.836.7046 ext.103

Canada Outdoor Farm Show
Date: September 10-12, 2013
Location: Woodstock, Ontario
For more information please visit the website at: www.outdoorfarmshow.com

2013 Bilingual Agricultural Workshops Day – Alfred Campus-University of Guelph
Date: September 12, 2013
Location: Alfred Campus, University of Guelph
The second edition of the Bilingual Agricultural Workshop Day will be held in Alfred on September 12th 2013. This event is organized by OMAF and MRA and the University of Guelph-Alfred Campus.

One of the primary objectives of the day is to provide producers and industry stakeholders with useful and up-to-date information on dairy production practices, farm business management and research findings pertaining to the industry. A second objective is to bring stakeholders together under one roof to allow for an exchange of information between farmers, agricultural service suppliers, researchers and OMAF and MRA staff.

Last year, one hundred and twenty people attended the event. We expect at least as many people this year. Simultaneous translation service will be offered to all participants again this year and presentations will be made in both English and French.
This year's agenda includes two formal presentations focusing on Biosecurity on the Dairy Farm and The High Immune Response Technology: Disease Resistant Genetics.

The rest of the program will be devoted to interactive workshops, networking and meeting researchers. Participants will be divided in small groups and each group will move from workshop to workshop every thirty minutes.

Four workshops will take place concurrently:
Quinoa and Other Alternative Crops (Evan Elford, OMAF and MRA)
Dairy Nutrition Clinic; Molds and Mycotoxins (Tom Wright , OMAF and MRA)
Assessing Cow comfort in the Barn (Elsa Vasseur, University of Guelph)
Developing a Heifer Selection Strategy Using Tools Such as Genomics and Sexed Semen (Mario Mongeon, OMAF and MRA)

Participant notes from last year:
- "The workshops were great because they allowed us to have more personal and interactive relation with the presenters"
- "I really liked the fact that there were workshops and we did not sit still all day"
- "The manure reading workshop was very new to me and I will use this at home"
- "I found it very efficient to go from place to place in small groups and the content was very interesting as well"

For more information, please contact: Mario S. Mongeon, OMAF and MRA at 613.679.4288

100th Anniversary International Plowing Match and Rural Expo
Date: September 17-21, 2013
Location: Perth County
For more information please visit the website at: www.ipm2013.org/about.html

Permit to Take Water (PTTW) Workshops
The OF&VGA will be hosting PTTW workshops in the OMAF and MRA Simcoe auditorium in 2013 and 2014. The format will be a half day session from 9am-12pm working through the application form in a group setting.

To register please contact: George Shearer, Tel: 519.763.6160 ex. 219
Registration fee: $20.

2013 Dates:
- Oct 25
- Nov 29

2014 Dates:
- Jan 31
- Mar 28

Catching the Wave - Guelph Organic Conference & Expo 2014
Date: January 30-February 4, 2014
Location: Guelph University Centre, Ontario

For more information please visit the conference website at www.guelphorganicconf.ca or call 519.824.4120 ext 56311

Links to ON Organic Information & Staff Contacts

OMAF and MRA Horticulture Staff

Horticulture Technology

Mike Celetti	Pathologist, Hort Crops Prgm Lead	519-824-4120, x58910
Jim Chaput	Minor Use Coordinator	519-826-3539
Hannah Fraser	Entomologist, Hort Crops Prgm Lead	905-562-1674
Kristen Callow	Weed Mgt Hort Crops Prgm Lead	519-738-1232
Christoph Kessel	Nutrition, Hort Program Lead	519-824-4120, x52480
Deanna Németh	Nutrient Management Planning Spec.	905-562-1170
Anne Verhallen	Soil Management Specialist	519-674-1614
Vacant	Organic Crop Production	519-826-4587
Denise Beaton	Crop Protection Program Lead	519-826-6594
Jason Deveau	Application Technology Specialist	519-426-8934

Horticulture Crops

Marg Appleby	IPM Systems Specialist	613-475-5850
Eugenia Banks	Potato Specialist	519-826-3678
Wendy McFadden-Smith	Tender Fruit & Grape IPM Spec.	905-562-3833
Jennifer DeEll	Fresh Market Quality	519-426-1408
Pam Fisher	Berry Crop Specialist	519-426-2238
Janice LeBoeuf	Vegetable Crop Specialist	519-674-1699
Elaine Roddy	Vegetable Crop Specialist	519-674-1616
Kathryn Carter	Tender Fruit & Grape Specialist	905-562-1639
Leslie Huffman	Apple Specialist	519-738-1256
Kristy Grigg-McGuffin	Pome Fruit IPM Specialist	519-426-4322
Marion Paibomesai	Vegetable Crop Specialist	519-826-4963

Greenhouse, Agroforestry & Specialty Crops

Jim Todd	Transition Crops Specialist	519-426-3823
Melanie Filotas	Specialty Crops IPM Specialist	519-426-4434
Sean Westerveld	Ginseng & Medicinal Herbs Spec.	519-426-4323
Evan Elford	New Crop Development Specialist	519-426-4509
Wayne Brown	Greenhouse Floriculture Specialist	905-562-4141, x179
Graeme Murphy	Greenhouse Floriculture IPM Spec.	905-562-4141, x106
Shalin Khosla	Greenhouse Vegetable Specialist	519-738-1257
Gillian Ferguson	Greenhouse Vegetable IPM Spec.	519-738-1258
Pam Charbonneau	Turfgrass Specialist	519-824-4120, x52597
Jennifer Llewellyn	Nursery Crops Specialist	519-824-4120, x52671
Todd Leuty	Agroforestry Specialist	519-826-3215
Mahendra Thimmanagari	Crop Bioproducts Specialist	519 826-4593

OMAF and MRA Field Crop & Livestock Staff

Field Crops

Horst Bohner	Soybean Specialist	519-271-5858
Ian McDonald	Applied Research Coordinator	519-482-5129
Peter Johnson	Cereals Specialist	519-271-8180
Albert Tenuta	Pathologist, Field Crops Prgm Lead	519-674-1617
Tracey Baute	Entomologist, Field Crops Prgm Lead	519-674-1696
Scott Banks	Emerging Crops Specialist	613-258-8359
Gilles Quesnel	IPM Field Crop Program Lead (Bil)	613-258-8250
Bonnie Ball	Soil Fertility Specialist	519-271-9269
Adam Hayes	Soil Management Specialist	519-674-1621
Greg Stewart	Corn Industry Program Lead	519-824-4120 x54865
Michael Cowbrough	Weed Mgmt Field Crps Prgm Lead	519-824-4120 x52580
Joel Bagg	Forage Specialist	705-324-5856
Christine Brown	Nutrient Mgt Field Crops Prgm Lead	519-537-8305
Brian Hall	Canola & Edible Bean Specialist	519-271-0083

Livestock

Tom Wright	Dairy Cattle Nutritionist	519-824-4120 x56281
Jaydee Smith	Swine Prod Systems Program Lead	519-674-1542
Mario Mongeon	Livestock Specialist (Bil)	613-679-0937
Albert Dam	Poultry Specialist	519-824-4120 x54326
Brian Lang	Dairy Cattle Prod Systems	519-537-8786
Doug Richards	Swine Grower-Finisher Specialist	519-482-3133
Ron Lackey	Feed Ingredient & By-product Specialist	519-271-7407
Anita O'Brien	Sheep & Goat Specialist	613-258-8299
Brian Tapscott	Alternative Livestock Specialist	519-846-3400
Chisptoph Wand	Beef Sheep & Goat Nutrition	519-824-4120 x53670
Brian Pogue	Beef Cattle Program Lead	519-826-5106
Nancy Noecker	Beef Cow/Calf Specialist	613-258-8476
Delma Kennedy	Sheep Specialist	519-846-3398
Steve Naylor	Aquaculture Specialist	519-826-3172
Tom Hamilton	Beef Cattle Production	705-647-2087
Jack Kyle	Grazier Specialist	705-324-5855

Links to Organic Agriculture Information

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

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

OMAF and MRA Organic Agriculture
http://www.ontario.ca/organic

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

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

FarmStart www.farmstart.ca

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