



Newsletter Extension

Fruit ICM News

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Calendar

June 20 & 21: Direct Marketing Summer Tour in NE Ohio and NW Pennsylvania, sponsored by Ohio Direct Ag. Marketing Association (DAMA), evening of June 20 and all day on June 21. Cost is \$50.00 per person, which includes bus travel, Tuesday evening picnic, Wednesday breakfast and Wednesday lunch. To register, contact Rob Leeds, OSU Extension, Delaware County at (740) 368-1925 or leeds.2@osu.edu. Refer to past ICM News for more detailed information.

June 24-27: International Dwarf Fruit Tree Assoc. (IDFTA) Annual Summer Tour: Scheduled for the Lake Champlain Valley of New York, Vermont, and Quebec. Various registration options are available for the days you would like to attend. For more information, visit the IDFTA WWW site <http://www.idfta.org/> or contact IDFTA business manager Charles Ax at (570) 837-1551, attorney@ptdprolog.net.

June 28: Ohio Fruit Growers Society Summer Tour, Vogley Enterprises, East Sparta, Ohio, Stark County. Cost is \$6 per person or \$12 for the family. For registration, contact OFGS at (614) 249-2424 or growohio@ofbflorg so they can prepare the proper number of lunches.

July 8: Eighth Annual Horticulture Field Night, OSU Piketon Research Centers, 1864 Shyville Road,

Piketon, OH. (East from Rte. 23 & 32 intersection, just off Rte. 32.) View more than 500 research & demonstration plots and 18 different fruit and vegetable projects from 5:00 pm to 9 pm. Ask the experts. No admission charge. Open to the public; supper for everyone. For more information contact Brad Bergefurd, Extension Agent, at 1-800-297-2072, or e-mail him at bergefurd.1@osu.edu.

July 27-28: Ohio Berry Tour, Central Ohio. 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. Contact Berry Coordinator Sandy Kuhn at (800) 297-2027 or kuhn.37@osu.edu for information needed before then.

August 3: OVPGA & Ohio Fruit Growers Society Young Grower Tour, in northeast Ohio, 8:30 a.m. to 7:30 p.m. This bus tour provides a broad variety of fruit and vegetable operations that use different marketing strategies. Tour is designed for growers 40 years of age and younger, and others are welcome if interested. Contact John Wargowsky at (614) 249-2424 or jwargows@ofbf.org for more information.

Obliquebanded Leafroller and Codling Moth Activity

Source: Dr. Celeste Welty, OSU Extension Entomologist

Two pests have been acting somewhat differently than usual in some Ohio apple orchards. There are reports that obliquebanded leafroller adults are being found in traps in numbers higher than usual in northern Ohio, and damage by larvae has been found in central Ohio. Where we have monitored this leafroller in recent years in Ohio, it is usually present but at low density, and it appears to be adequately controlled by the typical Imidan or Guthion spray schedules. We have been very lucky in not having a problem managing this pest in Ohio, whereas in Michigan and New York, the obliquebanded leafroller has become their most difficult pest due to resistance to insecticides. In Michigan and New York, where the pest is resistant to organophosphates, newer insecticides such as Confirm are used for leafroller control. Our lack of problems is probably due to our apple industry being smaller and more scattered than the industry is in Michigan and New York; leafrollers in small orchards under insecticide pressure can mate with leafrollers in nearby woods or other unmanaged areas and thus maintain genes for insecticide susceptibility in the population. Damage by overwintering larvae of obliquebanded leafroller in the spring occurs mostly after petalfall when they feed on young fruit. Another brood of larvae develops in July and feeds on terminals and on leaves near fruit clusters.

Codling moth emergence has been unusually prolonged this year, and the number of moths caught in pheromone traps has been quite high at a few orchards. Growers on a regular 2-week spray schedule should not have a problem controlling this pest, but growers on a low-input schedule who are trying to get codling moth control from a single application might not get adequate control at a location where emergence is both prolonged and at high levels (>5 moths per trap per week). The prolonged emergence is probably due to the greatly fluctuating temperatures this spring and summer, plus the likelihood that last year's population had a partial third generation. Individuals that overwintered after the second generation would emerge earlier, while those that overwintered after a third generation would emerge later. Catches are likely to be higher in blocks where a third generation occurred last year but were not treated by insecticide.

Managing Summer Diseases of Apple

Source: Dr. Paul Pecknold, Purdue University Plant Pathologist, Facts for Fancy Fruit 2000-08

Apple summer fruit rot and blemish diseases (sooty blotch & flyspeck, black rot, white rot and bitter rot) are now on the increase. The SI fungicides (Nova, Rubigan, Procure and Bayleton) do not provide good control of these diseases. Mancozeb and Polyram are excellent for control of summer diseases, however they can only be applied up to 77 days of harvest. After the 77 day to harvest restriction has passed, captan and ziram remain our best options for summer cover sprays; they should be used at the full labeled rate and on a tight schedule if cool, wet summer weather prevails. We also suggest tank mixing with Topsin-M or Benlate if it turns into a "sooty blotch/fly speck year"; however, Benlate and Topsin-M should be used sparingly (no more than once a month) to avoid harm to predator mites and lessen the possibility of the development of resistance.

Note: Benlate, and to a lesser extent Topsin-M, are reported to cause "scarf skin" if used within 40 days of petal fall. Scarf skin is a physiological condition in which the fruit surface develops a milky white or grayish appearance. Scarf skin has no effect on fruit quality or storage ability, but impairs the appearance and shine on a red apple. Another option for control of sooty blotch and flyspeck is now available with the strobilurin fungicides, Flint and Sovran. The best timing for Flint and Sovran in summer sprays remains to be determined; however, we concur with those who advocate an early cover spray (2nd or 3rd cover) to help prevent an early build up of SBFS and subsequent secondary spread. Of course this assumes you have not already applied the maximum of four sprays allowed per season for the strobilurins.

Infection from summer diseases, especially sooty blotch and flyspeck, can further be reduced through IPM strategies that lower humidity and promote rapid drying. These include keeping grass mowed during summer and keeping trees well pruned. Tree spacing within and between rows should allow air movement between all trees. Removing adjacent woods or cutting breaks in hedgerows will also help improve airflow in the orchard. Of course it goes without saying (so I'll say it) that all the above suggestions are pretty much a waste of time if good sanitation measures are not strictly followed.

Ugly Stubs & Fire Blight

Source: Dr. Paul Pecknold, Purdue University Plant Pathologist, Facts for Fancy Fruit 2000-08

Growers should be especially alert for fire blight symptoms in late May to early June. This is generally the time fire blight makes itself known. Special attention should be given to young trees and trees on M9 and M26 rootstocks or interstems. Look for new growth that appears wilted and crooked at the tip with browning and wilting of leaves. Efforts to limit secondary spread by cutting out fire blight strikes are most successful if these strikes can be removed immediately after they appear. Cut out blighted twigs 10 to 12 inches below any sign of infection; however, if the infected shoot is associated with the main trunk or a major scaffolding limb you may want to try the "ugly stub" cut to help avoid possible canker formation. Do not cut flush with the trunk or major limb, but instead leave a naked 4-5 inch branch stub. Marking the ugly stubs with flags or a bright colored paint when the cuts are made can help in relocating them during the winter pruning operation, when the ugly stubs are removed, without fear of canker formation. Another advantage of pruning out fire blight tissue in winter is that you do not have to sterilize pruning tools between each cut, something you must do at this time of year.

Chlorpyrifos Summary

Source: <http://www.epa.gov/pesticides/op/chlorpyrifos/summary.htm>

Uses: Food uses for chlorpyrifos are: cranberries, strawberries, citrus, apples, figs, pears, nectarines, cherries, peaches, plums, grapes, almonds, pecans, walnuts, onions, peppers, kale, broccoli, brussels sprouts, cabbage, cauliflower, collards, cucurbits, asparagus, roots/tubers, corn, tomatoes, lentils, beans, peas, sorghum, tobacco, wheat, alfalfa, peanuts, soybeans, sunflower, cotton, sugar beets, mint, and bananas.

Chlorpyrifos is also used as a termiticide; mosquitocide; a treatment for lawns, turf and ornamentals; an indoor crack and crevice and spot treatment; as a pet collar; as a treatment for pasture, woodland and lots/farmsteads; and as a cattle eartag.

Use of chlorpyrifos in and around homes and in non-residential settings will be eliminated or phased-out by the chlorpyrifos manufacturers. Further, apple use will be restricted and use on tomatoes will be eliminated.

Chlorpyrifos is not currently a restricted use pesticide. It is applied by the following methods: aerial, chemigation, groundboom, tractor-drawn granular spreader, airblast sprayer, low & high pressure hand wands, hydraulic hand-held sprayer, shaker can, bulbous duster, belly grinder, push-type spreader, large tank sprayer, compressed air sprayer, hose-end sprayer, aerosol sprayer, hand, pet collars and eartags.

An estimated twenty to twenty-four million pounds of chlorpyrifos are expected to be applied annually. Approximately 50% of the use of chlorpyrifos is in agricultural settings and 50% of the use is in non-agricultural settings. An estimated 24% of all use of chlorpyrifos is as a termiticide.

Mitigation is expected to reduce the total use of chlorpyrifos by as much as 50% when fully implemented based on available use data from the late 1990's.

Health Effects: Chlorpyrifos can cause cholinesterase inhibition in humans; that is, it can overstimulate the nervous system causing nausea, dizziness, confusion, and at high exposures, respiratory paralysis, and death.

Risks: Dietary risk from food is below levels of concern based on risk mitigation. The acute and chronic risk assessments are highly refined using USDA Pesticide Data Program (PDP) data and FDA monitoring data that reflects actual use of pesticides for most commodities.

Prior to mitigation, at the 99.9th percentile exposure there were acute risks of concern for the most exposed sensitive population sub-groups, consisting of all infants, children 1-6 years old, children 7-12 years old and females.

Use of chlorpyrifos on apples, tomatoes and grapes have been mitigated to address acute dietary risks. After mitigation, at the 99.9th percentile, acute risks are not of concern for the most highly exposed population sub-group, children 1-6 years old. Chronic dietary risk is not of concern.

Residential risks have been mitigated. Prior to mitigation, post application re-entry risks and mixer/loader/applicator risks for residents are of concern for all exposure scenarios. These risk estimates

are based on chlorpyrifos-specific studies supplemented by the Agency's SOPs for estimating residential exposure.

To address residential risks, use of chlorpyrifos in and around homes and in non-residential settings will be eliminated or phased-out by the chlorpyrifos manufacturers. After mitigation residential risks are not of concern.

Worker risks are moderate and have been mitigated in some cases. For mixers, loaders, and applicators, risks for some exposure scenarios, including residential applications, are of concern even with maximum Personal Protection Equipment (PPE)/engineering controls, using data from chlorpyrifos-specific studies and the Pesticide Handlers Exposure Database.

Restricted Entry Intervals (REIs) ranging from 1 to 10 days (with most of them being 1 day) would be necessary for various crops and activities to address post application re-entry risks. Typical labels currently require 12-24 hour REIs.

As part of the mitigation, the chlorpyrifos registrants have agreed to voluntarily place the new REIs on all agricultural products. This will address post application worker risks.

Drinking water risk is below the levels of concern. A drinking water assessment that relies heavily on monitoring data determined that acute and chronic exposure from drinking water is not of concern based on the mitigation. Additionally, the voluntary mitigation mentioned earlier will mitigate drinking water exposures.

Some localized applications of the subterranean termiticide use within 100 feet of wells have resulted in contamination of individual drinking water wells as evidenced by 251 reported contamination incidents from 1992-1997. In some instances, high levels of contamination have occurred. The risk assessment using high-end concentrations from these incidents conservatively estimates risks in these localized areas as very high. Incidents of this kind have been decreasing steadily since the issuance of the PR Notice on termiticides in 1996.

Aggregate risk is not of concern based on risk mitigation. The short-term and intermediate-term aggregate risks do not exceed the Agency's level of concern. Chronic aggregate risks do not raise a concern when all of the uncertainties and mitigation are considered.

Ecological risks are moderate. The risk assessment indicates that risks to birds, fish and mammals are high and that risks to aquatic invertebrates is very high. The mitigation of residential uses is expected to have some beneficial impact on risks to both aquatic and terrestrial organisms.

Lorsban Update

Adapted from Scaffolds Fruit Journal No. 13 and Facts for Fancy Fruit 2000-08

On 8 June, as part of the Clinton Administration's goal of reducing the potential exposure of children to all pesticides, the EPA announced an agreement with Dow AgroSciences to severely restrict the use of all products containing the active ingredient chlorpyrifos, sold in the agricultural market as Lorsban. Although Dow stated that the decision would have a "minimal impact on agriculture", the apple industry will take the biggest hit in the effects on its current pest control practices. The agreement restricts the

use of Lorsban 4EC and 50WP/WS in apples to **pre-bloom applications only**, effective December 31, 2000. Foliar applications of Lorsban 50W will be allowed during the current growing season. The EPA also intends to reduce the tolerance for chlorpyrifos residues in apples, which currently stands at 1.5 ppm, to 0.001ppm.

Restricted Entry Intervals (REI's) following treatments of Lorsban on some fruit crops will also be extended, although according to Dow, these are not likely to affect current worker practices in most crops. Additionally, Lorsban 4E (and Lorsban 50W packaged in containers smaller than 25 lbs) will become Restricted Use Pesticides, effective 1 Feb. 2001. For more detailed information on the chlorpyrifos risk issues, documentation can be found at:

<http://www.epa.gov/pesticides/op/chlorpyrifos.htm>

Strawberry Renovation

Adapted from Dr. Bruce Bordelon, Purdue Horticulturist, Facts for Fancy Fruit 2000-08

Matted row strawberry plantings must be renovated after harvest to establish new crowns for next year's crop. For best results, renovation should be started immediately after the harvest is completed to promote early runner formation. The earlier a runner gets set, the higher its yield potential. Renovation should be completed by mid-July in normal years. The following steps describe renovation of commercial strawberry fields.

1. Weed control: Annual broadleaf weeds can be controlled with Formula 40 (2,4-D alkanolamine salts plus 2,4-D Triisopropanolamine salt (4 lbs./gal.) at 2 to 3 pts./acre in 25-50 gallons of water applied immediately after final harvest. Formula 40 is the **only** 2,4-D formulation labeled for use in strawberries. The other amine formulations such as Weedar 64 or Amine 4 have a different formulation and are not labeled specifically for strawberries. Be extremely careful to avoid drift when applying 2,4-D. Even though the amine formulation is not highly volatile, it can volatilize under hot, humid conditions and can cause damage to desirable plants a considerable distance from the site of application. Some damage to strawberries is also possible. Read and understand the label completely before applying Formula 40. If grasses are a problem, sethoxydim (Poast) will control annual and some perennial grasses. However, do not tank mix Poast and 2,4-D. See the product label for rates and especially for precautions.

2. Mow the old leaves off just above the crowns 3-5 days after herbicide application. Do not mow so low as to damage the crowns.

3. Fertilize the planting: A soil test will help determine phosphorus and potassium needs, but foliar analysis is a more reliable measure of plant nutrition. For foliar analysis, sample the first fully expanded leaves following renovation. Nitrogen should be applied at 25-60 lbs./acre, depending on vigor. It is more efficient to split nitrogen applications into two or three applications at regular intervals, rather than apply it all at once. A good plan is to apply about half at renovation and half again in late August.

4. Subsoil: Where picker traffic has been heavy on wet soils, compaction may be severe. Subsoiling between rows will help break up compacted layers and provide better infiltration of water. Subsoiling may be done later in the sequence if crop residue is a problem or if soils are too wet at this time.

5. Narrow rows: Reduce the width of rows to a manageable width based on your row spacing, the aisle width desired, and the earliness of renovation. A desirable final row width to attain at the end of the

season is 12-18 inches. Wider rows lead to low productivity and increased disease pressure. This means that rows can be narrowed to as little as 6 inches during renovation. Use a roto-tiller or cultivator to achieve the reduction. Since more berries are produced at row edges than in the middle, narrow rows are superior to wide rows. Narrow rows will give better sunlight penetration, better disease control, and better fruit quality.

6. Cultivate: Work in straw between rows and throw a small amount of soil over the row by cultivation. Strawberry crowns continue development at the top, and new roots are initiated above old roots on the crown, so 1/2 - 1 inches of soil on the crowns will facilitate rooting. This also helps cover straw in the row and provides a good rooting medium for the new runner plants.

7. Weed control: Pre-emergence weed control should begin immediately. Sinbar or Devrinol are suggested materials. See the Ohio Commercial Small Fruit and Grape Spray Guide 2000 and check the product labels carefully. Devrinol must be incorporated by irrigation, rainfall, or cultivation to be effective. Rate and timing of Sinbar application is critical. If regrowth has started at all, significant damage may result. Some varieties are more sensitive to Sinbar than others. If unsure, make a test application to a small area before treating the entire planting. Use up to 6 oz/acre/application and no more than 8 oz/acre/year total. Sinbar should not be used on soils with low organic matter, or on sensitive varieties like Guardian, Darrow, Tribute, Tristar and possibly Honeoye. If Sinbar gets onto strawberry leaves, irrigate to wash it off.

8. Irrigate: Water is needed for both activation of herbicides and for plant growth. Don't let the plants go into stress. Ideally, the planting should receive 1 to 1-1/2 inches of water per week from either rain or irrigation.

9. Cultivate to sweep runners into the row until plant stand is sufficient. Thereafter, or in any case after September, any runner plant not yet rooted is not likely to produce fruit next year and is essentially a weed and should be removed. Coulter wheels and/or cultivators will help remove these excess plants in the aisles.

10. Adequate moisture and fertility during August and September will increase fruit bud formation and improve fruit yield for the coming year. Continue irrigation through this time period and fertilize if necessary. An additional 20-30 pounds of N per acre is suggested, depending on the vigor.

Powdery Mildew of Peach, Nectarine, and Apricot

Source: Penn State Dept. Of Plant Pathology, <http://fpath.cas.psu.edu/stonefrt/pmstone.html>

Powdery mildew, sometimes called rose mildew because it affects some woody ornamentals, is not often serious and occurs only sporadically. The causal fungus, *Sphaerotheca pannosa*, is usually rare in peach orchards. The fungus can attack leaves, twigs, and fruit; however, fruit infections cause the greatest economic loss.

Symptoms: On fruit, the disease first appears as round, whitish spots 2 to 4 weeks after shuck fall. The spots get bigger until they cover much of the fruit. The white spots are produced by the fungus mycelium and its spores. Later the mycelium sloughs off and leaves a rusty-colored patch with dead epidermal cells. About the time of pit-hardening, the skin of the fruit under the spot turns pinkish, and the fungus and its spores disappear. Eventually the skin becomes leathery or hard, turns brown, and may

crack.

Diseased leaves often fail to unfold normally, while those of new shoots become narrow, straplike, and distorted. New shoots are shorter than normal and distorted. The white mycelium and spores of the fungus may cover infected leaves and shoots or may appear as whitish patches.

Disease Cycle: The fungus overwinters in dormant peach buds. Flower buds of infected shoots often do not survive the winter. As leaf buds expand in spring, young leaves become infected and the spores produced on the leaves serve to infect young fruit, new shoot growth, and newly expanding leaves. Leaves are susceptible to infection when young but become resistant as they age. Fruit are also more susceptible when young and become resistant at pit hardening.

Disease Management: Routine fungicides adequately control this disease. These sprays should be initiated at petal fall and continued until pit hardening. Most peach cultivars are resistant to powdery mildew, however, Rio-Oso-Gem and Redskin are susceptible.

This article was prompted by a heads up from Ron Becker, Program Assistant, Wayne County. After contacting Mike Ellis, OSU Plant Pathologist, Mike says its the first time he has seen an outbreak of powdery mildew on peaches in 21 years. He recommends the use of sulfur on a 10-day interval. Indar should also provide control.

Post Harvest Handling of Raspberries

As raspberry season approaches, here are some suggestions for improving berry shelf life: The recommended temperature for raspberries is 32 degrees F, and at 30 degrees F or less berries might freeze. At temperatures over 45 degrees F, water loss occurs and fungal growth is accelerated.

Forced air cooling: It takes 1/4 to 1/10 as long to cool berries when air is forced through them instead of just placing them into a refrigerated room. The improvement in shelf life and quality is also significant. Use high capacity fans to pull refrigerated air through the stack of berries. An airflow rate of 2 to 4 cubic feet of air per min per lb of berries is suggested. This should give 7/8 cooling time of no more than one hour in most cases. The 7/8 cooling time is the time required to remove 7/8 of the temperature difference between the starting berry temperature and the temperature of the refrigerated air. You still need adequate refrigeration to remove field heat. Increasing air flow will not make up for inadequate refrigeration, and you can never have too much refrigeration. A simple forced air cooling tunnel can be made by draping a plastic sheet over a stack of berries and using a low speed, high volume fan to draw the air through the berries.

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: Variegated leafroller

Site: Waterman Lab, Columbus (6/8-6/14)

Source: Dr. Celeste Welty, OSU Extension Entomologist

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

Apple

RBLR: 15 (up from 6)
 STLM: 757 (up from 663)
 DWB: 0.0 (unchanged)
 SJS: 0 (unchanged)
 CM: 11.0 (up from 6.3)
 OBLR: 0 (unchanged)
 TABM: 1 (up from 0)
 VLR: 2 (down from 3)
 AM: 0.7 (down from 1)

Peach

OFM: 39 (up from 24)
 LPTB: 4.5 (up from 0.0)
 PTB: 3.0 (up from 1.5)

Site: East District; Erie & Lorain Counties (6/8-6/14)

Source: Jim Mutchler, IPM Scout

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

Apple

RBLR: 1.7 (up from 0.0)
 CM: 8.1 (up from 3.8)
 SJS: 0 (unchanged)

Peach

OFM: 21.3 (down from 21.7)
 RBLR: 2.0 (up from 0)
 LPTB: 39 (up from 23)
 PTB: 2.3 (unchanged)

Other pests: green apple aphid, rosy apple aphid, fire blight, scab

Beneficials at work: lacewing eggs & adults (brown & green), banded thrips, orange maggots, lady beetles, *Stethorus punctum*

Site: West District; Huron, Ottawa, & Sandusky (6/7-6/13)

Source: Gene Horner, IPM Scout

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

Apple

RBLR: 11.5 (up from 0)

SJS: 0.0 (unchanged)

CM: 5.1 (up from 2.9)

Peach

OFM: 23.3 (up from 19.3)

RBLR: 15.3 (up from 0)

LPTB: 32 (up from 18)

PTB: 4.8 (up from 3)

Other pests: green apple aphid, green peach aphid, lilac borer, white apple leafhopper, fire blight

Beneficials at work: Lacewing eggs & adults (brown & green), banded thrips, lady beetles

Site: Wayne County (6/9-6/15)

Source: Ron Becker, Extension Program Assistant

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

	Apple			
	North	South	East	West
RBLR:	0	19.5	10	4
STLM:	716.7	325	28	355
CM:	6.6	3.5	15	16.3
PC:	0			0

	Peach		
	North	South	West
OFM:	0	28	25.5
LPTB:	0	8	0
LPTB:	0	0	0

Orchard observations: *North:* heavy red mite in orchards without pre-bloom spray. Leaves bronzing. Light aphid. *South:* light aphid, red mite, and two-spotted spider mite. Light scab. *East:* light scab. *West:* heavy red mite in orchard without pre-bloom spray. Leaves starting to bronze. Light aphid and leaf mines.

Northern Ohio Apple Scab Activity - SkyBit Product

SkyBit based on observations: June 5, 6, 12-15; possible infection & damage

Based on Forecasts: June 17-19, 21,22; possible infection & damage

North Central Ohio Spectrum Technologies Orchard Monitors for Apple Scab
 Spectrum Technologies Monitors and Software* Observations: June 12, 15; Medium Infection
 (Software* based on Modified Mills Chart)

Northern Ohio Fire Blight Activity - SkyBit Product

SkyBit based observations: June 1, 11-15; possible infection and damage
Based on Forecasts: June 16-25; possible infection & damage

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

Location	Actual DD Accumulations June 14, 2000		Forecasted Degree Day Accumulations June 21, 2000			
	Base 43° F	Base 50° F	Base 43° F	Normal	Base 50° F	Normal
Akron - Canton	1286	727	1472	1296	861	775
Cincinnati	1643	1001	1864	1775	1169	1126
Cleveland	1283	740	1467	1247	872	732
Columbus	1602	974	1804	1489	1123	917
Dayton	1564	939	1772	1523	1095	951
Mansfield	1288	740	1473	1274	873	761
Norwalk	1327	775	1514	1237	909	744
Toledo	1319	748	1506	1226	882	737
Wooster	1376	799	1554	1216	925	711
Youngstown	1244	690	1418	1177	811	688

Phenology

Coming Events	Range of Degree Day Accumulations	
	Base 43° F	Base 50° F
Peachtree borer flight peaks	864-2241	506-1494
Obliquebanded leafroller 1 st flight peak	869-1548	506-987
Oriental fruit moth 2 nd flight peak	1000-2908	577-2066
Apple maggot 1 st catch	1045-1671	629-1078
	1096-2029	656-1381

Redbanded leafroller 2 nd flight begins		
Codling moth 1 st flight subsides	1112-2118	673-1395
Spotted tentiform leafminer 2 nd flight peak	1295-2005	824-1355

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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