http://ipm.osu.edu/fruit/index.html

THE OHIO STATE UNIVERSITY Newsletter Extension

Fruit ICM News

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Calendar

August 21: Horticulture Field Night, 6:00 p.m. until dark. Southern State Community College (main campus), 200 Hobart Dr., U.S. Rte. 62 north of Hillsboro, Ohio. Come and view more than 500 research and demonstration plots and 12 different fruit and vegetable projects. Contact Brad Bergefurd at 1-800-860-7232 or Bergefurd.1@osu.edu.

February 19 to March 4, 2001: New Zealand Tour.

Dr. Peter Hirst, son of a New Zealand fruit grower and now the extension fruit specialist in Indiana will be leading a tour to New Zealand from Feb. 19 to March 4, 2001. Cost of the tour is $3000. More information regarding the tour can be obtained by calling Peter Hirst at 765-494-1323 or by E-mailing him at hirst@hort.purdue.edu.

Chemical Companies Consolidate

Source: Fruit Times Newsletter, Vol. 19, No. 13, August 8, 2000

Over the years many chemical companies have merged, been bought out, been spun off, or have consolidated. This has caused much confusion to nearly everyone in the fruit business. Several recent

changes include: VALENT BioSciences Corp. was formed when the ag business of Abbott Labs was spun off. Syngenta formed when the ag businesses of Novartis and Zeneca were spun off. Aventis formed when AgrEvo and Rhone-Poulenc merged. BASF bought American Cyanamid. For a full picture of these changes, go to the web site developed by Arnold P. Appleby, Prof. Emeritus in the Crop Science Dept. at Oregon State University:

http://www.css.orst.edu/herbgnl/tree.html

Reducing Fruit Damage

Source: Fruit Times Newsletter, Vol. 19, No. 13, August 8, 2000

A recent article in California Agriculture by I. T. Agar and E. J. Mitcham on handling and ripening Bartlett pears has reinforced the basics of reducing the damage to any fruit crop. Listed below are the 8 points brought out in the research:

1. Use gentler picking containers (padded buckets) to reduce bruising and scuffing.
2. Keep plastic bins clean to reduce fruit scuffing.
3. Line wooden bins with plastic to significantly reduce fruit scuffing.
4. Consider providing incentives to harvest crews to minimize fruit damage.
5. Use air-ride suspension when transporting fruit from orchards to packinghouse, especially when travel is over rough roads.
6. Use immersion dumps with flotation salts to minimize postharvest damage to pears.
7. Reduce damage from nonimmersion water dumps by allowing fruit to move onto conveyors before additional fruit is dumped.
8. Avoid dropping pears onto hard surfaces such as hard plastic, wood, or supported belts that can be damaging, especially at heights of 6 inches (about 15 cm) or greater. Minor modifications, such as adding padding, curtains to slow fruit, and suspended belts at fruit transfer points can minimize damage due to drops and its effects on fruit quality.

The Pennsylvania Tree Fruit Production Guide has information on reducing damage to fruit during harvesting and handling on pages 223 to 224. This information may also seen on the web at:

http://tfpg.cas.psu.edu/part6/part62a.htm

Apple Maturity on Your Farm

Source: Fruit Times Newsletter, Vol. 19, No. 13, August 8, 2000

The single best measure of determining apple maturity for storing apples is the starch pattern that develops in the fruit as the starch is broken down into sugars. Fruit firmness, soluble solids (sugar) levels, and skin color are all important factors in determining the eating quality and/or salability of apples, but they vary so much from year to year that they are not useful in determining maturity for storage. More details on harvest maturity can be found in the Pennsylvania Tree Fruit Production Guide (page 221) and on the web at: http://tfpg.cas.psu.edu/part6/part61a.htm

A solution of iodine and potassium iodide is used to make the starch turn black, and this pattern is the basis for the test. Over the years charts have been developed for many varieties, but some charts went from 1 to 5 while others went from 1 to 7. There was much confusion, so the postharvest physiologists at Cornell University have developed a more universally accepted chart that is useful for all varieties. It is being used by researchers in over 20 states in the national apple variety testing program. Cornell has an excellent publication available to help you use the starch-iodine test and to develop an apple maturity program. The publication also contains a laminated starch iodine chart to aid in interpreting the tests. I strongly suggest that anyone seriously interested in harvesting high quality apples with good storage potential buy a copy of this publication. If you are in keeping quality then you should have a copy of this publication. Details on the publication are listed below:

Predicting Harvest Date Windows for Apples (1992) Information Bulletin 221. Full-color plates show how to use and interpret the starch-iodine test for determining maturity and the best harvest dates for quality; especially important for apples going into storage. Covers McIntosh, Cortland, Empire, Delicious, Mutsu/Crispin, and Idared; dates for other varieties can be interpreted from the information presented. This twenty page bulletin costs $5.50. The publication can be ordered from Cornell University by calling 607-255-2080 and using a Mastercard or VISA credit card.

Dr. George Chu, of the University of Guelph - Dept. of Plant Agriculture in Ontario has developed a publication on this test entitled: Starch-iodine test for determining maturity and harvest dates of Empire, Idared and Spartan apples (Factsheet No. 88-090.) This four page publication is available on the web at: http://www.gov.on.ca:80/OMAFRA/english/crops/facts/88-090.htm

For those wanting to make their own testing solution, Dr. Chu gives these instructions:

Preparing the Test Solution

Always use a freshly prepared solution at the beginning of every season. This solution is sensitive to light and should be stored in a dark container. A dark-colored bottle or a glass jar wrapped in aluminum foil will serve the purpose. Chemicals needed for this test are potassium iodide and iodine crystals. A pharmacist or a chemist can use the following recipe to make up the iodine solution.

Recipe

1. Dissolve 8.8 grams of potassium iodide in about 30 ml of warm water. Gently stir the solution until potassium iodide is properly dissolved.
2. Add 2.2 grams of iodine crystals. Shake the mixture until the crystals are thoroughly dissolved.
3. Dilute this mixture with water to make 1.0 liter of test solution. Mix them well.

Warning

Iodine is a very poisonous chemical. The iodine solution should be properly labeled and kept away from children and pets. Apples used in the test should not be fed to any animals or used in composting. In case of ingestion of either iodine or iodine-treated apples, induce vomiting and consult a physician immediately.

The only place that I know of where you can buy the iodine-potassium iodide solution is Cascade Analytical, 3019 GS Center Road, Wenatchee WA 98801. The phone number is 1-800-545-4206; the web site is: http://www.cascadeanalytical.com/

For the Government Version of "Survivor", Look No Further Than FQPA

Source: Christina DiFonzo, MSU Pesticide Education Coordinator, MSUE Fruit CAT, August 8, 2000

"The world is watching as 16 castaways eliminate each other one-by-one from a remote tropical island. . . tune in to all 13 episodes and experience island life with the castaways as they count down to the final Survivor." So says the web site for CBS's "Survivor" TV show, one of the latest entries into the real-TV genera. The concept of the show is to strand people on an island, and through a series of contests and votes, periodically vote a person off the island. The lucky "survivor" wins big money kind of a Gilligan's Island on steroids.

I don't need to watch TV to get true-life survival drama. The federal government's own version of Survivor, the Food Quality Protection Act, was created by Congress in 1996. FQPA changes the way Environmental Protection Agency (EPA) reviews pesticides and sets tolerances for residues on food crops. Over the last several years, I've talked about potential impacts of FQPA -- cancellation of pesticides, dropping of minor / specialty uses, changes in reentry intervals, preharvest intervals, use rates, number of sprays, or formulations. We have reached the four-year anniversary of FQPA and many of these changes are happening.

The government version of Survivor is played out on EPA Island, also known as Washington, D.C. In the first episode of the show, the Island was populated with about 40 organophosphates (OPs for short). OPs aren't voted off the island. Instead, EPA conducts "preliminary risk assessments". The Agency identifies the hazard of each OP to humans, wildlife, and the environment. It also estimates exposure and safe dose for various groups of people, such as infants, children, workers, and pesticide applicators. The information for each pesticide is compiled in a preliminary document (preliminary because this is just the beginning of a six-step survival process for the pesticide). Some of these risk assessments are impressive. For instance, the malathion document printed off the EPA web site is a stack of single-sided pages 5 inches thick!

Choosing a survivor: the review process for organophosphates

Once a preliminary risk assessment is done, the pesticide goes through six steps, or phases of review, comment, and revision. For an individual OP, the entire review process can take a year or more.

Phase 1, review for errors: The U.S. Department of Agriculture and the manufacturer(s) of the OP review the preliminary risk assessment for errors, and comment back to EPA. Timeframe - 30 days.

Phase 2, corrections: EPA reviews the comments and, if necessary, make corrections to the risk assessment. Timeframe - 30 days.

Phase 3, public comment: The risk assessment is released to the public, which means you. The announcement is made in the Federal Register and published on the EPA web site. Anyone can get a copy of the risk assessment, review it, and send comments directly to EPA at this URL: http://www.epa.gov/oppsrrd1/op/status.htm

For example, a commodity group could provide data on the actual use rate of an OP on a crop.

Timeframe - generally 60 days.

Phase 4, revision: EPA reviews the public comments, gathers additional data, and holds public meetings / technical briefings. The risk assessment is revised and resubmitted to USDA for review. Timeframe - up to 90 days.

Phase 5, risk management: The revised risk assessment goes back to the public. By this time, EPA's concerns with a particular OP are clear. In phase 5, EPA collects ideas about how to mitigate the identified risks. (In other words, solve or reduce the problems with the use of the product.) Timeframe - 60 days.

Phase 6, final risk management strategies: In this final phase, EPA considers the comments and information gathered in Phase 5 and it makes an ultimate decision about the OP.

When an OP gets to Phase 6, its fate is determined. If an OP poses little risk, has low exposure, and low toxicity, it generally faces no or few label changes. These are the true survivors.

Other OPs have had problems in the risk assessment process, problems which are being solved by requiring the manufacturer to change the formulation, packaging, use rate, application guidelines, preharvest intervals, and/or protective clothing requirements. These OPs are beaten and bloodied, but survive to fight another day.

Finally, there are OPs identified as having numerous concerns. These are essentially banished from EPA Island, i.e., all or most uses will be cancelled.

The survival status of important OPs

So after four years, how are the contestants faring? Below, I list important OPs used in Michigan and give current information on their status in the FQPA "Survivor" process. The majority of OPs are through Phase 5 in the review process. But most are now in limbo, awaiting action from EPA and the pesticide manufacturer. With an election approaching, decisions are expected soon. The bottom line is that for the next field season, be aware that for OP survivors, information on the label may change - sites/crops deleted, rates reduced, reentry or pre-harvest intervals increased, or PPE added. Non-surviving OPs will be phased out, so existing stocks must be used in a prescribed manner. If you have access to the Internet, you can follow the OP assessment process at:
http://www.epa.gov/oppsrrd1/op/status.htm

On EPA Island, there is never a dull moment. HAPPY 4th ANNIVERSARY, FQPA on August 3, 2000.

Status of some OPs in the FQPA review process (August 2000):

acephate (Orthene)
Uses: field, fruit, and vegetable crops such as celery, lettuce, lima/snap beans, cranberry, and mint; ornamentals; home lawn, turf, golf course; interior pest control.
Status: Phase 5 completed in April, 2000.
Concerns: high infant exposure from surface drinking water; high risk to workers in turf, floral, trees, shrubs, and roses, even at the highest level of protection feasible; risks to children from residential applications; inadequate reentry intervals for some crops; high toxicity to bees, beneficial insects, birds, freshwater invertebrates.

azinphos-methyl (Guthion)
Uses: Fruit and vegetable crops; cotton; ornamentals
Status: Risk assessment process complete. EPA's decision about Guthion was announced in August 1999.
Concerns: exposure risk to agricultural workers; unacceptable dietary risk to small children.
Actions: EPA will increase reentry intervals for workers; require closed mixing/loading systems, require applications be made with closed cabs; reduce use and tolerances of Guthion on apples, pears, and several other fruits; establish maximum seasonal use rates and increase the preharvest intervals on certain crops; cancel uses on cotton in the east, sugarcane, shade trees, forest trees, and Christmas trees. AZM production in U.S. will be capped.

bensulide (Betasan, Bensumec, Pre-san in turf; Prefar in vegetables)
Uses: pre-emergence herbicide in turf; annual grass herbicide in a variety of vegetable crops, including broccoli, cucumbers, lettuce, and melons.
Status: Phase 5 completed in August 1999.
Concerns: exposure from residential lawn uses; drinking water risk from turf uses/ run-off; risk to birds, especially turf uses.Ohio Fruit ICM News

chlorethoxyfos (Fortress)
Uses: soil insecticide for use on corn
Status: Phase 5 complete.
Concerns: Few/none. Low dietary, drinking water, occupational, or aggregate risks.
Actions: None expected.

chlorpyrifos (Dursban and Lorsban)
Uses: Field, fruit, vegetable crops; ornamentals; lawn and turf; termite and mosquito control; indoor pest control; livestock eartags.
Status: Technical briefing was held June 8, 2000, detailing an agreement between EPA and the six manufacturers of chlorpyrifos.
Concerns: human exposure from indoor and outdoor residential applications; concerns about termiticide applications; concern for current reentry intervals in some crops; toxicity bees and aquatic organisms.
Actions taken: EPA will cancel use on tomatoes and restrict use on apples; lower tolerance (limits) for residues on apples and grapes; eliminate all indoor and outdoor homeowner uses, as well as other non-residential areas where kids may be exposed (for example, school or parks); reduce use rates in other non-residential sites, such as golf courses; eliminate or phase out termite uses.
Lorsban 4E will become Restricted Use. Chlorpyrifos manufacturers may propose lower application rates, lower frequencies of treatment, and longer preharvest intervals for some ag uses in the future.

chlorpyrifos-methyl (Reldan)
Use: stored grain treatment
Status: Phase 5 underway
Concerns: lack of neurotoxicology data, i.e. how CPM affects the nervous system, especially of young animals.
Action taken: EPA requested additional neurological testing data on CPM. As a result of the high cost of these tests, the registrant (Dow AgroSciences) requested cancellation of the product.
Special Note: EPA and Dow are discussing the phase-out process and alternatives to CPM. For now, Reldan can still be used on stored barley, oats, rice, sorghum, and wheat.

diazinon (Diazinon)
Uses: Many crops; ornamental and turf; indoor pest control.
Status: Phase 3 ended in July 2000. A technical briefing is scheduled for fall.

Concerns: exposure, especially to small children, through surface drinking water; toddler exposure following lawn and indoor applications; handler, applicator, mixer, and loader exposure; exposure for workers reentering treated fields and greenhouses; non-ag uses significantly affect ground and surface water; toxicity to birds, fish, mammals, and aquatic animals.
Actions taken: Manufacturer requested cancellation of some uses, including alfalfa, cowpea, dry beans, and sorghum.
Special note: EPA is concerned that as homeowner uses of chlorpyrifos (Dursban) are eliminated, use of diazinon may increase. This may impact the eventual decision about diazinon.

dimethoate (Dimethoate, Dimate)
Uses: fruit and field crops (especially vs. potato leafhopper); ornamentals; non-ag uses.
Status: Phase 5, completed February 2000.
Concerns: May pose a risk to mixers, loaders, and workers under some circumstances. High bee toxicity.
Action taken: Residential and several other non-ag uses will not be continued by the registrant.

disulfoton (Di-Syston)
Uses: Field, fruit, and vegetable crops (particularly asparagus); ornamentals; Christmas trees.
Status: Phase 5, public comment period for risk management, completed in May 2000. Currently awaiting action from EPA.
Concerns: while dietary (food) exposure is not a concern, the combination of food + drinking water exposure concerns EPA; exposure of people through residential uses; high risk to mixers/loaders/ applicators even at the maximum protective clothing and engineering controls; significant number of occupational (work-related) poisonings; high risk to birds, mammals, and aquatic organisms.
Special note: The manufacturer of disulfoton, Bayer Corporation, has proposed cancellation of Di-Syston Systemic Insecticide for Vegetables and label changes for other Di-Syston products. These changes include label deletions (corn, oats, pecans, tomatoes) and rate reductions in many other crops.

ethoprop (Mocap)
Uses: insecticide/ nematicide in field and vegetable crops (especially potatoes); ornamentals; golf turf.
Status: Phase 5 completed November 1999.
Concerns: Classified as a "likely" carcinogen; exposure of golfers and workers; high ecological risks = slow breakdown, high water solubility, fish kills, and risks to wildlife.
Action taken: Registrant may conduct additional studies.

fenamiphos (Nemacur)
Uses: insectide/nematicide on crops.
Status: Phase 5 completed November 1999.
Concerns: High persistence and mobility in water, thus high drinking water risk. High risk to animals.
Actions taken: Groundwater monitoring studies underway.

isofenphos (Oftanol)
Uses: lawn and golf turf; ornamentals and shrubs.
Actions taken: Voluntarily cancelled by the registrant. Existing stocks in the hands of dealers and end-users can be used up.
Status: Did not go through the OP review process. Isofenphos was scheduled for reregistration in 1999. At that time, the registrant decided not to support the reregistration of the product, and an OP review under FQPA was not needed.

malathion (Malathion)
Uses: Field, fruit, and vegetable crops; stored grain.

Status: As of May 2000, in Phase 3, public comment on the preliminary risk assessment
Concerns: EPA wants to reclassify malathion as a "suggestive carcinogen" based on animal tests, but this data has been disputed it is unclear if malathion will be reclassified in the future. Risks of applicator and handler exposure; exposure of workers reentering some treated crops; toxicity to aquatic organisms, some birds, bees, and beneficial insects.
Action taken: The manufacturer has informed EPA that it will not support the following uses: pet, livestock, indoor, greenhouse, open-forest, seed treatments, cranberry, soybean, sugarbeet, sunflower, and several nuts. These uses were not considered in the risk assessment, and will likely be cancelled.

methidathion (Supracide)
Uses: fruit and vegetables crops; alfalfa grown for seed; ornamentals.
Status: Phase 5 completed February 2000.
Concerns: High risk to workers; inadequate reentry intervals in some crops; serious risks to "ecosystems" where the product is used.

methamidophos (Monitor)
Uses: potatoes, tomatoes, and several imported crops grown outside the U.S.
Status: Phase 5 completed in April 2000.
Concerns: extreme toxicity to humans; high total food residue (methamidophos + acephate see note below); high exposure for some mixing/loading scenarios; current re-entry intervals are not adequate; high risks to bees, birds, aquatic animals, mammals.
Special note: In the risk assessment process, methamidophos is linked to another organophosphate, acephate (Orthene). Acephate breaks down into methamidophos, and this residue is counted towards the methamidophos risk.

methyl parathion (Penncap M)
Uses: Field, fruit, vegetable crops; ornamentals, nursery, seed grasses; mosquito control; roadsides.
Status: Risk assessment process complete. EPA's decisions about the pesticide were announced in the fall of 1999.
Concerns: acute dietary risk to children; exposure risk to agricultural handlers, applicators and workers; high toxicity to bees, birds, and aquatic organisms.
Action taken: Many food and non-food uses cancelled, including most fruits and vegetables, flowering plants, ornamentals, and nursery stock.

naled
Uses: mosquito and blackfly control; pet flea collars; greenhouse; a few crops.
Status: Phase 5 completed December 1999.
Concerns: Few identified. Food residues not a major concern, and most exposure estimates are within safety margins.

oxydemeton-methyl (Metasystox-R)
Uses: Field crops (i.e., mint and sugarbeet), non-bearing fruit, vegetables; ornamentals and shrubs; nut, shade, and Christmas trees.
Status: Phase 5 completed February 2000.
Concerns: mixer, loader, applicator exposure risk; inadequate reentry intervals; bird, mammal, and bee toxicity.
Action taken: Registrant will submit further oral human studies in the near future.

phorate (Phorate, Thimet)
Uses: soil insecticide used on field crops (for ex., corn and dry beans)
Status: Phase 5 completed Nov. 1999.

Concerns: Dietary exposure is not a concern, but aggregate exposure (food + water) is; risks to aerial applicators; high number of "occupational incidents" (i.e. accidental poisonings); high risk to birds (poisoning incidents have been reported) and aquatic organisms.

Phosmet (Imidan)
Uses: Field, fruit, vegetable crops; cotton; ornamentals; forestry; livestock and pets.
Status: Phase 5 is complete as of May.
Concerns: exposure of toddlers to phosmet residues from residential uses; exposure during mixing and loading for certain types of applications to fruit/nut trees, field and vegetable crops, grapes, ornamentals and forestry; concern for current reentry intervals in many crops; high toxicity to bees.

pirimiphos-methyl (Actellic)
Uses: stored grain insecticide used on corn and sorghum; cattle eartags; iris bulbs.
Status: Phase 5 completed May 2000
Concerns: exposure of workers from mixing and applying top-dress treatments.

tebupirimfos (Aztec)
Use: soil insecticide for use on corn
Status: Phase 5 completed July 2000
Concerns: Few. EPA has some concern for dermal exposure of loaders and applicators under current label PPE requirements.

temephos (Abate)
Uses: control of mosquito larvae in ponds, swamps, marshes, inter-tidal zones, tire piles, other areas; important in mosquito resistance management.
Status: Phase 5 completed December, 1999
Concerns: worker and applicator exposure, in some scenarios even under maximum engineering controls; ecological risk to aquatic organisms due to direct application to water.
Special note: Under FQPA, there are benefit considerations for pesticides with public health uses. Risk of temephos use may be balanced by its benefit in controlling a biting insect that is a disease vector.

terbufos (Counter)
Uses: Soil insecticide used on beets and corn.
Status: Phase 5 completed November 1999
Concerns: one of the most toxic OPs to humans; acute dietary risk is "barely below EPA's level of concern" and drinking water concern is high thus aggregate risk (diet + water) is a problem; high risk to birds and mammals; many fish kills reported.

trichlorfon (Dylox)
Uses: home lawns and golf turf; ornamentals and nurseries; ag farm building premises
Status: Phase 5 completed June, 2000
Concerns: risk of exposure to children and adults from lawn applications; exposure risk to applicators and handlers making applications to lawn/ turf and ponds, and workers reentering nurseries; aggregate risk (diet + non-diet) is a concern.

Status of non-OP pesticide of interest:
chlorothalonil (Bravo, Daconil, Manicure, others)
Uses: widely used fungicide (fruit, vegetables, field crops, turf, ornamentals, trees, paint additive)
Status: Not in official FQPA review process, but underwent reregistration using new FQPA guidelines; decision published in April 1999.

Concerns identified in the reregistration decision: Toxicity to aquatic invertebrates and fish; high handler, worker, and/or homeowner exposure to chlorothalonil; cancer risk to kids exposed via lawn applications. Chlorothalonil is also classified as a B2 carcinogen.
Action taken: reduce application rates in many crops; require untreated buffer strips between crop and waterways; require closed handling systems or packaging in water soluble bags; add requirements for additional protective equipment to wear during application; delete over-the-counter and in-container paint additive uses; delete all home lawn uses.

Fly Speck and Sooty Blotch

Source: Dr. Mike Ellis, Integrated Pest Management (IPM) Disease Management Guidelines for Apples in Ohio

Weather conditions present this summer may be encouraging development of fly speck and sooty blotch.

Both diseases are favored by temperatures between 65° and 80° F and by very high humidity (greater than 90% relative humidity for sooty blotch and greater than 95% relative humidity for fly speck.) Conditions such as these are most frequent when night time temperatures remain above 65 to 70 F during the summer, or during extended warm, rainy periods. Sooty blotch and fly speck symptoms can develop within 14 days from infection under ideal conditions, but symptom development is arrested by high temperatures and low relative humidity. Thus the period between infection and symptom development ranges from 25 to more than 60 days. **Sooty blotch and fly speck infections not yet visible at harvest can develop during cold storage.**

Bottom line for sooty blotch and fly speck control:

- Cultural practices such as pruning and fruit thinning that increase air circulation and reduce drying time of fruits are very important.
- Good spray coverage is essential.
- The benzimidazoles (Benlate or Topsin-M) are the best material available. Captan is probably second best. Combinations of a benzimidazole plus captan or alternations of a benzimidazole and captan should provide the best level of control. Thiram and Ziram will work, but you have to keep the rates up (at least 1.5 lb/100 gal) and spray on a tighter schedule during wet growing seasons.
- **Note:** The SI fungicides are not effective in controlling these diseases.
- Rule of thumb: During wet growing seasons, do not exceed a spray interval of 3 weeks from the last spray to harvest.

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 (8/3-8/9)
Source: Dr. Celeste Welty, OSU Extension Entomologist
Traps used: STLM=wing traps, SJS=Pherocom-V, Others=Multipher-1® traps

Apple	**Peach**
RBLR: 27 (up from 14)	OFM: 31 (down from 38)
STLM: 82 (down from 294)	LPTB: 2.0 (up from 1)
DWB: 1.0 (up from 0.5)	PTB: 8.5 (down from 9)
SJS: 0 (unchanged)	
CM: 10.7 (down from 15.7)	
OBLR: 0 (unchanged)	
TABM: 0 (down from 1)	
VLR: 7 (up from 1)	
AM: 1.7 (up from 0.3)	

Site: East District; Erie & Lorain Counties (8/2-8/6)
Source: Jim Mutchler, IPM Scout
Traps Used: STLM=wing traps, SJS=Pherocon-V, Others=Multipher® traps

Apple	**Peach**
RBLR: 4.9 (up from 1.4)	OFM: 3.3 (down from 11)
CM: 10.2 (up from 4.5)	RBLR: 9.0 (up from 2)
SJS: 75 (down from 201)	LPTB: 15.7 (up from 12.0)
AM: 1.4 (down from 3.3)	PTB: 12.3 (down from 14)

Other pests: green apple aphid, Japanese beetle, scab, blister spot, OBLR and OFM damage

Beneficials at work: lacewing eggs, larvae, & adults, orange maggots, predatory mites, *Stethorus punctum,* and other lady beetles

Site: West District; Huron, Ottawa, & Sandusky (8/2-8/8)
Source: Gene Horner, IPM Scout
Traps Used: STLM=wing traps, SJS=Pherocon-V, Others=Multipher® traps

Apple	**Peach**
RBLR: 18.8 (up from 6.3)	OFM: 3.0 (down from 6.3)
SJS: 4.2 (down from 9.2)	RBLR: 7.0 (down from 9.8)
CM: 1.7 (up from 1.4)	LPTB: 28.3 (down from 29.3)
AM: 0.7 (unchanged)	PTB: 3.0 (down from 4.5)
PC: 0 (unchanged)	
OBLR: 2.0 (up from 0.7)	

Other pests: green apple aphid, potato leafhopper, Japanese beetle, two-spotted spider mite, green peach aphid

Beneficials at work: Green lacewing eggs & adults, banded thrips, lady beetles, brown lacewing adults, predator mites, *Stethorus punctum*

Site: Wayne County (8/3-8/9)
Source: Ron Becker, Extension Program Assistant
Traps used: STLM=Wing traps, PC=Circle trunk trap, Others=Multipher® traps

	Apple			
	North	South	East	West
RBLR:	4.7	33	40	8.8
STLM:	687	100	30	448
CM:	8.6	10.8	6.7	34.8
PC:	0.8	0.2	7.7	0.3

	Peach		
	North	South	West
OFM:	4	21	65
LPTB:	0	0	0
PTB:	1	0	10.5

All blocks over threshold for CM, AM over threshold in one block. ERM populations increasing in peach orchards. Heavy winds in weekend storms have fallen peach trees in several orchards. Japanese beetle damage is less than last week.

Beneficials at work: brown and green lacewings adults and larvae, hover flies, lady beetles, minute pirate bug

Northern Ohio Sooty Blotch - SkyBit Product

SkyBit based observations: August 1-10; possible infection and damage

Based on Forecasts: August 11-18; possible infection & damage

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

	Actual DD Accumulations August 2, 2000		Forecasted Degree Day Accumulations August 9, 2000			
Location	**Base 43° F**	**Base 50° F**	**Base 43° F**	**Normal**	**Base 50° F**	**Normal**
Akron - Canton	2720	1770	2924	2953	1921	2014
Cincinnati	3296	2262	3532	3697	2446	2630
Cleveland	2723	1788	2927	2898	1939	1974
Columbus	3259	2239	3475	3256	2403	2265
Dayton	3181	2164	3401	3329	2332	2339
Mansfield	2735	1793	2938	2927	1943	1994
Norwalk	2796	1857	2997	2882	2006	1972
Toledo	2850	1888	3050	2878	2036	1971
Wooster	2851	1881	3044	2796	2022	1873
Youngstown	2630	1683	2822	2734	1823	1827

Phenology

	Range of Degree Day Accumulations	
Coming Events	**Base 43 F**	**Base 50 F**
Oriental fruit moth 3rd flight peak	2389-3267	1712-2326
Redbanded leafroller 3rd flight begins	2389-3113	1722-2209
Spotted tentiform leafminer 3rd flight peak	2415-3142	1728-2231
San Jose scale 2nd flight subsides	2494-3257	1662-2302
Obliquebanded leafroller 2nd flight peak	2634-3267	1789-2231
Apple maggot flight subsides	2764-3656	1904-2573
Lesser peachtree borer flight subsiding	2782-3474	1796-2513

Codling moth 2nd flight subsides	2782-3693	1796-2635

Thanks to Scaffolds Fruit Journal (Art Agnello)

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