

Ohio Fruit ICM News

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June 11-17, International Fruit Tree Association Summer Orchard Tour to Mexico

www.ifta.org.

June 16, Illinois State Horticultural Society Summer Field Day, Boggio's Little Mountain Orchards, Granville, Ill. For more information phone Don Naylor, (309) 828-8929.

June 28, OFGS Summer Tour at White House Fruit Farm in Canfield, Ohio. For more information on the tour, contact Tom Sachs or Kathy Lutz at (614) 246-8292 or via email at klutz@ofbf.org.

Aug. 1 UK Horticultural Research Farm Twilight Tour, Horticultural Research Farm, Lexington, KY. Contact John Strang 859-257-5685; e-mail: jstrang@uky.edu

Aug. 30-Sept.1 North American Fruit, Explorers (NAFEX) and SFF Annual Meeting, Holiday Inn North, Lexington, KY. Contact John Strang 859-257-5685; e-mail: jstrang@uky.edu

December 5-7, Great Lakes Fruit, Vegetable and Farm Market EXPO.
DeVos Place, Grand Rapids, Mich., www.glexpo.com.

December 11-13, New England Vegetable and Berry Conference www.nevbc.org.

January 7-9, 2007, Wisconsin Fresh Fruit and Vegetable Conference, Olympia Resort and Conference Center, Oconomowoc, www.wisconsinfreshproduce.org

Jan. 8-9, 2007 Kentucky Fruit and Vegetable Conference and Trade Show, Holiday Inn North, Lexington, KY. Contact John Strang 859-257-5685; e-mail jstrang@uky.edu

Comments from the Editor

I want to thank those of you who have been submitting information from your orchards and updates. Paul Furrman and Dano Simmons have been particularly faithful. We are planning some changes for next year that should allow us to have more timely updates on the web. There has been some concern with the number of emails I have been sending out since I started sending trap reports separately as I receive them from the scouts. The simplest way for me to handle that is if you wish to receive them within a day of when I receive them simply reply back and I will make a separate email list for that. Otherwise the most current trap report will be in the newsletter as it is sent. Also note that Dr. Welty does post trap reports for Columbus at least once per week on the internet at <http://bugs.osu.edu/welty/tree-traps.html>.

The reports from the scouts are now coming in regularly and I would like to take this opportunity to welcome back Ted Gastier. I'm sure he is enjoying getting out in the orchards and away from the old office routine.

Down here in the "banana belt" of Ohio, Spring has arrived in full force and we should make it through our frost free date without anymore frost. We did have to man the frost protection system a few nights last week to protect our plasticulture strawberries and I'm glad our crew was able to do that. Al Welch turned our system on Thursday (4/27) and was making nice clear ice around 5AM that protected our bloom.

Ohio Fruit Growers Society Announces Summer Tour

The Ohio Fruit Growers Society (OFGS) is thrilled to have the two time finalist for the North American Farmers' Direct Marketing Association's (NAFDMA) Farm Market of the Year host it's annual Summer Tour. The OFGS Summer Tour will be held June 28, 2006 at White House Fruit Farm in Canfield, Ohio. The event's main attractions will be a farm tour featuring apples, blueberries, peaches and vegetable crops as well as a tour of the amazing 12,000 square foot farm market. Many allied industry vendors will also be on hand to share their newest products and latest technologies in equipment, packaging, chemicals and seeds. OFGS will also convene a business meeting at the tour.

Fruit & vegetable growers have respected the Hull family of White House Fruit Farm for

over 80 years. Today, the second and third generations of Hulls operate one of the largest and finest farm markets in the state of Ohio. David Sr. and children Dave Hull, Debbie Pifer, Wendy Lynn and families now own and operate the 200 acres of fruit and vegetable production and farm market that is open all year. They sell all of their production at their market as well as other local produce. In addition, the Hulls offer Ohio cheese and meats, homemade donuts, pies, breads & cookies. They make fresh apple cider on the farm year-round. The market specializes in year-round produce, a large slice-to-order deli, cider mill and a wide range of specialty foods.

The farm tour will begin with a stop at the 1½-acre blueberry planting with whole canopy bird netting. OSU Extension's Shawn Wright will be available to answer technical questions. The tour then continues into the orchard where OSU's Celeste Welty and Mike Ellis will be available to answer questions about the 20 different varieties grown by White House Fruit Farm. No particular variety dominates the orchard, as the farm believes that diversity is the key to supplying their customers with choices throughout the season. The tour then moves on to the high density peach planting trained to the perpendicular "V" system. The farm uses the high density planting in an effort to obtain higher yields. The wagon will then move on to view the tomato and pepper plantings.

The last stop on the tour is the highly successful farm market. Debbie Pifer will lead the tour through the market that has been twice nominated for the NAFDMA Farm Marketer of the Year Award. After the market tour, lunch will be available for purchase. Following lunch, OFGS will hold a business meeting. Bruce Benedict of the Ohio Department of Agriculture will be on hand at the meeting to discuss the OFGS Annual Cider Contest and OFGS President Jeff MacQueen will discuss organization activities with members. The exhibitor area will be open all morning for growers to visit with allied industry professionals and learn about new products and technologies. At 2:30 p.m., attendees will have the option of touring the nearby 6-acre Pick-Your-Own and direct market strawberry planting that consists of 85% matted row and 15% plasticulture.

Overnight accommodations will be available to attendees at the Canfield Hampton Inn and Suites, 6600 Ironwood Boulevard, Canfield, Ohio 44406, (330) 702-1900 at a discounted rate (details to follow in direct mail). Salem Fruit Growers is a major Summer Tour sponsor.

Please join us for this social and educational opportunity. For more information on the tour, contact Tom Sachs or Kathy Lutz at (614) 246-8292 or via email at klutz@ofbf.org.

Apple Thinning by Peter Hirst (Source: Facts for Fancy Fruit, 2006-02)

The thinning decision you make with apples is one of the most critical management decisions you will make all year, and one that affects not only the crop this year, but next year also. Thinning is all about tradeoffs and compromise. The earlier you thin, the better the response will be, both in terms of fruit size increase and in return bloom for next year's crop. The problem is that early thinning is risky, so what to do? Use the nibble approach where you don't try to get the job done in one shot. Put on a mild thinner

application early (say around petal fall) and then follow up with another application about 14 days later if you think it is needed. This way you achieve some of the benefit of early thinning while at the same time spreading some of your risk. A few other pointers for thinning:

- * Thinners work best when temperatures are 70-80F at the time of application and for a few days afterwards. Don't apply thinners when temperatures are below 65 F as they will have little affect.

- * Keep detail notes of what you applied, what rate, when, what the conditions were at the time of application and for a few days afterwards, and what the result was. This will help you build up a picture of what works best on your farm

- * If you suffered some frost damage, think long and hard before you decide not to thin this year. The risk is that there may be more crop left than you think, and by not thinning you may be compromising next years crop as well as the crop this year.

- * It usually takes 10-14 days until the effects of a thinner application can be seen, so don't rush back in with a second application without allowing enough time to assess the effect of the first application.

First Case of Brown Rot Resistance to Indar in New York by Wolfram Koeller, Plant Pathology, Geneva; Deborah Breth, Lake Ontario Fruit Program, Albion; David Rosenberger, Plant Pathology, Highland (Source: SCAFFOLDS Fruit Journal, Geneva, NY Volume 15, No. 7)

During the wet 2005 summer in the lower Hudson Valley, several peach growers noticed a declining level of brown rot control after they had applied Indar for controlling fruit rot. The same decline of Indar performance was reported for a peach orchard in Niagara County. In this orchard, blossom blight had been managed with captan, followed by three consecutive sprays of Indar against fruit rot. This program, which had been successful in the past, failed in 2005. Approximately 20% of peaches had brown rot at the time of harvest.

Prior to the 1995 registration of Indar for brown rot control in New York, Wayne Wilcox, the New York fruit and berry pathology extension leader at the time, had conducted an extensive survey on the sensitivity of strains of the brown rot fungus to Indar and other fungicides belonging to the same SI class of fungicides. With his baseline sensitivity data on file, we were able to test and compare the sensitivities of strains isolated from diseased fruits from the peach orchard in Niagara County.

We discovered that the control failure experienced with Indar was caused by resistance. The pattern of resistance development was very typical for the SI class of fungicides. Strains of the brown rot fungus most sensitive to SI fungicides before they were ever used had been eliminated. Instead, 20% of the strains we tested in 2005 were up to 40 times less sensitive to these SIs than the strains tested in 1993.

How were these resistant strains selected? The spray history for this peach orchard in Niagara County was available for 1996 to 2005. Blossom blight had been managed with 3-5 captan sprays. Fruit rot had been managed with two Indar treatments, starting at 'turn

of color'. This would add up to a total of 20-25 Indar applications. Would this total of sprays be sufficient for developing resistance to Indar?

Most likely not. Immediately adjacent to the peach orchard had been a small, old, "fresh fruit" nectarine orchard with notorious brown rot problems. There, Indar had been used much more often and starting with blossom blight control. We must assume that SI-resistant strains of the brown rot fungus were selected in this small "fresh fruit" nectarine orchard, and that these SI-resistant strains had found their way into the adjacent peach orchard.

Where do we go from here? Indar has been the most effective brown rot material among several other SI fungicides. As expected, all brown rot strains resistant to Indar were also resistant to Orbit, Elite and Nova. If declining brown rot performance with Indar becomes a problem, switching to Orbit, Elite or Nova will not solve this emerging problem of resistance. We must remember though that the SI fungicides also provide good control of powdery mildew, which apparently remains sensitive. SIs also control cherry leaf spot. Unfortunately, the cherry leaf spot fungus has also developed SI resistance in Michigan.

Our thoughts about brown rot control in the future are as follows: We do not know how widespread Indar (SI) resistance of the brown rot fungus has become or will become in the years ahead. If a declining performance of Indar (or Orbit) has been noticed, these SI fungicides should be replaced by alternative brown rot fungicides, at least during the fruit protection phase. Alternatives for both blossom blight and fruit rot management are the protective captan formulations (most now have a 24-hr REI). Another very active alternative would be Pristine. Pristine is a mixture of two fungicides and provides very good control of brown rot, powdery mildew and cherry leaf spot when used on a protective schedule. Pristine can be used five times during a season, but only twice in sequence.

When 'kick-back' activity is needed during blossom blight control, Rovral/Iprodione would be alternatives to Indar or Orbit. Use of these iprodione products is limited to two treatments per season for blossom blight control. Ronilan, which is no longer registered in the US, was a very similar fungicide, and resistance of the brown rot fungus to the class of dicarboximide fungicides has been found in other US states and many countries abroad. At present, we do not know where we stand on resistance to Rovral/Iprodione in New York. We can only speculate that resistance to these fungicides will not be a limiting problem, because they have not been used extensively in the past.

Some 'kick-back' activity during blossom blight control is also provided by the two anilinopyrimidines (APs) Vanguard and Scala. However, neither fungicide is labeled for fruit rot control, and they have use restrictions on cherries (phytotoxicity).

What is the 'bottom line' for managing brown rot in 2006? The 'standard program' in the past has been to manage blossom blight with a protective fungicide such as chlorothalonil or captan, followed by Indar (or Orbit) for fruit rot control. This routine

may no longer apply, because the brown rot fungus has developed resistance to Indar (and Orbit) in a peach orchard in Niagara County.

What can or should we do in 2006? Many things. We have numerous fungicides, in addition to Indar (or Orbit), for the control of blossom blight, and some provide post-infection control. We should utilize these fungicide options. Do we have a 'silver bullet' for the control of fruit rot in orchards where Indar (or Orbit) performances have noticeably declined? At this moment there is only one 'silver bullet' option: Pristine.

We have compiled an 'up to date' list of brown rot fungicides labeled in New York for 2006. This long (3-page) list can be obtained from your regional Extension Educators, or online at: <http://www.nysaes.cornell.edu/pp/extension/tfabp/index.html>.

Update on Apple Scab and X-Disease by Dave Rosenberger, Plant Pathology, Highland (Source: SCAFFOLDS Fruit Journal, Geneva, NY Volume 15, No. 7)

Apple Scab

The first scab lesions showed up late last week in unsprayed trees in our research plots. The lesions I found were on the underside of the first and second cluster leaves and presumably resulted from the light Mills infection period that occurred April 7-8 when trees were between quarter-inch and half-inch green. Lesions were difficult to find even on unsprayed Jerseyacs: I found three lesions in about 30 minutes of searching. Thus, the April 7-8 infection period was relatively unimportant orchards that had low carry-over inoculum and/or that had fungicide applied prior to the infection period.

X-Disease

In the Hudson Valley and southern New England, the time when sweet cherries are blooming is a critical time for managing X-disease. During cherry bloom, seedling Mazzard sweet cherry trees can be detected in hedgerows and woodlots next to stone fruit orchards because of their showy white flowers. Seedling sweet cherry trees often become established as a result of seeds carried by birds from cultivated cherry trees. These seedling trees can harbor X-disease and provide an inoculum source for infecting commercial peach, nectarine, and sweet cherry orchards. I have seen at least four cases in the Hudson Valley where one or two seedling Mazzard trees left in woodlots or hedgerows have resulted in significant commercial losses in adjoining sweet cherry and peach orchards. While the seedling Mazzards are in bloom, they should be marked for removal, and removal should be completed before June 1.

Do not confuse Mazzard seedling trees with shadbush (*Amelanchier* species) that bloom slightly earlier than the Mazzard seedling trees. Shadbush trees have a more wispy twig structure and the trunks on shadbush lack the large horizontally oriented lenticels common to trunks of Mazzard seedlings (Fig. 1). When removing potential hosts for X-disease, it is important to note that wild black cherry (*Prunus serotina*) is NOT a host for X-disease and need not be removed from orchard perimeters to control X-disease. Black cherry blooms later in the spring and has a much different flower structure than Mazzard seedling trees.

X-disease is still one of the most difficult diseases to manage in peach, nectarine, and sweet cherry plantings. The pathogen that causes X-disease is a phytoplasma, a phloem-limited organism previously known as a mycoplasma-like organism or MLO. Several leafhopper species are able to acquire the phytoplasma from infected chokecherry (*Prunus virginiana*) or sweet cherry trees and then transmit the pathogen to orchard trees. Transmission occurs during summer, and insecticide treatments are not very effective for preventing transmission if infected chokecherry or sweet cherry trees are present within 500 feet of susceptible stone fruit crops.

Peach and nectarine trees are dead-end hosts for the disease, apparently because peaches and nectarines develop disease symptoms and die before titers of the phytoplasma become high enough to allow feeding leafhoppers to acquire the pathogen from diseased trees. With infected chokecherries and sweet cherries, however, phloem cells become filled with the X-disease phytoplasma and leafhoppers feeding on these trees can readily acquire the organisms and later transmit them to orchard trees.

The only control for X-disease is vigilant removal of wild hosts (chokecherry and Mazzard seedling trees) and regular roging of diseased sweet cherry trees as soon as symptomatic trees are diagnosed in sweet cherry plantings. X-disease in cultivated sweet cherries is best diagnosed during cherry harvest when diseased trees can be detected by their failure to ripen fruit on infected limbs.

SW Michigan Freeze Update (Source: email update from Mark Longstroth, SW Michigan District Extension Educator for Horticultural & Marketing)

Tree fruits were damaged by the freeze Wednesday, April 26, 2006. Bloom for most fruits were extensively damaged. Higher fruit sites generally suffered less damage. Southern sites suffered more because they were further along and because colder low temperatures were to the south. Large fruited types (i.e. apples, pears, and peaches) will suffer less loss because they need fewer fruit for a full crop compared to cherries.

Apricots in the shuck were extensively damaged. All but the best sites have little fruit left.

Peaches at petal fall. Damage was severe in some sites. Bloom was very heavy so there is still a marketable crop in many orchards. We set Biofix Oriental Fruit Moth as April 16 with a GDD of 180 Base 45 at SWMREC. Chemical controls are focused on egg hatch about 150-170 GDD base 45 after Biofix. We are about 140 GDD past Biofix and treatment should be applied soon. Sunday's rain was a marginal brown rot infection because of the cool temperature and was also probably too cool for bacterial spot.

Sweet cherries are in the shuck and were hurt hard by the freeze. Growers with good sites report they still have a crop but lower orchards show extensive damage. Cherry leaves are unfolding so growers need to protect against cherry leaf spot. Sunday's rain was a marginal cherry leaf spot infection in some locations.

Tart cherries: Montmorency cherries are at petal fall and were in full bloom during the freeze. The heavy bloom apparently protected most of the flowers because there was generally only light damage. Damage estimates are about 20% loss. The most common symptom was browning of the style where it joins the pistil. These flowers are unlikely to set fruit. By Monday dead pistils were easy to find and identify. Leaves have unfolded and growers need to protect against cherry leaf spot. Sunday's rain was a marginal cherry leaf spot infection.

In Plums, Oriental plums were in the shuck and hit hard by the freeze. European plums were at full bloom and suffered less damage. Sunday's rain was certainly a black knot infection. Plums are now at petal fall and Sunday's rain was a marginal brown rot infection.

Apples are blooming. Many open flowers were killed by Wednesday's frost. In many cases the king bloom and some of the side bloom are dead. Early varieties in lower sites were hardest hit. Later varieties were only lightly affected. Sunday's rain was an apple scab infection. Symptoms should appear about May 14. Scab symptoms from earlier rains should be appearing but none were found Monday. Warm wet conditions this week means that growers need to maintain scab protection. While the weather is warming there is no danger of a fire blight infection this week, as the warm weather will not last long enough to allow bacteria populations to build. So far the dry conditions have kept fire blight cankers from doing much oozing, but I expect a lot of ooze in orchards with cankers this week. An extended warm period later in bloom could easily result in fire blight blossom infection towards the end of bloom. Growers can monitor wetting periods for scab and fire blight infections at the Weather for IPM decisions in Michigan site. We are now trapping Redbanded Leafroller and Oriental Fruit Moth. No codling moths were trapped this week. We expect the flight to begin with warm dry weather. This week will be too cool for thinning. The wet cool weather and the frost should make thinning easier. Grower should be prepared to thin apples next week.

Pears are at petal fall and were not severely affected by the frost. Growers need to protect against pear scab.

Blueberries are at early pink bud and little damaged by the freeze. Early varieties beginning to bloom were hurt but generally there are still lots of good flowers left. Wet conditions during bloom mean that growers should be protecting against mummyberry and anthracnose fruit rots and botrytis blossom blight. Mummy berry mushrooms should be easier to find after the rain. Traps should be out for cranberry fruit worm.

Grapes were the hardest hit by the freeze suffering severe damage. Juice grapes were more advanced than wine grapes and have more obvious damage. Over large areas almost all the growing shoots were killed and growers report that many secondary buds had pushed and were killed also. This freeze was similar to one in April 2002 that killed most of the shoots. In 2002, several weeks passed before secondary bud growth was evident. Initial estimates of primary bud mortality are about 25% in good sites up to

100% in many areas. Secondary bud mortality is also high in many areas. The potential juice grape crop has been reduced by at least 50% and probably more. Wine grapes suffered much less damage. A more accurate estimate can be made in about a month when the flower clusters in new replacement shoots are apparent. Growers with large areas of good growth should continue their disease control programs. Growers with only scattered live shoots will want to wait until closer to bloom to decide if they should continue to protect the crop. This decision needs to be made in time to allow the prebloom spray, which is very important.

Strawberries are beginning to bloom. Growers protected against the freeze with sprinklers, but in some cases the flowers still froze. This could be due to turning on the sprinkler system too late when temperatures are already near freezing or a simple failure of the system to protect down below the low 20s. Growers should consider fungicide applications at bloom under these wet conditions.

Raspberries leaves are emerging on blackberry and summer raspberry canes. Fall raspberry shoots are 4 to 6 inches tall. The freeze did burn some new shoots on the ground and on the canes but the plants should recover with a good crop.

Growing Degree Days Across Ohio - Data through April 30 from OSU Phenology Garden Network (not all locations) [OSU Phenology Garden Network](#)

OSU South Centers Piketon	434
Athens	405
Chillicothe	400
Marietta	393
Wilmington	357
Columbus & Washington CH	345
Newark	335
Delaware	329
Xenia	320
Mt. Sterling	318
Coshocton	315
Wooster	288
Mansfield	285
Canton	283
Findlay	257
Canfield	249
Toledo	248
Norwalk	243
Stow	242
Shinrock	234
Cortland	214
Willoughby	208
Kingsville	188

Coming Events -Art Agnello SCAFFOLDS Fruit Journal, Geneva, NY Volume 15, No. 7

Coming Events: Dev):	43F Ranges (Normal +/-	50F Std
American plum borer 1st catch	326-526	140-280
Comstock mealybug 1st gen crawlers in pear buds	215-441	80-254
European red mite egg hatch	231-337	100-168
Green fruitworm flight subsides	234-462	102-242
Lesser appleworm 1st catch	245-550	108-292
Mirid bugs 1st hatch	332-468	163-239
Obliquebanded leafroller larvae active	158-314	64-160
Pear psylla 1st egg hatch	174-328	60-166
Rose leafhopper on multiflora rose - 1st nymph	239-397	96-198
Spotted tentiform leafminer 1st flight peak	253-407	113-209
Spotted tentiform leafminer sap-feeders present	343-601	165-317
McIntosh at bloom	326-420	170-220

Fruit Observations and Trap Reports Trap reports for Columbus are posted at least once per week on the internet at <http://bugs.osu.edu/welty/tree-traps.html>

Site: Waterman Lab Apple Orchards, Columbus
Dates: 4/20/06 (full pink) to 4/26/06 (late bloom)
Pests: Redbanded leafroller: 4 (down from 28 last week)
Spotted tentiform leafminer: 19 (up from 12 last week)
San Jose scale: 1 (up from 0 last week)
Codling moth (mean of 3): 0 (set 4/21/06)
Lesser apple worm: 0 (set 4/21/06)

Site: Sandusky, Ottawa and Richland Counties
Ted Gastier - West District IPM Scout, - North Central Tree Fruit IPM Program

Date - 4/24/06

Apples - pink to bloom
Redbanded leafroller - 55
Spotted tentiform leafminer - 716
San Jose Scale - 0
Oriental Fruit Moth - 6

Peaches - late bloom to petal fall
Redbanded leafroller - 49.6
Oriental Fruit Moth - 1.4

**Preliminary Monthly Climatologic Data for Selected Ohio Locations -
April 2006**

	April		Average Temperatures			
	Precip.	Normal	High	Low	Monthly	Normal
Akron-						
Canton	2.85	3.39	64.1	40.5	52.3	48.1
Cincinnati	5.06		68.8	47	57.9	
Cleveland	2.45	3.37	61.5	41.4	51.4	47.6
Columbus	2.29	3.74	68.9	44.1	56.4	51.1
Dayton	4.42		65.6	43.6	54.6	
Kingsville	2.42	3.20	59.8	37.8	49.1	46.0
Mansfield	2.82	3.17	63.9	40.3	52.1	47.2
Miami Univ.	3.66	3.87	68.8	44.8	56.6	51.3
Piketon	1.85	3.20	71.4	44.3	57.6	52.6
Toledo	1.35	3.24	64.8	40.8	52.8	48.3
Wooster	1.50	3.32	66.2	40.2	52.8	48.1
Youngstown	2.51	3.33	63.7	38.9	51.3	47.4

This data is from several sources including OARDC, NOAA, and local records. Temperature is Fahrenheit and precipitation is in inches. GDD (growing degree days) modified sine wave method. Form more information on the calculation of GDD check this site < <http://www.oardc.ohio-state.edu/gdd/glossary.htm> >

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