

# Ohio Fruit ICM News

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## Calendar - Newly added in *Bold*

March 4-7, International Organic Tree Fruit Research Symposium, Kellogg Center, East Lansing, Mich. For more information contact Mark Whalon, (517) 353-9425.

March 10. 5<sup>th</sup> Appalachian Opportunities Symposium, Beckley, WV. "Plants and Plant Systems for Small Farm Product Diversification". Sponsored by Mountain State University, USDA/ARS Appalachian Farming Systems, and WV Herb Association. For more information contact Dean Myles at (304) 929-1630.

**March 12, Southwest Ohio Fruit and Vegetable School (rescheduled).** Valley Vineyards, Morrow. Pre-registration deadline March 9<sup>th</sup> (\$30). Late registration fee \$35. Co-sponsored by Ohio State University Extension offices in Butler, Clermont, Hamilton and Warren County. For more information please contact Greg Meyer [meyer.213@osu.edu](mailto:meyer.213@osu.edu) or phone (513)695-1311.

**March 14, Northeast Ohio Winter Grape School,** Conneaut, Ohio. For more information see this issue.

March 14, Northern Ohio Small Fruit School. Ehone Joint Vocational School, Milan. 10:30-3:00. Registration fee of \$5 is payable at the door. For more information or to pre-register contact [Zachary Rinkes](mailto:Zachary Rinkes) or phone 419-627-7631.

March 19, Advanced Topics Blueberry School, OSU South Centers. **Pre-registration required.** For more information contact Brad Bergefurd at 740-289-2071 Ext136 or by email at [bergefurd.1@osu.edu](mailto:bergefurd.1@osu.edu)

March 24<sup>th</sup> The Law and You: An Agricultural Perspective. ODA office, Reynoldsburg. A program for women in agriculture sponsored by Ohio Agri-Women. For more information contact Pat Holmes [holmes.86@cfaes.osu.edu](mailto:holmes.86@cfaes.osu.edu) or phone 937-456-8174.

July 26, Beekeeping Workshop, OSU South Centers. More information to follow.

## **Comments from the Editor**

The unusual weather continues. January was warmer than normal across the state and February was colder than normal. Winter is slowly coming to a close so it is time to make sure you have everything ready for the new growing season. I've included links to the updated spray guides in this newsletter. Don't forget to evaluate your marketing plans and labor requirements as well.

## **Commercial Spray Guides Available**

The updated tree fruit and small fruit commercial spray guides are available through the County Extension office, or the Ohio State University Extension Publications, <http://ohioline.osu.edu/~buckpubs/ento.htm> (Phone (614) 292-1607, or email [pubs@ag.osu.edu](mailto:pubs@ag.osu.edu)

They are also available for download as pdf files at <http://www.hort.purdue.edu/hort/ext/sfg/>

For less than \$10, these spray guides are one of the best investments in your enterprise.

**Northeast Ohio Winter Grape School** by David Marrison, Ag & NR Extension Educator Ashtabula County

OSU Extension is pleased to announce that the 2007 Northeast Ohio Winter Grape School will be held Tarsitano Winery & Café in Conneaut, Ohio on Wednesday, March 14 from 10:00 am to 3:00 pm. If you are involved in our local grape and wine industry, you will not want to miss this event.

Featured speakers for morning session will include Ken Tarsitano from Tarsitano Winery Café and Dr. Mike Ellis, Dr. Doug Doohan, and Dan Fickle from OSU Extension. Topics to be discussed include the history and philosophy of Tarsitano Winery and Café and strategies controlling disease, insects, and weeds in vineyards. Learn more about the grape berry moth, Lady Asian beetle and sustainable weed and disease control practices for grape vineyards.

Following the morning session, producers will be treated to a wonderful luncheon provided by Tarsitano Winery & Café. This will be an excellent time for grape producers to relax, dine and share fellowship.

Following lunch, the featured speakers will include Greg Johns, OARDC Ashtabula Research Station Branch Manager, David Marrison, OSU Extension and Dan Donaldson and Maurine Orndorff from the Lake County Soil & Water Conservation

District. Topics to be discussed include observations of the German Viticulture and Wine Industry, transition planning for vineyard operations, and an update on local, state and federal programs that can enhance vineyard operations.

The registration fee for this program is \$17 person and includes program handouts, refreshments and lunch. Registration is required by March 9, 2007. Space is limited for this program, so reservations will be accepted on a first come first serve basis. Please register by calling the Ashtabula County Extension office at 440-576-9008.

**Basics of Insect Monitoring with Sex Pheromone Traps** by Greg Krawczyk  
- PSU Extension Tree Fruit Entomologist (source: PSU Fruit Times Vols 26, #2)

The presence (or absence) of insects pest species in the orchard can be detected and monitored by wide variety of traps and methods, but the utilization of traps with an insect sex pheromones is probably the simplest and at the same time, the most accurate way to monitor insect pests. Although there are multiple designs of traps that work best for various pests, the general principle of how the average trap works is almost always like this: each trap needs to have a source of pheromone (usually rubber or plastic based lure/septa with incorporated sex pheromone), means to capture visiting moths (usually floor or liner coated with non-drying glue) and some kind of plastic or paper dome to protect the lure and floor.

Although, multiple resources are available to help growers conduct their own monitoring of pests species on the farm, the general perception is that pest monitoring is either too difficult, too time consuming, or simply too confusing for an average person to do it right. Following are examples of some most common questions/ misconceptions related to insect pest monitoring using the sex pheromone traps:

**Which insect pests can I monitor using pheromone traps?**

The simplest answer is that the pheromone traps can be used to monitor insect species that are actually able to release pheromones. Most lepidopteran insects (moths and butterflies) produce pheromone to improve the ability of one gender individuals to find the other. And as long as the sex pheromone for the species is identified and can be manufactured, there is a possibility that pheromone traps can be used for monitoring of this species. But it is very important to remember that sex pheromone traps capture only individuals of one gender.

In Pennsylvania orchards, numerous pests can be responsible for injuries in fruit orchards. The importance of various pest species fluctuates from year to year, but almost always the most important pests will be part of leafroller complex with tufted apple bud moth (TABM), obliquebanded leafroller (OBLR), internal fruit feeders complex with Oriental fruit moth (OFM) and codling moth (CM) or borers such as dogwood borer or peach tree borer. Fortunately, with the current emphasis on practical implementation of Integrated Pest Management (IPM) methods, the sex pheromone traps for all of those species are available for a purchase.

Unfortunately, in our Mid-Atlantic fruit region, also a number of other common pest species such as apple maggot, plum curculio, European apple sawfly or various plant feeding bugs can create a serious threat to fruit. This group of pest does not have a good pheromone based monitoring system, however other trapping/monitoring methods utilizing other means such as visual or food odor related clues are also being utilized for pest detection. It is very important that growers monitor these pests as well.

**Can I actually control insects by using pheromone traps?**

No, the pheromone traps are a great tool for insect monitoring but will not control insect pests. Sex pheromones used to attract insect into the trap are the composition of chemicals that mimics the natural molecules actually released by one gender moths to attract the opposite sex individuals. Therefore, only one sex of moths (males or females) is attracted to the traps. In our specific orchard ecosystem, traps are competing with the female moths in attracting male moths, but since normally there are a lot of more wild moths than traps, there is a strong possibility that mating occurs anyway, and female moths will still be able to deposit viable eggs. Therefore traps are excellent tool for moths monitoring but not the control.

**Since I spray my orchard with pesticides anyway then I do not need traps:**

With a wide adoption of new generation of softer, more selective insecticides (i.e., methoxyfenozide, spinosad, novaluron, or neonicotinoid compounds) that are highly species specific in their action and requiring precise timing of application, it is very important that growers are fully aware of pest species present in their orchards. By utilizing the pest information provided by pheromone traps, the pest control effort (and expense) can be directed specifically against the species that really needs grower's attention and at the best possible timing.

**Monitoring insect with pheromone traps is too time consuming:**

A single trap should be used to monitor only a single insect species. In properly monitored orchard at least two traps per species should be used per block. In larger, over 20 acre blocks, at least one trap per every 10 acres should be employed. It is important that traps within each block will be placed in such locations that they would be able to provide accurate readings of moth pressure. Placing traps far away (or too close) from possible moth sources such as large bin piles, abandoned or neglected orchards may provide inaccurate image of possible pest pressure. In orchards, where only the absolute minimum trapping program is to be implemented, and traps will be used only to provide information about the best timing for insecticide applications, at least two traps per species have to be used per farm.

**What is the best way to properly place trap in an orchard?**

Pheromone traps should not be placed closer to the border of the blocks than on 2<sup>nd</sup> -3<sup>rd</sup> row/tree from outside of the orchard. All traps placed in the orchard should be easily accessible by person who will monitor them. The optional height for trap placement on the tree is at about 5-7 feet from above the ground although traps for some pest species, especially codling moth, should be placed in the upper fourth of the tree height. For this higher placement, traps can be attached to bamboo posts and elevated into the upper part

of the tree. All traps should be placed within a tree canopy, not on the outside of the tree. To make it easier for the person who will monitor traps during the season, traps for different pest species can be located on adjacent trees. It also may be helpful if the trees and tree rows with the traps will be marked with contrasting flagging tape.

**For how long a trap will provide accurate information?**

The pheromone loaded septa attracts moths only for a set period of time, usually from 4 to 8 weeks depends on the kind of the lure. In order to maintain reliable pest monitoring, the lure needs to be replaced before lure's attractiveness starts to deteriorate. Usually, the manufacturer provides the information for how long a lure will be active in the orchard. The glue coated floors or liners also need to be replaced regularly, especially if high numbers of moths are being collected regularly and the glue layer is no longer sufficient to capture moths. In contrast to lures, which can not be reused, the liners after cleaning and coating with new layer of glue can be reused in traps. It is very important that the reusable liners will be used only in the traps for the same species as they were used previously.

**Insects in pheromone trap are too difficult to identify:**

Insect pheromones are species specific, and each species use a different set of chemicals to attract individuals from the opposite sex. Therefore, unless the trap (or the lure) is contaminated with some other no pheromone specific chemicals, only the addressed species should be coming to the trap. Of course, various colors of the traps can also attract other insects by visual attraction, but the presence of other insect species in the trap most likely will be incidental and/or sporadic.

**Pheromone traps are too expensive:**

With the yearly estimated price of monitoring system for one species (two traps, 10 lures, 10 liners) circulating around \$40-70 (without labor), the traps will pay for themselves in no time. Elimination of one, not needed insecticide application, will more than pay back all costs associated with the seasonal price of monitoring. But also, what is probably more important, a vigilant monitoring system should help growers to avoid problems with unexpected occurrence of pests in the orchard. Even, if as the result of pest monitoring, additional insecticide application will be necessary to manage detected problem, dealing with the infestation before actual fruit damage occurred, seems as a much better approach than dealing with injured fruit at harvest.

The names and contact information of various trap and pheromone suppliers are listed in the PA Tree Fruit Production Guide (2005-2006 edition) on page 75 and are also available at the web version of TFPG at <http://tfpg.cas.psu.edu/42.htm>

Although even the best designed and completed monitoring program will not eliminate the insect problems from the orchards, such activity will for sure help to better manage fruit pests.

If more detailed information about insect monitoring are necessary please contact the PSU Extension Tree Fruit Entomologist Dr. Greg Krawczyk at: [gxk13@psu.edu](mailto:gxk13@psu.edu).

**Preliminary Monthly Climatologic Data for Selected Ohio Locations -  
February 2007**

	<b>February</b>		<b>Average Temperatures</b>			
	Precip.	Normal	High	Low	Monthly	Normal
<b>Akron-</b>						
<b>Canton</b>	1.28	2.28	24.9	10.6	17.8	28.3
<b>Cincinnati</b>	3.42	2.75	31.7	13.7	22.7	34.1
<b>Cleveland</b>	1.41	2.29	25.5	12.0	18.8	28.4
<b>Columbus</b>	2.06	2.20	28.5	13.8	21.2	32.0
<b>Dayton</b>	2.52	2.29	26.4	10.4	18.5	30.3
<b>Mansfield</b>	1.86	2.17	24.4	10.5	17.4	27.3
<b>Toledo</b>	0.96	1.88	24.4	10.1	17.3	27.0
<b>Youngstown</b>	1.65	2.03	25.1	11.0	18.1	27.5

This data is from the National Weather Service. Temperature is Fahrenheit and precipitation is in inches.

NOTE: Disclaimer - This publication may contain pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registrations, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author and Ohio State University Extension assume no liability resulting from the use of these recommendations.

**Ohio Poison Control Number**

(800) 222-1222  
TDD # is (614) 228-2272