



Newsletter

Extension

Fruit ICM News

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Calendar

June 20 & 21: Summer Tour of Farm Markets in NE Ohio and NW Pennsylvania, sponsored by Direct Ag. Marketing Association (DAMA), evening of June 20 and all day on June 21. **Tuesday, June 20:** 6:30 p.m. - Picnic dinner at Whitehouse Fruit Farm, 9249 State Route 62, 4 miles southwest of Canfield, phone (330) 533-4161; 7:30 p.m.- Tour of Whitehouse Fruit Farm. **Wednesday, June 21:** 6:00-7:00 a.m.- Continental breakfast at Whitehouse Fruit Farm; 7:00 a.m.- Bus leaves from Whitehouse Fruit Farm; 7:10 a.m.- Tour Haus Red Apple, Canfield; 8:45 a.m.- Tour Apple Castle Farm Market, New Wilmington, PA; 10:40 a.m.- Tour Soergel's Farm Market, Wexford, PA; 11:40 a.m.- Lunch at Soergel's; 1:30 p.m.- Tour Trax Farms, Library, PA; 3:30 p.m.- Tour Janoski's Market and Greenhouse, Imperial, PA; 5:30 p.m.- Return to Whitehouse Fruit Farm. Cost is \$50.00 per person, which includes bus travel, Tuesday evening picnic, Wednesday breakfast and Wednesday lunch. To register, contact OSU Extension, Delaware County at (740) 368-1925.

June 28: Ohio Fruit Growers Society Summer Tour, Vogley Enterprises, East Sparta, Ohio, Stark County. Wagon tours start at 8:00 a.m. Dr. Dave Ferree will talk about Apogee, for fire blight and growth regulation. Diane Miller will discuss peach varieties and the Vogley's trickle irrigation system. A walking tour of the processing facilities follows, with Winston Bash (Director of Food Industry Center at OSU) reviewing sanitation and food safety. Exhibitors will sponsor lunch, and Ohio Fruit Growers business meeting starts at 1:00 p.m. Cost is \$6 per person or \$12 for the family. For registration, contact

OFGS at (614) 249-2424 or <growohio@ofbflog> so they can prepare the proper number of lunches.

July 27-28: Ohio Berry Tour, Central Ohio. Starts mid-afternoon on the 27th and ends mid-afternoon on the 28th. Tour stops include Rhoads Farm Market (Circleville), Circle S Farms (Grove City), Schacht Farm Market (Canal Winchester), Jacquemine Farms (Plain City), and Doran's Farm Market (New Albany). We will keep you posted as definite times are set and registration information becomes available.

August 3: OVPGA & Ohio Fruit Growers Society Young Grower Tour, Stops at Farmers Produce Auction (Mt. Hope), Graf Growers (Akron), Hilgert's Berry Farm (Mogadore), K.W. Zellers & Sons (Hartville), and Hartville Kitchen.

Licking County Summer Twilight School, stay tuned for details.

An Update on Fungicides for Control of Orange Rust on Black Raspberry and Blackberry in Ohio

*Source: Michael A. Ellis, Department of Plant Pathology,
The Ohio State University, OARDC, Wooster*

Orange rust is a serious disease of black raspberries and blackberries. The orange rust fungus does not infect red raspberries. In 1998, Ohio growers experienced the worst orange rust epidemic in at least 20 years. Up to 70% of the plants were infected in several plantings in central and northern Ohio. In response to the epidemic, we applied for a section 18 (emergency exemption) for the use of Nova 40W fungicide (myclobutanil) for control of orange rust in Ohio. We received the section 18, and several growers used Nova in an attempt to control the disease in 1999. On May 5, 2000, we received a section 18 crisis exemption for the use of Nova fungicide for control of orange rust in the 2000 growing season. The 2000 section 18 label is written exactly as the 1999 section 18 label. At present, Ohio growers may apply Nova for control of orange rust in black raspberry and blackberry. The law states that the grower must have a copy of the section 18 label in his or her possession at the time of application. The label states that Nova can be applied up to within 1 day of harvest (1 day PHI) and should be helpful for control of orange rust early in the growing season. I am hopeful that Nova will obtain a federal registration this year; thus we will not have to obtain section 18 registrations in the future.

Ohio also received a 24-C registration for the use of Ferbam fungicide for use on caneberries (raspberry and blackberry) in 1999. The label is for control of "Rust, Spur Blight, Cane and Flower Botrytis, Leaf Spot, and Anthracnose." Although I have seen no data for efficacy of Ferbam for orange rust control, it should provide good control. One problem with Ferbam is that it has a 40-day preharvest interval. Thus, Ferbam will not be useful for early season control of orange rust. My intention when applying for the 24-C label was to use Ferbam for late-season rust control (September-October), and use Nova for early-season rust control (May-June).

In relation to orange rust control, it is extremely important to remember that cultural practices will always be critical for successful control. Perhaps the two most important cultural practices are:

- 1) Remove wild brambles from areas close to the planting. Wild brambles serve as a reservoir for the diseases.

2) Identify and remove infected plants from the planting. For orange rust, it is particularly important to inspect the planting early in the growing season. The planting should also be inspected on a routine basis (at least once a week) from the time growth starts in the spring through harvest. New leaves of early spring growth on orange rust infected plants are chlorotic (yellowish), and shoots are bunched and spindly. They are easy to identify in the spring. It is important that infected plants be identified and removed prior to the development of the "orange rust" pustules on the leaves. If these pustules are allowed to develop, they will produce large numbers of aeciospores, which will spread the disease. If infected plants are not removed early in the spring, they become more difficult to identify later in the growing season.

In order to successfully control orange rust with the use of fungicides, they will always need to be used in conjunction with the cultural practices mentioned above. It is important to remember that no fungicide currently available will eradicate infections (cure infected plants). They must be removed.

I have assembled a package of information (including copies of labels) on suggested guidelines for the use of fungicides for orange rust control. To obtain a copy, growers should contact:

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Notable Current Events for Tree Fruit Insects

Source: Celeste Welty, OSU Extension Entomologist

San Jose scale adult males have just started emerging. The best time to control this pest is at the crawler stage. We can estimate the time of crawler emergence from temperature, starting when adult males are caught in traps: crawlers appear about 400 degree-days (base 50F) after adult catch begins. Presence of crawlers can be confirmed by wrapping black electricians' tape, sticky side out, around scaffold branches of scale-infested trees. The crawlers are tiny but bright yellow, and they show up well against the black tape. In Columbus last year, crawlers were observed on Memorial Day. For insecticidal control of scale crawlers, remember that we can no longer use PennCap-M. Lorsban is still an option. We do have a new insecticide that should give excellent scale control; it is Esteem, a new insect growth regulator made by Valent Corp. For scale control, use Esteem at 16 oz/A.

White apple leafhopper populations are reaching high densities in some orchards. Observations this year suggest that scouting just once, at petalfall, might not be enough to accurately assess the need for controlling this pest if egg hatch is more prolonged than usual. Leafhopper control is suggested when the average number of nymphs per leaf is 1.0 or more. When our research plots were scouted at late petalfall last week, small to medium nymphs were present but below threshold. When scouted again this week, there were larger nymphs as expected, but there were also many small nymphs that brought the total to above threshold.

Codling moth adults have been caught in pheromone traps in Columbus since April 28th. At our

research orchard in Columbus, May 5th was the date of biofix, which means when sustained flight activity was observed. There are two different ways that trap information can be used in managing codling moth. First, traps plus temperature data can help determine best timing of sprays to target larvae emerging from eggs. For first brood larvae, spray 250 degree-days (base 50F) after biofix, and again in 14 days if large catches continue. For second brood larvae (in July or August), spray 1250 degree-days (base 50F) after biofix, and again in 14 days if large catches continue.

A late-summer spray is needed on late-maturing varieties if traps detect a 3rd generation in August or September. The second way traps can be used is for threshold-based sprays regardless of temperature accumulations; apply insecticide within 7-10 days if the threshold of 5 moths per trap per week is exceeded; repeat 14 days later if above-threshold trap catches persist.

Do Not Become Complacent About Fire Blight

Source: Paul Pecknold, Dept. of Botany & Plant Pathology, Purdue University, Facts for Fancy Fruit 2000-04, April 19, 2000

Even though fire blight has been at a low level the past few years, you never want to let your guard down on this disease. The best prevention for fire blight is the application of streptomycin during bloom. Apply streptomycin just as blossoms begin opening and repeat every 3-4 days if weather favorable for blossom blight infection persists. Be especially diligent in your fire blight program if you have M-26, M-9 and/or Mark rootstocks and/or interstems. Due to their high susceptibility, fire blight prevention is mandatory in orchards containing these rootstocks. The "MARYBLYT" computer software program will help you determine when and if an infection event occurred, as well as predict the risk for future infection periods. If you are interested in obtaining MARYBLYT, contact Gempler's at 1-800-382-8473.

Prepare for Apple Scab

Source: Paul Pecknold, Purdue University, Facts for Fancy Fruit 2000-04, April 19, 2000

The peak period for scab infection is now! Primary scab spores are ripe and ready to infect, all they need is a good scab rain. Are you prepared? For growers on a curative schedule, or for those who get caught with their pants down (unprotected), we suggest Nova, Flint, or Sovran. These fungicides will provide up to 96 hours "curative activity". However, the sooner you apply them the better! Do not sit around thinking there is no need to rush.

Rust Diseases Now Active

Source: Paul Pecknold, Purdue University, Facts for Fancy Fruit 2000-04, April 19, 2000

Cedar apple and cedar quince rust are now actively infecting foliage and fruit. Except for the northern areas of the state, we are now into the peak period for rust infection. The sterol-inhibiting fungicides, Nova and Rubigan, are excellent in preventing rust problems, as well as providing excellent control of powdery mildew, which is also infecting new leaf tissue, right now!

Nova, Rubigan & Tank Mixes

Source: Paul Pecknold, Purdue University, *Facts for Fancy Fruit 2000-04*, April 19, 2000

All Nova or Rubigan applications should be tank-mixed with a standard protectant fungicide to avoid problems with resistance to apple scab. However, it is especially important that your final spray (petal fall or first cover) of Nova or Rubigan be combined with a protectant fungicide such as captan, ziram, mancozeb, or Polyram. The addition of a protectant fungicide at this time will help provide protection from summer diseases such as black rot, sooty blotch and fly speck and also give added protection from fruit scab. Refer to Rubigan and Nova labels for additional information on tank mixes.

Eastern Flower Thrips in Strawberries

Source: Rick Foster, Purdue University, *Facts for Fancy Fruit 2000-05*, May 3, 2000 and *Ohio Commercial Small Fruit and Grape Spray Guide 2000*

Strawberry growers should be scouting for Eastern flower thrips in blossoms and on developing fruit. Scout closely for this pest. As you may recall, Eastern flower thrips have been a serious problem across the Midwest off and on since 1994. They have been known to cause small, seedy fruit with a rubbery texture and poor color. It is the consensus of the fruit entomologists in the Midwest, after discussions with entomologists from around the country, that 10 thrips per flower is a reasonable threshold. We must admit, however, that this threshold is not based on hard data, but is our best guess. We all agree that it is important that growers not treat during bloom unless they have some evidence that an insecticide spray is needed. Our bee colonies are in serious trouble, so we need to protect them as much as possible. We strongly recommend that growers scout for thrips in their strawberry flowers and confirm that thrips are present before applying insecticides. Thiodan or Lorsban appear to be the best insecticides for thrips control. See Bulletin 506B2 Ohio Commercial Small Fruit & Grape Spray Guide 2000 for complete information regarding this pest.

Characteristics of Aphids Commonly Found Attacking Tree Fruit Crops

| Aphid | Crop Attacked | Location |
|--------------------|-------------------|---|
| Apple grain aphid | Apple, plum, pear | At tip of opening buds early; later on undersides of leaves |
| Rosy apple aphid | Apple, pear | Almost exclusively in curled leaves of spur growth |
| Apple aphid | Apple, pear | Colonies at tips of growing terminals or suckers |
| Woolly apple aphid | Apple, pear | Colonies at the bases of suckers or on pruning scars |
| Black cherry aphid | Cherry | Colonies at tips of growing shoots |
| Green peach aphid | Peach, nectarine | At opening buds and leaves of spurs |

Chart adapted from *Common Tree Fruit Pests* by Angus Howitt, provided as a reminder to remain

vigilant in aphid management in your orchards.

Fruit Observations

| Insect Key | |
|-------------------|-----------------------------|
| AM: | Apple maggot |
| CM: | Codling moth |
| DWB: | Dogwood borer |
| LPTB: | Lesser peachtree borer |
| OBLR: | Oblique banded leafroller |
| OFM: | Oriental fruit moth |
| PC: | Plum curculio |
| PTB: | Peachtree borer |
| RBLR: | Redbanded leafroller |
| SJS: | San Jose scale |
| STLM: | Spotted tentiform leafminer |
| TABM: | Tufted apple budmoth |
| VLR: | Variiegated leafroller |

Site: Waterman Lab, Columbus (5/4-5/10)

Source: Dr. Celeste Welty, OSU Extension Entomologist

Traps used: STLM=wing traps, SJS=Pherocom-V, Others=Multipher-1® traps

Apple

RBLR: 0 (unchanged)
STLM: 4 (down from 25)
DWB: 0 (unchanged)
SJS: 268 (up from 0)
CM: 27.3 (up from 1.3)
OBLR: 0 (unchanged)
TABM: 0 (unchanged)
VLR: 0 (unchanged)

Peach

OFM: 28 (up from 0)
LPTB: 2 (up from 0)
PTB: 0 (unchanged)

Site: East District; Erie & Lorain Counties (5/4-5/10)

Source: Jim Mutchler, IPM Scout

Traps Used: STLM=wing traps, Others=Multipher® traps

Apple

RBLR: 19.6 (up from 9.4)
STLM: 783 (up from 730)
CM: 6.0 (up from 4.4)
SJS: 45.8 (up from 0)

Peach

OFM: 5.0 (up from 0.67)
RBLR: 14.7 (up from 12.2)

Fruit development: Apple- petal fall, Peaches - shuck split

Beneficials at work: lady beetles

Site: West District; Huron, Ottawa, & Sandusky (5/3-5/9)

Source: Gene Horner, IPM Scout

Traps Used: STLM=wing traps, Others=Multiplier® traps

Apple

RBLR: 8.2 (down from 12.2)

STLM: 536 (up from 135)

SJS: 1.4 (up from 0)

Peach

OFM: 12 (up from 7.25)

RBLR: 13.8 (down from 20.3)

Fruit Development: Apple - petal fall, Peaches - shuck split

Beneficials at work: Banded thrips, predatory wasp, lacewings, predatory mite

Site: Wayne County (5/3-5/9)

Source: Ron Becker, Extension Program Assistant

Traps used: STLM=Wing traps, PC=Circle trunk trap, Others=Multiplier® traps

| | Apple | | | |
|-------|--------------|-------|------|------|
| | North | South | East | West |
| RBLR: | 13 | 11 | | 8 |
| STLM: | 12 | 22 | | 10 |
| PC: | 0 | | | 1 |

| | Peach | | |
|-------|--------------|------|------|
| | North | East | West |
| OFM: | 4 | | 22 |
| LPTB: | 2 | | |

Northern Ohio Apple Scab Activity - SkyBit Product

SkyBit based on observations: May 1, 2, 5, 7, 8, 10; possible infection & damage

Based on Forecasts: May 13, 14; possible infection & damage

North Central Ohio Spectrum Technologies Orchard Monitors for Apple Scab

Spectrum Technologies Monitors and Software* Observations: May 1, 2 & 10; Light Infections (Software* based on Modified Mills Chart)

Northern Ohio Fire Blight Activity - SkyBit Product

SkyBit based on observations: May 1, 4, 5, 7-10; possible infection & damage
Based on Forecasts: May 13,14; possible infection & damage

Degree Day Accumulations for Selected Ohio Sites January 1, 2000 to date indicated

| Location | Actual DD Accumulations May 10, 2000 | | Forecasted Degree Day Accumulations May 17, 2000 | | | |
|----------------|---|------------|---|--------|------------|--------|
| | Base 43° F | Base 50° F | Base 43° F | Normal | Base 50° F | Normal |
| Akron - Canton | 601 | 287 | 711 | 586 | 353 | 294 |
| Cincinnati | 804 | 406 | 947 | 906 | 502 | 492 |
| Cleveland | 578 | 277 | 683 | 554 | 339 | 277 |
| Columbus | 778 | 395 | 903 | 710 | 474 | 370 |
| Dayton | 755 | 375 | 882 | 721 | 456 | 381 |
| Mansfield | 591 | 287 | 699 | 572 | 351 | 286 |
| Norwalk | 579 | 272 | 685 | 535 | 335 | 268 |
| Toledo | 610 | 283 | 717 | 523 | 346 | 261 |
| Wooster | 655 | 322 | 758 | 541 | 382 | 261 |
| Youngstown | 587 | 276 | 687 | 522 | 334 | 256 |

Phenology

| Coming Events | Range of Degree Day Accumulations | |
|--|-----------------------------------|------------|
| | Base 43° F | Base 50° F |
| Redbanded leafroller 1 st flight subsides | 518-1104 | 255-658 |
| Codling moth 1 st flight peak | 547-1346 | 307-824 |
| San Jose scale 1 st flight peak | 581-761 | 308-449 |
| Cherry fruit fly 1 st catch | 650-1500 | 368-961 |
| Black cherry fruit fly 1 st catch | 686-985 | 392-636 |
| Lesser peachtree borer flight peak | 733-2330 | 392-1526 |
| Peachtree borer 1 st catch | 735-1321 | 299-988 |

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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