



Ohio Fruit ICM News

New Varieties, Fungicide Trials, More: Pumpkin Field Day is Sept. 1 in South Charleston Jim Jasinski, Extension Educator, Champaign County The Ohio State University Extension

This is the event pumpkin growers won't want to miss. The 2010 Pumpkin Field Day, September 1 at the Western Agricultural Research Station in South Charleston, Ohio, will offer producers the latest information on varieties as well as insect and disease management. The event runs from 6-8 p.m. Cost is \$5 per person and includes refreshments. Certified Crop Adviser (CCA) and Pesticide Applicator Training (PAT) credits will be available.

The Ohio Agricultural Research and Development Center (OARDC), OSU Extension, the university's Integrated Pest Management Program and Vegetable Crops Team, and industry partners sponsor the field day.

The program includes OARDC and OSU Extension horticulturist Bob Precheur's evaluation trials of 20 new pumpkin varieties tested for fruit size, yield and disease resistance. There will also be an update on an Ohio Department of Agriculture specialty crop project evaluating five pumpkin varieties for their seeds, to be used as a locally produced snack food. Growers will be able to walk through both trials.

Powdery mildew will be a hot topic, too. Growers will see large demonstration plots using 12 different fungicides - five conventional and five organic, one newly labeled, and one experimental. There will also be an update on a powdery mildew fungicide resistance project by Jim Jasinski, OSU Extension educator. Additionally, attendees will get updates on insect management and insecticides by Celeste Welty, OARDC and OSU Extension entomologist. The Western Agricultural Research Station is located at 7721 South Charleston Pike, 3.5 miles northwest of South Charleston on State Route 41, Clark County.

For more information, contact Jasinski at 937-484-1526 or 937-462-8016; or e-mail him at jasinski.4@osu.edu.

OARDC and OSU Extension are part of Ohio State's College of Food, Agricultural, and Environmental Sciences.



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If you have articles for the newsletter that you would like to have considered to be included in upcoming issues, please submit to either Howard Siegrist at siegrist.1@cfaes.osu.edu or Melissa Swearingen at swearingen.34@cfaes.osu.edu



EMPOWERMENT THROUGH EDUCATION

North Central Ohio Tree Fruit IPM Program
Report Prepared by Cindy Crawford (Erie County Adm. Assoc.)

Mike Abfall – East District IPM Scout
(Erie and Lorain Counties)

Date – 8/2/10

Apples

Spotted Tentiform Leafminer – 67.3(down from 105.8)
Codling Moth – 5.2 (up from 4.6)
Apple Maggot – 6.4 (up from 4.1)
San Jose Scale – 63.1 (down from 113.1)
Oriental Fruit Moth – 1.9 (down from 3)
Lesser Appleworm – 3.3(up from .5)
Dogwood Borer – 5.1 (down from 13.83)

Peaches

Redbanded leafroller – 9.7 (up from 0)
Oriental Fruit Moth – .9 (down from 1)
Lesser Peach Tree Borer – 8.3 (up from 1.8)
Peach Tree Borer – 1.3 (up from .8)

Date – 8/9/10

Apples

Spotted Tentiform Leafminer – 70.4(up from 67.3)
Codling Moth – 4.2 (down from 5.2)
Apple Maggot – 8.8 (up from 6.4)
San Jose Scale – 62.7 (down from 63.1)
Oriental Fruit Moth – 3.1 (up from 1.9)
Lesser Appleworm – .3(up from 3.3)
Dogwood Borer – 9.7 (down from 5.1)

Peaches

Redbanded leafroller – 18 (up from 9.7)
Oriental Fruit Moth – .7 (down from .9)
Lesser Peach Tree Borer – 3.7 (down from 8.3)
Peach Tree Borer – .8 (down from 1.3)

Ted Gastier – West District IPM Scout
(Sandusky, Ottawa, Huron and Richland Counties)

Date 8/2/10

Apples

Spotted Tentiform Leafminer – 0 (down from 127)
Codling Moth – 3.2 (same)
Apple Maggot – 0 (same)
San Jose Scale – 0 (same)
Oriental Fruit Moth – 8.9 (up from 5.4)
Dogwood Borer – 6.1 (down from 9.7)

Peaches

Red Banded Leafroller – 0 (same)
Oriental Fruit Moth – 1.5 (down from 2)
Lesser Peach Tree Borer – 5.3(up from 2.7)
Peach Tree Borer – 2.3 (up from 1)

Date – 8/9/10

Apples

Spotted Tentiform Leafminer – 73 (up from 0)
Codling Moth – 2.2 (down from 3.2)
Apple Maggot – 0 (same)
San Jose Scale – 0 (same)
Oriental Fruit Moth – 9.8 (up from 8.9)
Dogwood Borer – 8.6 (up from 6.1)

Peaches

Red Banded Leafroller – 0 (same)
Oriental Fruit Moth – 1.3 (down from 1.5)
Lesser Peach Tree Borer – 5.0(down from 5.3)
Peach Tree Borer – 1 (down from 2.3)

Wayne County Insect Trap Reports

Ron Becker - Program Coordinator

Week of 8/10/10

Codling Moth-Avg /trap , 3 traps per block
Wayne-18.67 down from 19.89
Medina-.42 down from 4.33
Holmes-1.83 down from 3.0

Week of 8/10/10

Oriental Fruit Moth-
Medina – 0 same

Week of 8/16/10

CM-Avg /trap , 3 traps per block
Wayne-12.89 down from 18.67
Medina-.44 up from .42
Holmes-1.17 down from 1.83

Week of 8/16/10

Oriental Fruit Moth-
Medina - 0 same

No apple maggot adults have been caught in traps and no maggot damage has been found.
Still some bronzing due to European Red Mite. Mite populations are increasing; Aphids are light to moderate.

Late Summer Oriental Fruit Moth and Codling Moth Control

Rick Weinzierl, Extension Specialist, Entomology
Department of Crop Sciences
University of Illinois Extension

Just a reminder ... Even though efforts to control Oriental fruit moth and codling moth have been ongoing for what seems like a long time, the season is far from over for these insects, and choosing insecticides to overcome resistance problems is increasingly important in late season. Many codling moth populations in Illinois and other parts of the country have some degree of resistance to the organophosphates (Guthion, Imidan, and Diazinon), and those populations often show resistance to Intrepid and to pyrethroids such as Pounce, Asana, and Danitol (and presumably others) as well. Oriental fruit moth will continue to infest peaches as late-season varieties mature, and where infestations have developed in peaches earlier this summer, they will also move to apples. In portions of southwestern Illinois, resistance to pyrethroids used in peaches (Pounce, Asana, Baythroid/Renounce, Warrior, and Mustang Max) also has resulted in control failures.

Insecticides that are effective against populations of these insects that are resistant to organophosphates or pyrethroids (or both) include Altacor, Assail, Belt, Delegate, and Rimon. See the [2010 Midwest Tree Fruit Spray Guide](#) for rates and restrictions.

Strawberry Bud Development

Bruce Bordelon, Dept of Horticulture & Landscape Architecture
Purdue University Extension

Late summer is the time to fertilize strawberry fields to stimulate flower bud initiation during the fall months. Applications of 20 to 50 pounds of nitrogen per acre in mid August to September are recommended. Nitrogen rates depend upon amount supplied at renovation and plant vigor. New fields with high vigor may not need additional nitrogen now, but most older fields should benefit. Irrigation during this time is also extremely important, if rainfall has not been sufficient. We suggest about 1 inch per week. Continue to irrigate strawberries at this time to assure a good crop next year.



2010 Upcoming Events:

August 26, 2010 - Peach Variety Showcase and Penn State FREC Open House. Penn State Fruit Research and Extension Center, Biglerville, PA.

November 8-10, 2010. Southeast Strawberry Expo, Wyndham Hotel, Virginia Beach, VA. Workshops and farm tour on Nov. 8, educational sessions and trade show on Nov. 9-10 For more information, visit www.ncstrawberry.com or contact the NC Strawberry Association, 919-542-4037, info@ncstrawberry.com . Exhibitor inquiries welcome.

December 7-9, 2010. Great Lakes Fruit Vegetable and Farm Market EXPO, DeVos Place Convention Center, Grand Rapids, Michigan. For more information: <http://www.glexpo.com> .

Fall Herbicide Applications for Strawberries

Bruce Bordelon, Dept. of Horticulture & Landscape Architecture
Purdue University Extension

A number of herbicides can be used on strawberries during late summer and fall to prevent weed germination, kill emerged weeds, and provide residue control until the following spring. The key set of weeds you need to control during this period are fall germinating winter annuals such as chickweed, henbit, and shepherds purse. You may also need to prevent germination of wheat, oats, or rye seeds that come in the straw mulch you apply for winter protection.

Devrinol (napropamide) is a preemergence herbicide that can inhibit rooting of daughter plants so it should be applied after early forming daughter plants have rooted. Late forming (after late August) daughter plants do not contribute to yield and Devrinol can be applied before these plants root. Devrinol must be applied before winter annuals and small grains emerge. Devrinol provides excellent control of small grains and some winter annuals such as chickweed. Devrinol must be moved into the soil by cultivation or water after application.

Dacthal (DCPA) is a preemergent herbicide that can be used in new plantings or immediately after renovation. It provides good control of many grasses and some broadleaves such as purslane and lambsquarter. Like Devrinol, it must be applied before weeds emerge.

Sinbar (terbacil) is primarily a preemergent herbicide but it has some postemergence activity against small susceptible weeds. Fall applications of Sinbar should only be applied after the strawberries are completely dormant. If Sinbar is applied to actively growing strawberries, injury can occur. Cultivars differ in tolerance to Sinbar. In general, less vigorous cultivars have greater injury. Applications are most effective when applied to the soil and activated by rainfall or irrigation. Sinbar provides excellent control of many winter annual weeds. Fall applications of both Devrinol and Sinbar will persist to the following spring.

Chateau (flumioxazin) is primarily a preemergent herbicide but has some postemergent activity against small susceptible weeds. Fall applications of Chateau should only be applied after the strawberries are completely dormant. If Chateau is applied to actively growing strawberries, injury can occur. Add 1% crop oil or 0.25% nonionic surfactant to improve postemergence control of small weeds.

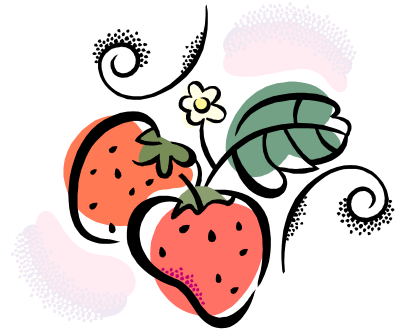
Prowl^{H20} (pendimethalin) is a preemergent herbicide that can be applied in fall after strawberries are completely dormant. Rainfall or irrigation following application provides best results.

Poast (sethoxydim) is a postemergent, grass specific herbicide. The grasses must be actively growing. Thus Poast should be applied in late summer or early fall before plants become dormant. Summer annual grasses, such as foxtails and crabgrass, will be killed by fall frosts, and do not require Poast applications for control. Poast is more effective against annual than perennial grasses. Poast can be used in the fall to suppress perennial grasses such as quackgrass, control early emerging small grains, and kill winter annual grasses such as wild oats and downy brome.

2,4-D amine, a systemic, postemergence broadleaf herbicide, can be applied when strawberries are dormant to control some winter annuals. 2,4-D provides good control of many mustards and shepherdspurse, but is not very effective against chickweed. The herbicide should be applied to actively growing weeds. Be careful of 2,4-D drift causing injury to non-target plants. Check the label as only a few formulations are labeled for strawberries.

Gramoxone Extra (paraquat) can be applied as a directed spray between strawberry rows, using shields to prevent contact with strawberry plants. Gramoxone is a nonselective herbicide, so it will kill or severely injure strawberries it contacts. Gramoxone is a restricted use pesticide and is extremely toxic to animals including humans. It provides excellent control of annual grass and broadleaf weeds. Gramoxone does not extensively translocate in plants so it does not control perennial weeds. Weeds should be actively growing when Gramoxone is applied.

Ultra Blazer (acifluorfen) is a post emergent herbicide that provides good control of annual grasses and broadleaves. It can be applied when plants are dormant during fall or early spring. The Midwest Small Fruit and Grape Spray Guide has a section on weed management. It is available on line at <http://www.hort.purdue.edu/fruitveg/>.



Summer Rots

Janna Beckerman, Dept. of Botany & Plant Pathology
Purdue University Extension

Hot, wet weather has greatly increased the incidence and severity of summer rots this year. Summer rots can be caused by *Colletotrichum acutatum*, *Colletotrichum gloeosporioides* (also called *Glomerella cingulata* because these names aren't quite long or confusing enough). Two other closely related rots, white and black rot, caused by *Botryosphaeria dothidea* and *Botryosphaeria obtusa* round out our perpetrators. There are a variety of apple summer rots, but as a group these fungi infect, causing small dark spots that appear on fruit surfaces in July and August (and later on late-maturing fruit). These lesions can increase in size to cover most of the fruit by harvest, making infected fruit unmarketable (Figure 2).



In the case of the *Colletotrichum* species, symptoms do not develop until the fruit begins to mature. This means that spraying needs to occur prior to the observation of symptom development especially in wet years, and particularly for sensitive cultivars like Honeycrisp, Empire, Golden Delicious, Fuji, Granny Smith, Ida Red, Stamen and the highly overrated Arkansas Black. The rot begins as a small, light brown, circular lesion. As lesions enlarge, they change to a dark brown and form sunken or saucer-shaped depressions with fruiting bodies of the fungus appear near the center of the lesion. Under wet and humid conditions, large numbers of salmon pink spores are produced in an oozing mass (Figure 3), which occur concentric circles. The rotted flesh beneath the surface of the lesion is watery, appearing in a V-shaped pattern in cross section that narrows toward the core.



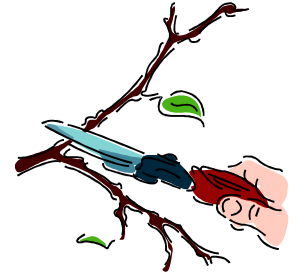
Black rot, caused by the fungus *Botryosphaeria obtusa*, is the fruit infecting stage of frog-eye leaf spot. Fruit infection usually occurs early in the season at the calyx end of the fruit, and results in blossom-end rot later in the season. Early lesions are often overlooked as reddish spots that expand and become brown on mature fruit. As the rotted area expands, a series of concentric bands form creating a target pattern of black and brown. Careful examination of the fruit may reveal black pustules (pycnidia) that erupt on the surface of the infected fruit (Figure 3). Empire, Northern Spy and Cortland may be slightly more susceptible to black rot than other cultivars.

Black rot's evil twin, white rot (caused by *Botryosphaeria dothidea* and also called bot rot), only infects fruit and wood (no foliar infections). New infections should be visible by now, and appear as small, circular spots or blisters that expand from lenticels. As the lesions expand, the area becomes depressed and a watery exudate may appear on the bark around the blisters. On the fruit, infection can be seen four to six weeks before harvest and develop with fruit maturation. Lesions begin as small, slightly sunken brown spots that expand, rotting the entire fruit to the core the core. Red-skinned apple cultivars may "bleach" as they rot, thus the name, "white rot." Black pustules may be visible on extremely rotted fruit. Of all the rots, I've observed this one the least in Indiana. Golden Delicious, Akane, Empire, and Jersey Mac seem to be most severely affected, and should be looked upon as the "canaries in the coal mine."

Rot Management After the Fact

Janna Beckerman, Dept. of Botany & Plant Pathology
Purdue University Extension

The pruning and removal of all infected wood (spurs, twigs, and branches), is essential because the fungus survives and overwinters in these structures. Removing mummies, and cankers from infected trees are important cultural practices that reduce the overwintering inoculum. Current-season prunings should be either removed from the orchard or collected and then chopped with a flail mower, rotary mower, or burned.



The main method of control is application of fungicides from silver tip through harvest as part of a regular spray program. Increases in the incidence and severity of the summer rots have resulted due to limitations on the use of EBDC fungicides pre-harvest. Incorporation of the strobilurin fungicides, particularly Pristine, has resulted in improved control compared to captan alone in several trials.

Botryosphaeria infections, particularly the branch infecting stages, are opportunistic pathogens that attack trees when stressed. Trees should be irrigated during periods of hot, dry weather to minimize drought stress which

Central Ohio Poison Control Number
(800) 222-1222
TTY # is (614) 228-2272

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We gratefully acknowledge the continued help and financial support of our local county commissioners. We appreciate their input and participation in our programming efforts.

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