

# Ohio Fruit ICM News

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## In This Issue

Comments from the Editor  
Fruit Observations and Trap Reports  
Coming Events Pest Development  
Welcome Dr. Rackso  
National Farm Safety and Health Week, September 21-27  
Why Apples May Need A Fungicide Spray During September  
Emergency Management Tip of the Month  
How the Numbers Turned Out  
Calendar  
Ohio Poison Control Phone Number

## Comments from the Editor -

Autumn is a busy time for everyone and as you wrap things up for this growing season there is never enough daylight to get everything done you want. This can cause you to try to cut corner on safety and this can quickly turn into trouble. This issue contains several articles from Ag Safety S.T.A.T. - Safe Tactics for Ag Today is an e-mail newsletter prepared by Dee Jepsen, Extension Agricultural Safety Specialist and team members from the State Safety Office, in the Dept. of Food, Agricultural and Biological Engineering at OSU. There is lots of good information in this newsletter and it never hurts to be reminded of safety. If you have safety-related questions or program ideas that you would like to share, contact your County Extension Educator so that as they plan their winter meetings these issues can be addressed.

Also, the North Central Region USDA SARE (Sustainable Agriculture Research and Education) program has just issued its annual Call for Proposals for the Farmer and Rancher Grant Program. This grant program is intended to help farmers and groups of farmers adopt sustainable production and marketing practices. The grant program offers grants of up to \$6,000 per farmer and up to \$18,000 per group of farmers. Proposals are due in the NCR SARE office at the University of Nebraska by December 1, 2008. The complete CFP including application materials and a video outlining how to develop successful proposals can be found at <http://sare.org/ncrsare/prod.htm>.

Lastly, if you want to keep track of apple maturity, Bill Shane and Bob Tritten from MSU have started posting that data on their website at [http://www.maes.msu.edu/swmrec/publicationsfolder/fruitnewsletter/PEST\\_DIS.HTM](http://www.maes.msu.edu/swmrec/publicationsfolder/fruitnewsletter/PEST_DIS.HTM)

## **Fruit Observations and Trap Reports**

Waterman Lab Apple Orchards, Columbus, 8/28/08 to 9/3/08

Redbanded leafroller:	48 (up from 46 last week)
Spotted tentiform leafminer:	772 (up from 686 last week)
San Jose Scale (mean of 2):	5.5 (up from 0 last week)
Codling moth (mean of 3):	0.6 (same as last week)
Codling moth DA/combo:	3 ( up from 2 last week)
Lesser appleworm (mean of 2):	17.5 (up from 6 last week)
Tufted apple budmoth:	6 (down from 8 last week)
Variegated leafroller:	0 (down from 3 last week)
Oblique-banded leafroller:	7 (down from 9 last week)
Apple maggot (mean of 3):	1 (up from 0.3 last week)

Waterman Lab Apple Orchards, Columbus, 8/21/08 to 8/27/08

Redbanded leafroller:	46 (up from 31 last week)
Spotted tentiform leafminer:	686 (up from 488 last week)
San Jose Scale (mean of 2):	0 (down from 0.5 last week)
Codling moth (mean of 3):	0.6 (up from 0.3 last week)
Codling moth DA/combo:	2 ( up from 0 last week)
Lesser appleworm (mean of 2):	6 (up from 2.5 last week)
Tufted apple budmoth:	8 (up from 2 last week)
Variegated leafroller:	3 (up from 0 last week)
Oblique-banded leafroller:	9 (up from 1 last week)
Apple maggot (mean of 3):	0.3 (up from 0 last week)

North Central Ohio Tree Fruit IPM Program report prepared by Cindy Crawford  
Ted Gastier – West District IPM Scout (Sandusky, Ottawa, Huron & Richland Counties)  
8/25/08

### Apples

Spotted tentiform leafminer – 30.7 (down from 129.6)
Redbanded leafroller – 5 (up from 4)
Oriental Fruit Moth – 6.3 (up from 4.5)
San Jose Scale – 0 (same)
Codling Moth – 2.9 (down from 4.6)
Lesser Apple Worms – 0 (same)
Apple Maggot – 0 (same)

### Peaches

Redbanded leafroller- 32 (up from 4)
Oriental Fruit Moth – 6.6 (up from 3.9)
Lesser Peach Tree Borer – 2.4 (down from 10.7)
Peach Tree Borer – 3.3 (down from 3.7)

Lois McDowell – East District IPM Scout (Erie and Lorain Counties)  
8/25/08 and 8/26/08

### Apples

Spotted tentiform leafminer – 239.71 (up from 62.37)
Redbanded leafroller – 18.3 (up from 4.9)

San Jose scale – 6.95 (down from 12.67)  
Oriental Fruit Moth – 4.25 (down from 5.66)  
Codling Moth – 13.1 (down from 13.9)  
Apple Maggot – 0.89 (down from 1.08)

Peaches

Redbanded leafroller- 28.5 (up from 3.5)  
Oriental Fruit Moth – 4.5 (up from 0.3)  
Lesser Peach Tree Borer – 9.1 (up from 8.8)  
Peach Tree Borer – 3.7 (up from 1.3)

**Coming Events Pest Development** - (Based on Scaffolds Fruit Newsletter,  
Coming Events (D. Kain & A. Agnello), NYSAES, Geneva)

We are just over 2200 GDD in northern Ohio and almost 2900 GDD in southern Ohio through September 3.

Growing Degree Day Ranges Base Temp.50F (Normal +/- Std Dev)

San Jose scale 2nd flight subsides	1785-2371
Oriental fruit moth 3rd flight peak	1821-2257
Redbanded leafroller 3rd flight peak	1881-2327
Apple maggot flight subsides	1908-2368
Codling moth 2nd flight subsides	1944-2536
Lesser appleworm 2nd flight subsides	1973-2387
Oriental fruit moth 3rd flight subsides	2000-2288
Lesser peachtree borer flight subsides	2017-2433
Obliquebanded leafroller 2nd flight subsides	2036-2458
Redbanded leafroller 3rd flight subsides	2142-2422
American plum borer 2nd flight subsides	2184-2544
Spotted tentiform leafminer 3rd flight subsides	2246-2432

**Welcome Dr. Rackso** by Dr. Diane Miller

Jozsef Racsko, Ohio State University Tree Fruit Program Specialist, has arrived to Wooster and is busily working on research and extension. Jozsef is from Hungary and previously worked at the University of Debrecen, where he recently received his PhD degree. His parents are fruit growers in Hungary. Jozsef's focus at OSU will be crop load management research and extension aimed at helping Ohio's tree fruit growers achieve more reliable cropping and higher fruit quality. He has met already with the Ohio State Fruit team and the Fruit Growers Marketing Association and has plans to attend the Midwest Fruit Workers, NC-140 and Midwest Apple Improvement Association meetings this fall to further get acquainted and contribute.

Dr. Racsko already is collecting fruit quality data on thinning trials of Gala, Goldrush, Golden Delicious and Fuji established in Spring 2008 by Diane Miller at Unit 2, Wooster. These trials evaluated blossom thinners, petal fall thinning chemicals, traditional thinning and combinations; Jozsef will report on results from these trials at the OPGMA winter

meeting in January. Jozsef and Diane will collaborate closely on horticultural trials in the future and look forward to a new NC-140 apple rootstock trials arriving in spring 2010.

Jozsef's staff position is funded by Ohio State University Extension and industry (Ohio Apple Marketing Program and Fruit Growers Marketing Association). His contact information is (email) [racsko.1@osu.edu](mailto:racsko.1@osu.edu) ; (cell phone) 330- 988-2458; (Wooster office phone) 330-263-3883. Diane Miller's contact information is (email) [miller.87@osu.edu](mailto:miller.87@osu.edu); (cell phone) 330-705-1357. Please take the opportunity in the next few months to introduce yourself to Jozsef, welcome him to Ohio and let him know your research and extension needs and questions! It's wonderful to have a bright, enthusiastic, young scientist join the Ohio State Fruit Team.

**National Farm Safety and Health Week, September 21-27** (Source: Ag Safety S.T.A.T. - Safe Tactics for Ag Today, Vol.1, No. 3 September 2008)

The National Safety Council has declared the week of September 21 - 27, 2008 as National Farm Safety and Health Week. This annual promotional week commemorates the hard work, diligence, and sacrifices made by our nation's farmers and ranchers.

This year's safety theme is "Farm Safety - Protect YOUr Investment." As the message implies, personal well-being is important to the long-term sustainability of the farm operation.

On average, 27 Ohio farmers lose their life each year while working on the farm. That adds up to 276 people every decade. These fatalities are caused by accidental injury.

However, behind the injuries statistics lurk an even larger number of health concerns. Hearing, respiratory conditions, vision, skin, and the musculo-skeletal system are affected daily by the hard work and harsh environments the body endures while performing farm work. Ask anyone involved in agriculture, and they will tell you that farming is physically hard work. That physical wear and tear takes it toll in many ways.

Wearing the recommended safety gear, eating healthy, and proper exercise will help reduce the physical stress of farm work. It will also provide a more efficient worker, able to take on more work!

For the most part, farming is perceived as a healthy lifestyle. However, farm living also has several environmental and occupational hazards that are inherent to the daily routines. So take the necessary precautions, and "Protect YOUr Investment!"

**Why Apples May Need A Fungicide Spray During September** by Dave Rosenberger, Cornell's Hudson Valley Lab, Highland, NY (Source: Scaffolds Fruit Journal, Geneva, NY. Vol. 17, No. 24)

Thirty years ago, most apple growers in New York State applied their last fungicide spray to apple trees during the first half of August. After that, they could focus on harvest

issues and forget about fungicides until the apple scab season started the following spring. In recent years, many growers have found that a September fungicide spray is essential for controlling sooty blotch and flyspeck (SBFS) that would otherwise reduce pack-outs of late-maturing apple varieties. This is especially true in years when heavy rains in late August or early September remove fungicide residues and wet weather thereafter allows flyspeck to appear before fruit are harvested.

Our current understanding of flyspeck development was previously explained in an article in Scaffolds ([Vol. 15, no. 15, 26 June 2006](#)), and details will not be repeated here. Based on our current understanding of flyspeck, three factors come into play when deciding if late-maturing apple cultivars should be sprayed during September:

1 - All of the summer fungicides (except captan when it is used alone) will protect fruit for at least 21 days or through two inches of accumulated rainfall if the fungicides are applied at recommended rates. Fungicide residues on fruit are depleted after fruit have been exposed to two inches of rain.

2 - Flyspeck appears on apples prior to harvest only after fruit accumulate roughly 270 hours of wetting in the absence of fungicide residues. To estimate when flyspeck might appear on fruit in autumn, wetting hours that occurred during fungicide protection gaps in July and August (as determined using rule #1 to calculate fungicide depletion) must be added to wetting hours that accumulate after fungicide residues are depleted prior to harvest.

3 - The wettest harvest season in my records occurred in 2006, when heavy rains during the last few days of August removed fungicide protection and we then accumulated an additional 270 hr of wetting during the first 26 days of September. Using that season as a worst-case scenario, one can assume that any cultivars that will be harvested within 25 days from the time of fungicide depletion should not need a September fungicide spray because flyspeck will not have time to appear on fruit before harvest. The exception would be fruit that were previously exposed to extended fungicide protection gaps during summer as described in the preceding paragraph.

After combining these factors with other observations, we have concluded that flyspeck will rarely be a problem in Hudson Valley orchards that received regular fungicide sprays during summer, so long as the final fungicide spray was applied near or after mid-August, and fruit are harvested prior to 20 September. If late August and early September are unusually wet, then a September spray may be needed for fruit that will be harvested between 20 and 30 September. A September spray is often required to protect fruit harvested after 1 October. Of course, these are generalized rules that may need to be adjusted for other geographic areas and/or for inoculum density in the orchard perimeter. Furthermore, these rules apply only if fungicides are applied in such a way that residues actually last as long as predicted based on our small plot studies.

Why have September fungicide sprays become important for late-maturing apple varieties, whereas they were almost never used 30 years ago? I doubt that anyone can

provide a definitive answer to this question, but some of the changes in our apple production system may have made it more difficult to control SBFS on apples.

Ag statistics show that apple production in New York increased from about 24 million (1977–79) to 28.5 million (2005–07) bushels of utilized production, despite a decrease of more than 40% in apple acreage over that same time period (1980–2006). In fact, the average yield per acre in New York State has roughly doubled over the past 30 years, largely due to the conversion of orchards to high-density planting systems.

While average production per acre was doubling, average tree height was decreasing. Given a doubling of productivity per acre combined with a 50% reduction in tree height, it might be fair to estimate that apple production per cubic foot of tree canopy has almost quadrupled over the past 30 years. In short, apples today are spaced much closer together within the tree canopy than they were 30 years ago. This dense fruit spacing makes it difficult to achieve complete coverage of the fruit surfaces when fungicides are applied during late summer and fall. The clustered fruit on productive limbs also dry more slowly, thereby fostering growth of the SBFS fungi.

Furthermore, because of the narrow row spacing in high-density orchards, a tractor and sprayer must be driven at least twice as far now as compared to 30 years ago if a grower wishes to spray each side of every row. Frequently, growers opt to spray only alternate rows in high-density systems, but that decision further reduces the likelihood of achieving complete fungicide coverage of fruit surfaces during late summer.

When late-season sprays do not contact all fruit surfaces, then control of SBFS on the unsprayed surfaces is dependent on redistribution of fungicide residues during subsequent wetting periods. One can assume that controlling SBFS via rain-dependent redistribution of fungicide residues will require a higher initial fungicide dose than would be necessary if the sprayer was capable of providing even fungicide coverage of all fruit surfaces. An increasing dependence on fungicide coverage via redistribution may help to explain why growers and private consultants are reporting that they must use Topsin M at rates of 1 lb/A in late summer, whereas 30 years ago rates of 6–9 oz/A provided adequate control of SBFS. In fact, rates of 6–9 oz/A of Topsin M still provide good control of SBFS in my small plot trials where trees are sprayed to drip using a high-pressure handgun. Thus, it appears that the fungicide is still as effective as it ever was, but fruit spacing in modern orchards has made it more difficult to cover 100 percent of the fruit surfaces with fungicide when sprays are applied with airblast sprayers.

Orchard fertility is another factor that may affect the incidence of SBFS in modern orchards. Russ Holze, an experienced apple grower and private consultant in the Hudson Valley, recently noted that apple growers today pay much more attention to orchard fertility than they did 30 years ago. Most farmers today expect to see healthy green foliage on their apple trees throughout the harvest season.

Researchers reported many years ago that huge quantities of carbohydrates and minerals are leached out of apple leaves during late summer rains. In fact, in one study published

in 1956, researchers estimated that carbohydrates leached from apple tree canopies might total more than 700 lb/A/year (Tukey 1971). Newly formed leaves are relatively resistant to leaching, but leaves become more "leaky" as they age. So far as I know, no one has attempted to determine whether higher fertility levels and modern pest management tools have affected the quantities of carbohydrates and minerals that are leached from apple tree canopies. However, one might assume that higher fertility would result in increased levels of carbohydrate leaching.

Carbohydrates leached from leaves might affect development of SBFS if the growth of sooty blotch and flyspeck on fruit surfaces is at least partially sustained by external nutrients deposited on fruit surfaces. No one has proven that leached nutrients directly affect SBFS, but several lines of evidence support that possibility. In the fall of 2007, late-season SBFS infections appeared primarily on the upper hemisphere of Golden Delicious fruit in a research plot where fruit were well separated (and therefore were hanging vertically from the stem). The half of the fruit toward the calyx was nearly disease free. This distribution of SBFS is consistent with the hypothesis that growth of the SBFS colonies was fostered by leached nutrients released from leaves above the affected fruit. (Of course, other hypotheses might also explain this distribution.) A second line of evidence comes from an apple grower who, after the Alar scare in the early 1990s, attempted to control SBFS with a "fungicide alternative" that contained various sugars. This grower reported that the sugar solution enhanced growth of SBFS and that his black apples were not very marketable despite their lack of fungicide residues.

To summarize, no one has yet documented (via scientific trials) that either fruit density within trees or changing fertility practices within orchards are contributing factors for the SBFS problems that have plagued many growers in recent years. However, it may be easier to accept the fact that a September fungicide spray will sometimes be needed in modern orchards if we see this change in fungicide strategy as a normal consequence of doubling our production per acre. In fact, if one considers that 30 years ago NY apple growers had to spray two acres to get the production that now comes from one acre, then adding a September fungicide spray to control SBFS on late-maturing varieties is a small price to pay for the season-long savings that accrue from spraying and maintaining only half as many acres throughout the rest of the year!

#### Literature cited

Tukey, H.B. Jr. 1971. Leaching of substances from plants. Pages 67–80 in: Ecology of Leaf Surface Micro-organisms, T.F. Preece and C.H. Dickinson, eds. Academic Press, NY.

**Emergency Management Tip of the Month** by Aletha Reshan, Emergency Management Planning and Education Program Coordinator (Source: Ag Safety S.T.A.T. - Safe Tactics for Ag Today, Vol.1, No. 3 September 2008)

To assist local fire departments in quickly assessing the best approach for managing an on-farm emergency or disaster, it is helpful for them to be familiar with the farm. Methods for familiarizing local responders with individual farms include the farm owner

developing an emergency plan, storing that plan in an easily accessible place such as a tube attached to the outdoor lightpost, and hosting the local responders for a tour of the farm. Many fire departments will assist farm owners with developing their emergency plan as well as house the emergency plan in a binder at the fire department. Having the plan on-site at the fire department will save valuable time as the dispatcher will be able to provide information to the crew while they are en route to the farm. This type of planning helps to decrease loss to the farm and increase safety of the responders. Please contact your local fire department for help in developing a farm emergency plan, providing them with a copy as well as the location of the plan stored on-site, and to schedule a familiarization tour.

**How the Numbers Turned Out** by Dave Kain & Art Agnello, Entomology, Geneva  
(Source: Scaffolds Fruit Journal, Geneva, NY. Vol. 17, No. 24)

It's not all over yet of course, but our annual tally of degree day accumulations showed some interesting deviations this year, most of which ultimately resolved into another fairly normal "one for the books".

Following are comparative listings of some of the pest events that occurred this season (in Geneva) with calendar and degree-day normals. The values and dates are given +/- one standard deviation; i.e., events should occur within the stated range approximately 7 years out of 10.

EVENT	DATE		DEGREE DAYS (BASE 43°F)	
	Normal (+/-days)	2008	Normal (+/-DD)	2008
APPLE MAGGOT				
1st catch	2-Jul (+/-9)	30-Jun	1424 (+/-196)	1416
Peak flight	4-Aug (+/-11)	24-Jul	2327 (+/-226)	2085
Flight subsides	2-Sep (+/-10)		3015 (+/-243)	
AMERICAN PLUM BORER				
1st catch	16-May (+/-5)	19-May	438 (+/-48)	518
1st flight peak	4-Jun (+/-8)	16-May	785 (+/-168)	1110
1st flight subsides	28-Jun (+/-5)	19-Jun	1319 (+/-94)	1163
2nd flight start	14-Jul (+/-9)	14-Jul	1749 (+/-270)	1785
2nd flight peak	31-Jul (+/-8)	28-Jul	2222 (+/-246)	2192
CODLING MOTH				
1st catch	19-May (+/-7)	26-May	489 (+/-92)	583
1st flight peak	5-Jun (+/-12)	19-Jun	805 (+/-212)	1163
1st flight subsides	8-Jul (+/-13)	30-Jun	1596 (+/-275)	1416
2nd flight begins	21-Jul (+/-14)	10-Jul	1899 (+/-347)	1680
GREEN FRUITWORM				
1st catch	5-Apr (+/-8)	14-Apr	94 (+/-36)	113
Peak flight	18-Apr (+/-8)	14-Apr	158 (+/-55)	113
Flight subsides	8-May (+/-10)	12-May	351 (+/-108)	440
LESSER APPLEWORM				



1st catch	12-May(+/-11)	15-May	392(+/-139)	480
1st flight peak	21-May(+/-11)	19-May	543(+/-196)	518
2nd flight starts	10-Jul(+/-9)	3-Jul	1664(+/-271)	1489
2nd flight peak	17-Aug(+/-25)	21-Jul	2617(+/-524)	2003
2nd flight subsides	22-Sep(+/-25)		3141(+/-347)	
LESSER PEACHTREE BORER				
1st catch	25-May(+/-8)	15-May	589(+/-103)	480
Flight subsides	9-Sep(+/-5)		3221(+/-225)	
OBLIQUEBANDED LEAFROLLER				
1st catch	9-Jun(+/-6)	9-Jun	883(+/-56)	910
1st flight peak	15-Jun(+/-6)	9-Jun	990(+/-145)	910
2nd flight begins	8-Aug(+/-9)	4-Aug	2455(+/-200)	2384
ORIENTAL FRUIT MOTH				
1st catch	3-May(+/-8)	24-Apr	275(+/-52)	264
1st flight peak	16-May(+/-11)	8-May	443(+/-99)	407
2nd flight begins	30-Jun(+/-5)	30-Jun	1382(+/-107)	1416
2nd flight peak	12-Jul(+/-10)	10-Jul	1708(+/-240)	1680
3rd flight begins	11-Aug(+/-9)	31-Jul	2521(+/-202)	2275
3rd flight peak	29-Aug(+/-13)	27-Aug	2957(+/-300)	2967
3rd flight subsides	14-Sep(+/-22)		3170(+/-242)	
PANDEMIS LEAFROLLER				
1st catch	7-Jun(+/-6)	9-Jun	840(+/-74)	910
Flight peak	14-Jun(+/-8)	12-Jun	1014(+/-145)	1002
Flight subsides	4-Jul(+/-5)	3-Jul	1511(+/-117)	1489
PEACHTREE BORER				
1st catch	17-Jun(+/-11)	12-Jun	1057(+/-289)	1002
Flight subsides	23-Aug(+/-13)		2835(+/-310)	
REDBANDED LEAFROLLER				
1st catch	17-Apr(+/-7)	17-Apr	142(+/-34)	127
1st flight peak	4-May(+/-9)	5-May	300(+/-70)	368
1st flight subsides	1-Jun(+/-9)	26-May	720(+/-153)	583
2nd flight begins	1-Jul(+/-6)	30-Jun	1418(+/-168)	1416
2nd flight peak	14-Jul(+/-7)	21-Jul	1762(+/-222)	2003
2nd flight subsides	8-Aug(+/-11)	11-Aug	2440(+/-239)	2555
3rd flight begins	22-Aug(+/-9)	21-Aug	2809(+/-160)	2775
3rd flight peak	29-Aug(+/-11)		2981(+/-245)	
SAN JOSE SCALE - adult males				
1st flight begins	21-May(+/-8)	26-May	531(+/-88)	583
1st flight peak	30-May(+/-7)	2-Jun	667(+/-67)	700
1st flight subsides	16-Jun(+/-9)	30-Jun	1049(+/-195)	1416
2nd flight begins	15-Jul(+/-9)	14-Jul	1756(+/-173)	1785
2nd flight peak	4-Aug(+/-10)	4-Aug	2312(+/-200)	2384
2nd flight subsides	2-Sep(+/-11)		2994(+/-355)	
SPOTTED TENTIFORM LEAFMINER				
1st catch	18-Apr(+/-8)	21-Apr	154(+/-44)	209
1st flight peak	7-May(+/-7)	8-May	327(+/-63)	407

1st flight subsides	5-Jun(+/-10)	12-Jun	805(+/-139)	1002
2nd flight begins	16-Jun(+/-7)	23-Jun	1067(+/-87)	1251
2nd flight peak	8-Jul(+/-9)	14-Jul	1589(+/-207)	1785
3rd flight begins	8-Aug(+/-8)	18-Aug	2455(+/-197)	2716
3rd flight peak	22-Aug(+/-9)		2792(+/-222)	

### **Calendar** - Newly added in ***Bold***

Sept. 6 The Kentucky State University/Ohio Pawpaw Growers Association/Pawpaw Foundation Pawpaw Workshop, Frankfort, KY For registration information, go to <http://www.pawpaw.kysu.edu/pawpaw/2008workshop.htm> or write Dr. Kirk Pomper, Kentucky State University, 129 Atwood Research Facility, Frankfort, KY 40601, or call 502-597-6174.

September 16-18, Farm Science Review, Molly Caren Agricultural Center, London. For more information contact Chuck Gamble 614.292.4278 or [gamble.19@osu.edu](mailto:gamble.19@osu.edu)

September 17, Introduction to Growing Aronia, Mountain Range Farm, 1288 Route 31, Livingston, NY 12541. Join Hudson Valley Small Fruit Specialist Steven McKay, and farm owner Paul Kellner on a visit to a new 10 acre Aronia planting. Discussion will focus on the cultural needs of the crop and it's relatively small pest complex. Find out what this "Superfruit" has to offer growers and their future customers. There is no charge for this meeting, but please call Peggy at 518-828-3346 before September 15th so we can plan appropriately.

October 2, Ohio Farmland Preservation Summit, Columbus. The Clean Ohio Fund's renewal will be a focus of the gathering in addition to an exciting array of farmland protection topics. The summit key note speaker is David Kline, farmer, Amish minister, author and publisher of Farming magazine. The day will feature breakout sessions on a variety of topics ranging from landowner basics, statewide land-use policies, creative funding sources, and agriculture in the local economy. For additional information about the conference, go to <http://cffpi.osu.edu/summit08.htm> or contact Jody Fife at 614-728-6210 or [farmlandpres@agri.ohio.gov](mailto:farmlandpres@agri.ohio.gov).

Oct. 5-9, High Tunnel Tour of England. A 5-day bus tour of high tunnel culture in England for growers, Extension folks, or any other interested people. Cost is \$800 per person (\$700 double), which includes most meals and all lodging (flight to London not included). We will tour cherries, raspberries, and strawberries and possibly other crops under tunnels. Deadline for registration is August 22. Full details and registration forms are posted at: <http://www.hrt.msu.edu/TUNNELTOUR/>. Contact Eric Hanson at MSU (517-355-5191 x1386, [hansone@msu.edu](mailto:hansone@msu.edu)) with any questions.

Nov. 6-8, Southeast Strawberry Expo, Hilton Charlotte University Place, Charlotte, NC. Includes Strawberry Plasticulture Workshop for New Growers, farm tour, educational sessions, and trade show. For more information, email [info@ncstrawberry.com](mailto:info@ncstrawberry.com)

Dec 8-10, North American Raspberry & Blackberry Conference. DeVos Place Convention Center, Grand Rapids, MI, as part of the Great Lakes Expo. For more information, email [info@raspberryblackberry.com](mailto:info@raspberryblackberry.com).

Dec. 9-11, Great Lakes Fruit, Vegetable and Farm Market Expo, DeVos Place Convention Center, Grand Rapids, <http://www.glexpo.com/>.

**2009**

Jan. 5-6, Kentucky Fruit & Vegetable Conference & Trade Show, Embassy Suites Hotel, Lexington, KY. For more information contact John Strang at phone 859-257-5685 or email: [jstrang@uky.edu](mailto:jstrang@uky.edu)

January 12-14, OPGMA Congress, The Nia Center at the Kalahari Resort Sandusky, Ohio

Jan 19-21, Indiana Horticultural Congress, Adam's Mark Hotel, Indianapolis.

***Jan. 21, 2009 Pesticide Applicator Workshop, Dayton Convention Center.*** Ohio State University Extension and the Department of Agriculture will offer several workshops throughout the state. The workshops are designed to help applicators receive the state required five hours of training in one day, said Joanne Kick-Raack, Ohio State University Extension's state program director of the Pesticide Education Program. Registration information for the recertification workshops will be available on the Pesticide Education Program Web site (<http://pested.osu.edu>) beginning Oct. 1. Applicators can also receive more information by calling the program at (614) 292-4070.

***Feb. 10, 2009 Pesticide Applicator Workshop, Nia Conference Center, Kalahari Resort, Sandusky.*** Ohio State University Extension and the Department of Agriculture will offer several workshops throughout the state. The workshops are designed to help applicators receive the state required five hours of training in one day, said Joanne Kick-Raack, Ohio State University Extension's state program director of the Pesticide Education Program. Registration information for the recertification workshops will be available on the Pesticide Education Program Web site (<http://pested.osu.edu>) beginning Oct. 1. Applicators can also receive more information by calling the program at (614) 292-4070.

***Feb. 25, 2009 Pesticide Applicator Workshop, Columbus Convention Center.*** Ohio State University Extension and the Department of Agriculture will offer several workshops throughout the state. The workshops are designed to help applicators receive the state required five hours of training in one day, said Joanne Kick-Raack, Ohio State University Extension's state program director of the Pesticide Education Program. Registration information for the recertification workshops will be available on the Pesticide Education Program Web site (<http://pested.osu.edu>) beginning Oct. 1. Applicators can also receive more information by calling the program at (614) 292-4070.

***March 11, 2009 Pesticide Applicator Workshop, John S. Knight Center, Akron.*** Ohio State University Extension and the Department of Agriculture will offer several workshops throughout the state. The workshops are designed to help applicators receive the state required five hours of training in one day, said Joanne Kick-Raack, Ohio State University Extension's state program director of the Pesticide Education Program.

Registration information for the recertification workshops will be available on the Pesticide Education Program Web site (<http://pested.osu.edu>) beginning Oct. 1. Applicators can also receive more information by calling the program at (614) 292-4070.

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**

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