



Newsletter Extension

Fruit ICM News

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Calendar

June 19-20: Farm Market Tour; Pickaway, Ross, and Pike counties, sponsored by Direct Marketing Assoc. of Ohio and OSU Extension. Contact John Ellerman at the Centers at Piketon (800) 297-2072.

June 30: Ohio Fruit Growers Society Summer Tour and Meeting, Patterson Fruit Farm, Chesterland. For more information, contact John Wargowsky at (614) 249-2424, or e-mail at jwargows@ofbf.org.

Worker Protection Standards Resources and Background

Source: Cindy Folck, PEP-Talk, Vol. 5, Issue 4, June 2001, Pesticide Education Program, Ohio State University Extension, Joanne Kick-Raack, State Coordinator, Cindy Folck, Communications

It has been five years since Worker Protection Standards (WPS) were established for agricultural pesticides. The WPS is a federal regulation designed to protect agriculture workers and handlers, and farms, nurseries, and greenhouses need to be sure their employees are up-to-date with the WPS training.

Workers do not handle the pesticides, but work in fields, greenhouses, nurseries, or other areas where the pesticides are used. Special additional training needs to be given to early-entry employees. **Handlers** are those who mix, load, or apply pesticides or work with pesticide-contaminated equipment. Handlers do not need to be trained if they are already licensed applicators.

The standards include worker training, displaying the pesticide safety poster, providing employees access to labeling information, and posting a centrally-located application list of pesticide treatments on the establishment. Special training is required for handlers or workers who do early-entry work. Agriculture employers are required by law to meet WPS. Ohio Department of Agriculture inspectors can request WPS records for workers at any time.

A helpful resource is OSU Extension Bulletin 843, *The WPS for Agricultural Pesticides - How to Comply and What Employers Need to Know*. It's also available on the EPA website at <http://www.epa.gov/oppfead1/Publications/catalog/subpage7.htm>.

Workers must receive WPS training before they accumulate five days of entry into a pesticide treated area and at least once every five years. Handlers must be trained before they do any handling task. The training covers topics such as appropriate clothes to wear, personal hygiene, and understanding posted pesticide signs. Other topics include the health of the worker's family, such as never taking pesticides home, showering immediately after work, and laundering work clothes separately. WPS training also includes recognizing signs of pesticide poisoning and emergency procedures. The WPS training can be done by a licensed pesticide applicator or someone trained for WPS instruction. *Protect Yourself from Pesticides - Guide for Agricultural Workers* is a manual designed for workers. We have a limited supply of manuals, but more are available at <http://gemplers.com>. The Pesticide Education Program also has videos available for WPS training that are in both English and Spanish. All these are designed to complement a live-speaker training program.

Good Spraying Makes for Good Neighbors

Sources: Cindy Folck (614) 247-7974, folck.2@osu.edu Joanne Kick-Raack (614) 247-7489, kick-raack.1@osu.edu

Wind, rainy weather, and tight schedules for planting and controlling weeds make pesticide applications a challenge for even the most capable and well-trained applicator. As a result, herbicide drift complaints increase during spring.

"Now is the time for applicators to focus on application equipment as well as human relations skills," says Joanne Kick-Raack, state coordinator for the Pesticide Education Program, Ohio State University Extension.

"Drift control frequently involves a series of trade-offs," Kick-Raack says. "Each application may involve a different approach to the potential for a drift problem. The applicator must make the effort to reduce drift with each and every application."

She says most drift complaints result because the applicator is in a hurry and makes poor decisions. Pre-planning is key to avoiding drift. Applicators need to evaluate the application site and adjacent land for sensitive areas such as crops, gardens, wells, ponds, and other potential problems. Adjustments for these sensitive areas can be made using drift nozzles or drift control agents and spraying at a different time

when the wind is more favorable. Buffer zones, or set backs, give an applicator a margin for error.

"Handling drift complaints is not just a technical issue, but a human relations issue," Kick-Raack says. "The first response from the applicator sets the tone for the interaction with the neighbor complaining about drift."

She recommends the first step in handling a complaint is to respond immediately and in person. It is also crucial for the applicator to really listen to the neighbor. "People want you to understand the problem they think you caused," Kick-Raack says. The applicator should be prepared to provide information such as herbicide used, the label, and the Material Safety Data Sheet (MSDS).

If someone is concerned about pesticide toxicity, the National Pesticide Toxicity Network has a toll-free number, (800) 858-7378, to answer any questions about the pesticide's effects on humans. If plant damage is suspected, the applicator should contact a third party to help evaluate whether the herbicide caused the plant damage.

Possible third-party contacts include an Ohio State University Extension agent, a local landscaper, or a lab like the Ohio State University C. Wayne Ellett Plant and Pest Diagnostic Clinic. The clinic can be contacted by calling (614) 292-5006 to send a plant sample. If drift damage to the property exceeds \$500, it should be reported to the Ohio Department of Agriculture, (614) 728-6200.

To learn more about drift control, look for fact sheets on Ohio State University Extension's *OhioLine* Web site at <http://ohioline.osu.edu>. OSU Extension Pesticide Applicator Schools and Farm Science demonstrations conducted by the Pesticide Education Program and Extension offices offer information for responsible application. For more details, contact Extension's Pesticide Education Program at (614) 292-4070 or local offices of Ohio State University Extension.

Southern Ohio Report

Source: Brad Bergefurd and Thom Harker, OSU Piketon (Editor's note: Brad and Thom's report was inadvertently omitted from last week's ICM News.)

On May 14th growers in the area were heavily irrigating strawberries and newly planted raspberry and blackberry plantings and were slowing down planting efforts because fields were getting too dry and cloddy, making it difficult to prepare seedbeds. What a difference one week made. Most Southern Ohio growing areas received anywhere from 3.5 inches to 9.5 inches of rain from May 15-23. Field ditches were being dug by hand and backhoe in attempts to get standing water out of usually well-drained fields. Field work with equipment has been stopped or slowed down.

Strawberry harvest in matted row and ribbon row plantings is in full swing in southern growing areas and is just beginning in northern growing areas. Traditional strawberry varieties planted on plastic began harvest about 10 days ago; harvest of Chandler plasticulture fields, that have been harvesting for about one month in some areas, are beginning to slow down. Strawberry harvest has been slow and difficult due to muddy field conditions. Straw in some fields has been washed to low areas of the field, and some strawberries being harvested are muddy or dirty. Strawberries that have received several cover sprays of fungicide this spring are still experiencing fruit rot, due to the flooded and saturated field conditions. Strawberries that are on plastic seem to have less fruit rot. Growers are trenching water from usually well-drained fields. Spittlebug is present in strawberry fields where spray applications have been

delayed.

Growers that had prepared fields for raspberry planting prior to the rains were able to sneak into fields with tractors and planters on Sunday afternoon, May 13, and were able to get some plants transplanted. Other growers are holding plants or have postponed delivery of plants waiting for fields to dry. Orange rust is continually being scouted for in black raspberry and blackberry fields, with infected plants being removed. Fungicide applications are being delayed due to wet field conditions. The fruit set on black raspberry crop so far looks good. Fruit size will be the next issue; however, moisture should not be a problem in terms of fruit size. Blueberry fruit set also looks very good, and moisture should not be a limiting factor for fruit size. The apple crop in the area is looking good with rainy conditions making it difficult for growers to stay on their spray schedules.

Wholesale strawberry prices at the Bainbridge Wholesale Produce Auction in Bainbridge, Ohio have ranged from \$1.00 to 2.25 a pint for quality product with high demand for product. Amounts of strawberries coming into the Bainbridge Auction facility are expected to increase this week as harvest gets into full swing, just in time for Memorial Day weekend sales.

Bainbridge Wholesale Produce Auction Up and Running

Source: Brad Bergefurd and Thom Harker, OSU Piketon

The Bainbridge Wholesale Produce Auction, located on Route 41 between U.S. Route 50 and Route 32 just outside of Bainbridge, Ohio, is in full swing. Weekly auctions have been conducted at the facility for one month, with a good supply of flowers, hanging baskets, planters, greenhouse-grown tomatoes and green beans, cucumbers, lettuce, strawberries and other early season produce. Auctions are held every Friday beginning at 4 p.m.

Any questions regarding buying or selling at the Bainbridge Produce Auction may be directed to Brad Bergefurd, Horticulture Extension Agent, at (800) 860-7232 or e-mail bergefurd.1@osu.edu.

Goodbye to Apple Guy

Source: <http://www.fruitgrowersnews.com>

May 24, 2001 - The Washington State Apple Commission voted May 10 to let its consumer advertising campaign expire. The program has been funded by a 15-cent per box assessment for the last three years. The commission will not ask growers to renew the special assessment that expires in October.

The Apple Guy promotion did boost Washington apple sales in 11 major U.S. markets, including Seattle, Chicago, Dallas, and Los Angeles, according to Larry Olsen, Chairman of the Washington Apple Commission. "Fear of low markets among growers turned to anger and Apple Guy became the fall guy," he said.

The commission's budget will revert to having just its 25-cent per box assessment. Dropping the assessment will mean the Washington Apple Commission will be working on a much smaller budget.

With last year's crop of approximately 98 million boxes, the commission's total budget hit \$39 million. With a smaller 2001 fall crop estimated at 80 million bushels and the smaller assessment, the commission's budget will drop to only \$20 million.

The Apple Guy campaign was the first real generic promotion of apples by U.S. growers. It was targeted to mothers ages 25-45 who buy most of the apples. In commercials, Apple Guy sported a bright red helmet and delivered fruit to consumers from a silver canister, eliciting cries of "Thanks, Apple Guy!"

New Reference on Apple Insects: IPM 1008 Insect and Mite Pests of Apples

Source: Illinois Fruit and Vegetable News, Vol. 7, No. 8,
<http://www.aces.uiuc.edu/~ipm/news/fvnews.html>

Prepared by Bruce Barrett at the University of Missouri, this 18-page bulletin includes lots of excellent color photos and insect life cycle information especially pertinent for the lower Midwest, and the price is a steal at \$3. You can preview a copy on the web at:
<http://muextension.missouri.edu/xplorpdf/agguides/pests/IPM1008.pdf>

To order, contact Andy Shirkey, Coordinator of Sales/Business Operations, University of Missouri, Extension Publications, 2800 Maguire Blvd, Columbia, MO 65211, (800) 292-0969; e-mail to:
andy@missouri.edu.

Slugs in Strawberries Scout Now

Source: Bob Tritten, District Agent, SE Michigan, MSU Fruit CAT, May 29, 2001
http://www.msue.msu.edu/ipm/CAT01_fruit/F05-29-01.htm

In my visits to strawberry farms over the last week, I have noted very high populations of slugs feeding on grasses and other plants in surrounding or bordering fields. This is an indication that the population levels may be high enough to cause problems as berries begin to ripen. I encourage strawberry growers to scout their fields and surrounding areas this week, and to place slug traps.

Slugs are dark gray, black, yellow, or brown worm-like mollusks. They may be covered with spots and range in size from three-fourths to one and a half inches long. Slugs have become a common pest of strawberries, vegetables, field crops, and ornamentals throughout the US and Canada. Large numbers of slugs can be found in a wet year when the preceding winter was mild, especially in heavily-mulched fields.

A slug is often described as a snail without a shell. The head of the slug has two sets of tentacles. The eyes are on the tips of the upper tentacles. The lower tentacles, which are shorter, are used for tasting and smelling. The mouth is located between and below the lower tentacles and is equipped with a radula, a tooth-covered rasp that the slug uses to grate plant tissue. The slug glides along a path of mucus that is secreted by the pedal gland located just below the mouth.

Newly hatched slugs resemble the adults but are much smaller. The average life span of the slug is from nine to thirteen months, and an adult can lay from 300 to 500 eggs during its lifetime. Because the eggs are very resistant to cold and drying, they are often the only life stage to overwinter. The adults can survive mild winters and winters where they are well sheltered in the ground.

Slugs injure plants by chewing holes of various sizes in the fruit. Because slugs often feed at night, the only evidence of their presence may be glistening patches or streaks of dried slime seen on the plants and the ground nearby.

One way to sample slug populations in strawberries is to dig holes four inches in diameter and six inches deep and cover them with asphalt shingles wrapped in aluminum foil. The reflective surface keeps the hole dark, cold and moist and ideal hiding place for slugs. The hole also can contain a shallow dish containing beer as an attractant. Slugs exhibit homing behavior and a tendency to aggregate. They will return to a secure hiding place night after night and will also seek out other slugs.

In some years, slug damage can be high even when large numbers of slugs are trapped. Treating fields with poisonous slug baits in the fall and again in early spring provides some control. Unfortunately, the straw mulch, which provides many benefits in terms of disease and weed suppression, encourages high slug populations. Slug populations are often highest in fields that were in sod the previous year.

This article was adapted from *Strawberry Production Guide For the Northeast, Midwest and Eastern Canada*, produced by the Northeast Regional Agricultural Engineering Service, Cooperative Extension.

Control strategies for Ohio growers are listed in the *Ohio Commercial Small Fruit & Grape Spray Guide*, <http://www.hort.purdue.edu/ext/extpubs.html>

Deadline M-P's (4% bait) applied at a rate of 10-40 lb. per acre or Prozap Snail and Slug AG (3.5% bait) at 12-39 lb. per acre are recommended. Now that berries have formed, either material should be applied between the rows to avoid contact with the fruit. Best control will be achieved if the application is made in the evening after rain or irrigation.

Hail Damage

Source: *Weather Elements by Thomas Blair and Robert Fite, and Dan O'Neil, Alaska Science Forum*
<http://www.gi.alaska.edu/ScienceForum/ASF3/328.html>

We regret to share the news of the devastation caused by a hailstorm Friday afternoon, May 25th in Lorain County at Henrietta. Unfortunately, this area has been hit several times in recent years. It is still early to assess all the damage, but an estimate in one apple orchard is up to 90 percent damage. Other nearby orchards report minimal to thirty percent damage. The area of destruction in any one storm is usually small.

A clue to the formation of hailstones is seen when a hailstone is cut in half. Most show an onion-like layering of alternating clear and opaque ice. The stone is built up by coatings of ice successively frozen onto the surface of the hailstone. Clear ice forms in the part of the cloud where water is copious; ice with many trapped air bubbles forms the opaque layers in drier portions of the cloud.

Supercooled water remains in liquid form well below normal freezing temperature in the upper part of tall thunderhead clouds. Supercooled water droplets colliding with a foreign object -- a piece of dirt, an embryonic hailstone -- will freeze to it and thereby increase its size. Violent updrafts and downdrafts in thunderheads can carry hailstones, water droplets, (and airplanes) upward and downward at speeds to 180 mph. A single trip through a tall thunderhead can cause a hailstone to grow about one-half inch, so several trips are necessary to build up a large hailstone.

Fruit Observations & Trap Reports

Insect Key	
AM:	apple maggot
CM:	codling moth
ESBM:	eye-spotted budmoth
LAW:	lesser apple worm
LPTB:	lesser peachtree borer
OBLR:	obliquebanded leafroller
OFM:	oriental fruit moth
PTB:	peachtree borer
RBLR:	redbanded leafroller
SJS:	San Jose scale
STLM:	spotted tentiform leafminer
TABM:	tufted apple budmoth
VLR:	variegated leafroller

Waterman Lab, Columbus, Dr. Celeste Welty, OSU Extension Entomologist

Traps used: STLM = Wing trap, SJS = Pherocon V, Codling Moth = mean of 3 MultiPher® traps, Others = MultiPher

Apple: 5/9 to 5/16

CM: 6.3 (down from 14.7)
DWB: 0 (unchanged)
OBLR: 1 (down from 9)
OFM: 3 (down from 40)
RBLR: 0 (unchanged)
SJS: 0 (unchanged)
STLM: 9 (up from 6)
TABM: 1 (down from 5)
VLR: 2 (up from 1)

Peach: 5/23 to 5/30

LPTB: 0 (down from 4)
PTB: 1 (up from 0)
OFM: 10 (down from 65)

Site: East District; Erie & Lorain Counties

Source: Jim Mutchler, IPM Scout

Traps Used: STLM=wing traps, SJS=Pherocon-V, Others=MultiPher®

Apple: 5/23 to 5/29

CM: 0.4 (down from 4.4)
RBLR: 37.5 (up from 0)
SJS: 0 (unchanged)
STLM: 41.5 (down from 152.3)

Peach: 5/23 to 5/29

OFM: 0.5 (down from 4.0)
LPTB: 2.0
PTB: 0
RBLR: 0 (down from 0.7)

Other pests include white apple leafhopper, green apple aphid, rosy apple aphid, STLM mines, hail

Beneficials include lacewing eggs and lady beetles.

Site: West District; Huron, Ottawa, & Sandusky

Source: Gene Horner, IPM Scout

Traps Used: STLM=wing traps, SJS=Pherocon-V, PC = circle traps, Others=MultiPher® traps

Apple: 5/23 to 5/29

CM: 0.4 (down from 1.6)
RBLR: 0 (unchanged)
SJS: 0 (unchanged)
STLM: 0 (down from 27)

Peach: 5/23 to 5/29

OFM: 1.0 (down from 2.4)
LPTB: 1.8 (down from 13.0)
PTB: 0
RBLR: 0 (down from 0.8)

Other pests include green peach aphid, two-spotted spider mite, wooly apple aphid, white apple leafhopper, green apple aphid, lilac borer, plum curculio strikes, STLM mines, RBLR damage

Beneficials include banded thrips and parasitic wasp.

Northern Ohio Apple Scab & Fire Blight Activity from SkyBit®

	Dates (Bloom = May 1, Petal Fall = May 9)	Level of Disease Activity

Observed	May 1-7, 9, 10, 13, 14, 20,28	Scab active, but no infection
	May 8, 11, 12, 15-19, 21-27, 29, 30	Possible scab infection & damage
	May 1-7, 9, 10, 13, 14	No fire blight activity
	May 8, 15, 16, 20, 23-30	Fire blight active, but no infection
	May 11, 12, 17-19, 21, 22	Possible fire blight infection & damage
Forecast	May 31, June 4, 7	Scab active, but no infection expected
	June 1-3, 5, 6	Possible scab infection & damage
	May 31, June 1-5	Fire blight active, but no infection
	June 7	No fire blight activity

Degree Day Accumulations for Selected Ohio Sites January 1, 2001 to date indicated

Location	Reported Degree Day Accumulations						Forecasted Degree Day Accumulations 06/0601	
	May 16		May 23		May 30		Base 45° F	Base 50° F
	Base 45° F	Base 50° F	Base 45° F	Base 50° F	Base 45° F	Base 50° F		
Akron - Canton	511	333	623	410	694	445	781	497
Cincinnati	800	558	941	663	1039	736	1156	807
Cleveland	517	348	632	429	708	469	790	516
Columbus	723	499	865	607	964	671	1066	738
Dayton	710	502	839	596	933	655	1033	720
Mansfield	529	355	644	434	716	471	823	544
Norwalk	532	358	624	439	698	479	785	531
Piketon	775	526	911	631	1019	699	1141	792
Toledo	529	356	656	447	732	489	817	539
Wooster	546	367	671	454	739	487	854	567
Youngstown	491	319	605	397	673	430	747	470

Phenology

Coming Events	Range of Degree Day Accumulations	
	Base 43° F	Base 50° F>
Codling moth 1 st flight peak	547-1346	307-824

Peachtree borer 1 st catch	565-1557	299-988
San Jose scale 1 st flight peak	581-761	308-449
Lesser peachtree borer flight peak	733-2330	392-1526

Thanks to *Scaffolds Fruit Journal* (Art Agnello)

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Information presented above and where trade names are used, they are supplied with the understanding that no discrimination is intended and no endorsement by Ohio State University Extension is implied. Although every attempt is made to produce information that is complete, timely, and accurate, the pesticide user bears responsibility of consulting the pesticide label and adhering to those directions.

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