

# Ohio Fruit ICM News

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<http://southcenters.osu.edu/hort/icmnews/index.htm>

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## Calendar - Newly added in ***Bold***

April 21, Home Winemaking and Grape Production Workshop, OSU Extension Montgomery County Office, 9:30-12:30. Cost is \$30 per person and **Pre-registration is required by April 16<sup>th</sup>**. For more information or to register contact Tammy Dobbles, Extension Educator, at (937)224-9654 or by email at [dobbels.958@osu.edu](mailto:dobbels.958@osu.edu).

June 13, OPGMA Summer Tour. Bauman Orchards, Rittman, Ohio

July 19, Crop, Soil, and Water Field Night, OSU South Centers, Piketon. For more information contact Dr. Rafiq Islam, 740-289-2071.

July 26, Beekeeping Workshop, OSU South Centers, Piketon. 3:00-8:00. More information to follow.

August 9, OSU South Centers Horticulture Field Night.

August 14-15, 2007. NASGA Summer Tour, Niagara Falls Canada and Niagara region of New York.

**August 16, Ohio Grape & Wine Day**, Ashtabula Agricultural Research Station, Kingsville. For more information contact Greg Johns (440/224-0273).

## Comments from the Editor

There is a lot of important information regarding some preliminary thoughts on the recent cold. We will try to keep you updated as the situation progresses. Remember to contact your USDA-FSA office regarding your losses in case some declaration of disaster is issued. They can best describe what type of relief may be available to you and can also tell you about existing programs for next year such as the NAP program. The USDA-RMA program also has an apple program in some Ohio counties.

There are a number of other good newsletters out there. Two that I read regularly are Scaffolds and Facts for Fancy Fruit. Scaffolds is available on the internet at <http://www.nysaes.cornell.edu/ent/scaffolds/> To subscribe to Facts for Fancy Fruit or to retrieve past issues, please visit the FFF web page at: <http://www.hort.purdue.edu/fff/>.

Michigan State University has a position available for an Integrated Fruit Practices/IPM District Extension Educator, Northwest Michigan Horticultural Research Station, Traverse City, Michigan. For details, see <http://www.msue.msu.edu/jobs> , or contact Patrick I. Cudney, Regional Director, MSU-North, 2200 Dendrinos Drive, Suite 100, Traverse City, MI 49684, Phone: 231-929-3902, FAX: 231-929-0454, E-mail: [cudney@msu.edu](mailto:cudney@msu.edu)>[cudney@msu.edu](mailto:cudney@msu.edu).

**Tree Fruit Update** by Dr. Diane Miller, Assoc. Prof. Dept. of Horticulture and Crop Science, The Ohio State University

In many orchards, it will still take some time to assess cold temperature damage to trees and flowers. I looked through the research orchard at OARDC on Saturday (4/14) and found about 2/3 of the apple flowers were obviously dead (400 dead out of 640 checked). Development stage at the time of the coldest weather was very tight cluster and we have Goldrush, Fuji, Gala, Honeycrisp and Golden Delicious varieties. Within the clusters I found everything from all alive to all dead and every combination in between. If only one flower/cluster was dead, it was the king flower. The clusters with all flowers dead were collapsing into black mush and the spur leaves were burnt brown. I did not see obvious cold damage to 2 year old wood or spurs in these trees. The official low at Wooster was 20.5 F on 4/7 although thermometers in the trees recorded lower than that.

In looking at official lows around the state, it looks like the nights of 4/6 and 4/7 were the worst nights, although the entire week from 4/4 through 4/10 was in the red zone for causing fruit bud death, and having 80 F immediately prior to the cold made the tissue so succulent. Clark County recorded 19 F on 4/7. It hasn't ended yet however as Piketon recorded 23 on 4/10 and even last night (4/14) Wooster recorded a balmy 29. May 10 has been considered a frost-free date for Wooster over the years so the fun continues for a while yet. Remember it only takes 5% of a normal bloom volume to set to accomplish a full crop of apples. Remember too that cold damage to spur leaves will reduce their ability to contribute photosynthate to fruit set of young fruitlets.

Reports thus far from around the state indicate the worse flower bud kill in central, south and western Ohio. It will take some warm temperatures to determine if there has been damage in the wood. Both northern and eastern Ohio seem to have come through in some fashion to this point. I encourage you to assess damage by pulling off at least 100 clusters per variety and splitting every bud in a cluster longitudinally using your fingernails. Brown inside is dead, green inside is good. From doing lots of controlled freezing studies with apple flowers, I know that the most frost sensitive tissue is at the base of the style and that freezing spreads from there through the ovaries and up the style. Any brown/black in any of that tissue indicates a dead blossom. The further along in developmental stage, the greater the susceptibility of the flower parts to temperatures below freezing. It is possible for flowers to cold acclimate somewhat if the temperature is slowly lowered. This is accomplished by increasing sugar content and/or decreasing moisture content. Freeze damage happens when water in tissue freezes and the ice formation breaks membranes. In particular water in the xylem freezes and breaks apart the xylem structure so it is no longer a functional tube.

**We are working together to assist you.** We have in place a team working to assist you in horticulture and business management. Team members include Dave O'Brien, Bill Dodd, Jeff MacQueen, Mike Ellis, Celeste Welty, Shawn Wright, Diane Miller and Steve Carver (Ohio Produce Growers and Marketers Association- OPGMA). We will add additional team members (including Farm Bureau representative soon). We are sharing information and observations within this group to work openly and efficiently for the Ohio Fruit Industry. OPGMA is already at work on your behalf!

Step 1 is assessment of damage. As the spring unfolds please let one or more of us know what your situation is. Document with pictures the damage that has occurred in your orchard and contact your local FSA office.

Step 2 is planning action based upon damage. As the situation continues to unfold we will offer/share information on horticultural management, business management, media and linking with other states.

**After the Freeze** by Janna L. Beckerman, Purdue University and Mike Ellis, The Ohio State University.

Despite the potential loss of crops, disease management, particularly for fire blight, is of the utmost importance right now. Although results aren't yet in on the state of this year's crop, improper management of trees from this point on can profoundly affect future harvests. Freeze injury, much like hail injury, results in damage to young and succulent shoots and leaves, providing a means for the fire blight bacterium to cause shoot blight. Running both Cougar Blight and MaryBlite currently shows zero risk of infection, as temperatures remain below 60 degrees F. Despite the negligible risk of infection, you may wish to protect some of the most susceptible varieties, like Fuji, Gala, and Ida Red (For a list of susceptibility see the new Extension Brief [Disease Susceptibility of Common Apple Cultivars](http://www.ces.purdue.edu/extmedia/BP/BP-132-W.pdf), at <http://www.ces.purdue.edu/extmedia/BP/BP-132-W.pdf> ) especially if these are grafted on M.26 and M.9 rootstocks. Streptomycin or a low rate of

copper (0.2 -0.6 lb of metallic copper/acre depending on tree row volume) will provide protection against fire blight. Keep in mind that copper can cause injury on some varieties, and application should occur after the temperatures are above 50 degrees F to prevent phytotoxicity. Suggested coppers include Cuprofix, Kocide, or C-O-C-S. Turner Sutton, at North Carolina State University reports using the 0.2 and 0.4 lb rates on Golden Delicious during the summer without any problem. If you think you might have a crop on a copper sensitive variety, use streptomycin if you are concerned about possible injury.

According to the prevailing wisdom, dead flowers that don't fall off are not good hosts for the fire blight bacterium. However, any escaped side blossoms, later developing blossoms, or "rat tail" blooms that are still alive can become infected. Continue monitoring until bloom is over, and apply streptomycin as needed, not to exceed four applications per season. Information and simple directions as to how to use Cougarblight to assess your risk of infection can be found at:

<http://www.ncw.wsu.edu/treefruit/fireblight/2000f.htm>

If your orchard has a history of fire blight, I would strongly encourage you to consider applying Apogee. Apogee is a growth regulator that does not directly kill the fire blight bacterium, but reduces shoot growth, thereby increasing plant resistance by reducing host vigor. Apogee suppresses apple shoot growth when applied near petal fall as a single spray, or as several applications over time. Apple response to Apogee depends upon the cultivar, timing, rate of application, crop load, and even geographical location. Regardless of this variability, Apogee remains the best management tool available for controlling the shoot blight phase of fire blight that growers may be faced with after a freeze.

Despite the potential, or real loss of crop, it is imperative to maintain a least a minimum spray program to protect future harvests. Failure to do so will result in defoliated trees that fail to produce next year, or may not survive the next winter. Normally, the greatest risk of scab would be right now, from pink to bloom. However, nothing is normal about this year. For these reasons, I am recommending:

EDBC fungicide (3 lb/acre) program through bloom. Alternate with copper or sulfur from second cover on to remain under label limits. Remember to stay within the 21.0 lb/acre/season limit for your EBDCs. I like the EBDCs as they also protect against bitter rot, black rot and white rot. Use this schedule if cedar-apple rust is a particular problem.

Alternatively, Captan can be used earlier in the season for better scab control instead of the EBDCs, but provides no control of rust or powdery mildew. NOTE: Do not use Captan 50 Wettable Powder in combination with or closely following or in alternation with wettable sulfur products. Sulfur sensitive varieties of apples such as Red Delicious, Staymen, and Baldwin, can suffer severe injury and defoliation. Captan 50 WP has a 64 lb limit per acre per year.

For those that have lost crops: Copper (0.2 – 0.6 lb metallic copper per acre based on tree row volume) + sulfur (6-30 lb/acre depending on brand/formulation) every 10-14

days between now until the first week in June, depending upon weather conditions. Suggested sulfur formulations include Thiolux, Microthiol Disperss, or Microfine Wettable sulfur. This spray program protects against scab and mildew. Remember, copper can russet fruit, and should not be used if you want to use your crop for anything except cider. **Do not use sulfur if temperatures are going to exceed 80 degrees F. Do not use sulfur or copper within two weeks of an oil application.** Neither of these programs is going to provide complete scab control but should reduce leaf infections.

If it turns considerably wetter, or if powdery mildew is particularly bad, you may wish to consider applying a sterol inhibitor like Nova, or Rubigan; or a strobilurin like Flint, Sovran, or Pristine prior to second cover. Due to cost, and the potential of no return on investment, I am recommending against using these fungicides for growers experiencing significant loss. It simply is not cost effective in the absence of a crop, nor worth risking the development of resistance.

**Chateau WDG Herbicide** by Dr. Doug Doohan, State Specialist, Dept. of Hort and Crop Science, The Ohio State University

Valent recently received EPA approval for Chateau WDG herbicide on strawberry. Chateau is good news, but berry growers need to proceed with a degree of caution as we all learn more about just how this product fits into matted-row and plasticulture systems in the north. The supplemental label for Chateau (EPA Reg'n # 59639-119) authorizes Pre-Transplant applications to new plantings, late-fall or early-spring applications to established dormant plantings, and shielded sprayer applications to row middles once the crop emerges from dormancy. Reading between the lines (if it's not obvious), Chateau burns non-dormant strawberry leaves and fruits, thus the need for caution.

This registration is one that calls for some careful on-farm grower experimentation while we work out the crop safety considerations. Right now the early-spring application is the one of greatest current interest to growers as well as the one of greatest concern because of potential for crop injury. Regardless, I've already consulted with one who intends to use Chateau on his established fields because of severe weed problems – if this applies to you, listen up. If your weed problem justifies it, apply Chateau as soon as you remove the mulch. The longer mulch is left on the crop, the more sensitive-new-growth will be developed. Delaying Chateau application after mulch removal will further the development of new growth, all of which will be burnt off by the herbicide. Don't be surprised if your field temporarily looks like you sprayed with Gramoxone, but don't despair. Based on experience in research plots with similar herbicides such as Goal and Blazer the crop will quickly recover and within a couple of weeks you will not likely be able to tell the difference between sprayed and unsprayed areas. In trials with Goal applications immediately after mulch-removal, crop-yield was unaffected although earliness was delayed by 2 or 3 days.

Chateau is also registered Pre-Transplant. The supplemental label states that Pre-Transplant should only be used when berry plants are transplanted into plastic mulch.

However, Valent Company representatives have told me that is incorrect, and Pre-Transplant applications are safe to standard matted-row plantings on bare ground as well. Regardless of matted-row or plasticulture system, Chateau must be applied 30 days before planting.

Chateau is applied at 3 oz/A and is primarily a soil-active, residual herbicide, meaning it mainly controls weeds during emergence and control of sensitive weeds is extended for several weeks following application. Premergence control of a wide-spectrum of broadleaf weeds can be expected including pigweeds, mustards, jimsonweed and nightshades, lambsquarters, marehail, mallow, and chickweed. Some emerged broadleaf weeds will be suppressed and control will be improved by including crop oil concentrate at 1% or non ionic surfactant at 0.25% of final spray volume.

Potential users of Chateau should obtain a supplemental label, as the strawberry use is not yet listed on the Section 3 label. The supplemental label can be obtained on the Internet at the Valent Web Site (<http://www.valent.com/>), or from crop-protection dealers.

**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>

North Central Tree Fruit IPM Program  
Report Prepared by Zachary Rinkes (Erie County Extension Educator)

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

Date - 4/9/07

Apples

Spotted tentiform leafminer – 0.4 (1<sup>st</sup> Report)

Redbanded leafroller – 37.0 (1<sup>st</sup> Report)

Peaches

Redbanded leafroller- 39.0 (1<sup>st</sup> Report)

Oriental Fruit Moth – 0 (1<sup>st</sup> Report)

Site: Waterman Lab Apple Orchards, Columbus

Dates: 4/5/07 (early pink) to 4/11/07 (early pink (brown))

Pests: Redbanded leafroller: 2 (down from 41 last week)

Spotted tentiform leafminer: 3 (down from 54 last week)

San José scale (mean of 2): 0 (same as last week)

**Enforcement Standards for Mobile Retail Food Establishment License Holders** by John Wargowsky, Director, Labor Services & Policy - Ohio Farm Bureau Federation, Inc., Executive Director - Mid American Ag and Hort Services, Inc.

Ohio Farm Bureau Federation (OFBF) policy calls for the consistent enforcement of the Ohio Uniform Food Safety Code that regulates how food is sold at retail food establishments. OFBF has received general feedback that mobile retail food

establishment license holders who participate in multiple farmers markets, flea markets, etc. are experiencing different requirements from different local health departments (e.g. dry ice vs. mechanical refrigeration for meat products).

OFBF needs specific examples of these types of issues to compile and share with the Ohio Department of Agriculture (ODA) Division of Food Safety. OFBF will work with ODA to develop helpful guidance for local health departments and mobile retail food establishment license holders that results in more uniform enforcement of food safety regulations. Farmers and direct agricultural marketers that hold mobile retail food establishment licenses should complete and return the feedback form by May 31, if they experience different requirements from different local health departments. Names and local health jurisdictions will not be shared with the ODA, unless the license holder requests assistance in the matter.

Mobile Retail Food Establish License Fact Sheet:

<http://www.ohioagriculture.gov/pubs/divs/food/curr/facts/food-fs-mobileretail.stm>

Enforcement Standards for Mobile Retail Food Establishment License Holders

Feedback Form

Return to John Wargowsky by May 31, 2007.

Fax: 614-246-8686 E-mail: [jwargows@ofbf.org](mailto:jwargows@ofbf.org) Phone: 614-246-8291

Mail: Ohio Farm Bureau, P.O. Box 182383, Columbus, OH 43218-2383

Name: \_\_\_\_\_

County: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Address: \_\_\_\_\_

Your name and local health department jurisdictions will not be shared with the ODA unless you request assistance in resolving your specific issue(s). Please describe specific food safety requirements that vary from one local health jurisdiction to another. Provide the requirement, food safety requirement and name of the local health departments. Use additional pages if necessary.

**Plant and Pest Development** - (Based on Scaffolds Fruit Newsletter, Coming Events (D. Kain & A. Agnello), NYSAES, Geneva)

<b>Growing Degree Day Ranges Base Temp. 50F (Normal +/- Std Dev)</b>	
Pear psylla adults active	0-49
Pear psylla 1st oviposition	1-72
Green fruitworm 1st catch	12-54
McIntosh at silver tip	15-41
McIntosh at green tip	36-62
Green apple aphids present	38-134
Spotted tentiform leafminer 1st catch	39-113
Pear thrips in pear buds	50-98
Rosy apple aphid nymphs present	56-116
Spotted tentiform leafminer 1st	58-130

oviposition	
Pear psylla 1st egg hatch	60-166
Obliquebanded leafroller larvae active	64-160
McIntosh at half-inch green	65-91
Comstock mealybug 1st gen crawlers in pear buds	80-254
Oriental fruit moth 1st catch	81-205
McIntosh at tight cluster	84-122
Rose leafhopper on multiflora rose - 1st nymph	96-198
European red mite egg hatch	100-168
Green fruitworm flight subsides	102-242
Redbanded leafroller 1st flight peak	104-192
Lesser appleworm 1st catch	108-292
Spotted tentiform leafminer 1st flight peak	113-209
American plum borer 1st catch	140-280
Mirid bugs 1st hatch	163-239
Spotted tentiform leafminer sap-feeders present	165-317
McIntosh at bloom	170-220
San Jose scale 1st catch	186-324
Lesser appleworm 1st flight peak	189-387
Eastern Redbud First bloom	191
European red mite 1st summer eggs present	237-309
Mirid bugs 90% hatch	240-322
Mirid bugs hatch complete	252-350
Plum curculio oviposition scars present	256-310
Flowering Dogwood first bloom	263

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