

Ohio Fruit ICM News

Editor: Shawn R. Wright

Ohio State University South Centers

1864 Shyville Rd., Piketon, OH 45661

Phone (740) 289-2071 extension 120

E-mail: wright.705@osu.edu

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

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

May 22, Viticulture Short Course "Recent Advances in Vineyard Site Selection", 1-5:30 pm at the Shisler Center-OARDC in Wooster.

This short course is offered for potential grape growers, new grape growers, existing grape growers, and Extension Educators as an in-service training in collaboration with the University of Kentucky.

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

Dr. Ellis has been in contact with Dr. Ferree and has some recommendations that are very important. Also he and Dr. Beckerman have updated their “After The Freeze” recommendations so please read that for the most current information.

Dr. Miller has an update from her conference call with time-critical information. Please read and respond as indicated **TODAY**.

Foliar applications of Urea to Freeze Damaged Apple Trees by Mike Ellis

I spoke to Dr. Dave Ferree (Professor Emeritus in the Department Horticulture and Crop Science) this weekend. Dr. Ferree recommends that urea at 5 pounds per 100 gallons of water be applied to the leaves of freeze damaged apple trees. If temperatures go up above 80 to 85 degrees Fahrenheit, the rate should be reduced back to 3 pounds per 100 gallons. Any leaves that have green tissue should benefit from the application and may help with fruit set. Dave has done a lot of research looking at this treatment and he says he has never seen any compatibility problems with urea and our common pesticides.

He also recommends that the application be repeated 3 to 4 times for the next 3 to 4 weeks. This would especially apply to orchards in northern Ohio that are not as badly damaged as some in Southern Ohio and are not as far along in development. This can be done by tank mixing the urea with the water for you scab sprays.

Dr. Ferree said that at the 5 pound rate, urea should not effect growth and may be very beneficial on the damaged foliage. He reminds us that there are no silver bullets to resolve the problems we have this year with freeze injury, but he feels that the foliar sprays of urea may help.

Some growers have asked about the increased risk of fire blight with these sprays. Dr Ferree said the sprays should not affect growth at the recommended rate of 5 pounds, so hopefully, they should not effect fire blight susceptibility. Regardless of fire blight, many orchards are in trouble from the freeze damage; therefore, I also recommend the urea .

After the Freeze by Janna Bekerman, Purdue University and Mike Ellis, The Ohio State University April 19, 2007

In 2007, fruit growers throughout the entire Midwest have experienced one of the worst spring freezes in over 30 years. This disease note is intended to provide information that will aid fruit tree growers in developing a disease management program for freeze damaged trees that will not bear a crop this year. A program for trees such as these needs to be as economical (cheap) as possible, due to the lack of income from the trees this year; however, it must provide an acceptable level of disease control.

Apples and Pears:

Despite the potential loss of crops, disease management, particularly for fire blight, and apple scab 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. Two predictive programs for fire blight (Cougar Blight and MaryBlite) should be useful in monitoring the potential for infection by the fire blight bacterium. Even if low potential for infection is predicted, 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, 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) should 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. Should you still have a crop, based upon regional weather forecasts, you should plan on applying streptomycin prior to anticipated rain and warm weather during bloom and on rat-tail bloom (abnormally late flowers after normal bloom).

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.ncsu.edu/treefruit/fireblight/2000f.htm>

If your orchard has a history of fire blight, I would strongly encourage you to consider applying Apogee (Prohexadione-Ca). 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. For use recommendations and rates for Apogee, see the "Midwest Tree Fruit Spray Guide".

Despite the potential or real loss of crop, it is imperative to maintain a least a minimum spray program to control important diseases such as apple scab, powdery mildew and (where applicable) cedar apple rust. Failure to do so will result in defoliated trees that fail to produce next year, or may not survive next winter. In addition, non sprayed trees will result in the build up of scab inoculum in the orchard. This will be an additional problem to face next year and may threaten the production of future crops. 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: EBDC fungicide (3 lb/acre) program through bloom. Alternate with copper or sulfur from first 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 good scab control instead of the EBDCs, but provides no control of rust or powdery mildew.

NOTE: Do not use Captan (any formulation) in combination with or closely following or in alternation with wettable sulfur products, or oil. 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 product and formulation) every 10-14 days between now until the first week in June, or later depending upon weather conditions. In summer cover sprays, this treatment could be applied on a 14 to 21 day schedule (10 to 14 days if excessively wet) to help control secondary scab. 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 90 degrees F, or drying conditions are extremely poor. 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. Organic trials in both Michigan and North Carolina regularly apply 6 lbs of sulfur per treatment without any reported phytotoxicity due to temperature.

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.

Stone Fruit:

With stone fruit crop loss approaching 100% throughout most of the state, management must focus on protecting foliage to ensure a good potential crop for next year, while reducing over wintering spore loads. Captan at the 1.3 lb/ 100 gallon rate should sufficiently control brown rot twig blight, scab on peaches and cherry leaf spot. If the season is excessively wet, higher rates of captan may be required. Captan will not control powdery mildew. Wettable sulfur at the 6 lb per 100 gallon rate is probably the least expensive material you can use and provides excellent control of powdery mildew of all stone fruit, and should aid in controlling brown rot twig blight, and peach scab. Bacterial spot on peach, particularly if the weather is wet in late June and July, may warrant applications of Flame Out (Oxytetracycline) or Mycoshield.

Tree Fruit Situation in Ohio 4/23/07 by Dr. Diane Miller

Congressman Zach Space, Ohio's 18th Congressional District and member of House Agriculture Committee, conducted a phone conference call last Friday (4/20) to learn about the impact of spring freezes on fruit and vegetable farmers in his district and other areas of the state. **A critical message from the meeting is that every fruit (tree, small or grape) and vegetable farmer who believes the freeze caused economic damage to his/her business should immediately contact his/her local Farm Service Agency (FSA) office to report damage. This has to be done within 15 days of when you suspect that you have damage. This should be done whether or not you have FSA crop coverage (different forms for with and without coverage).** The local FSA offices then report to USDA and this is the line of action for any disaster declaration. As of Friday only 14 Ohio counties had reported likely damage. If you have not reported your likely damage to your local FSA office yet, please do it **immediately**. Congressman Space also strongly suggested contacting your Congressional District representative and/or Senators and make them aware of your particular situation. Issues worthy of discussion include your immediate needs, and also improvement of perennial crop insurance programs and disaster assistance programs.

Here are apple horticultural suggestions IF YOU DO NOT HAVE LIVE BLOSSOMS. The warm temperatures Saturday and Sunday saw the collapse of most freeze damaged spur leaves and blossoms – in case you were still unsure what was alive and what was dead – it is now apparent and it is not pretty. Keep an observant eye out for how the spurs re-leaf; currently the shoots are leafing out.

- If you have vigorous rootstock/variety combinations with no crop, you should plan a **serious growth control program**. Options to select among singly or in combination include **Apogee** (probably 2 applications, beginning at 3" new growth), **scoring** (single cut with a linoleum knife completely around the trunk somewhere between the soil and the lowest scaffold branches, beginning at 4-6" new growth) and **root pruning** (blade depth 12 inches roughly 36-40 inches on both sides of the tree, 10 days after petal fall).
- If you have moderately vigorous rootstock/variety combinations with no crop, Apogee (probably 2 applications) will be the desired treatment.
- If you have weak rootstock/variety combinations, this may be the year the trees finally fill their space.

Challenges will be to control vegetative growth this season and avoid a snowball bloom next year (accentuated by scoring). That snowball bloom will be difficult to thin, resulting in a biennial bearing habit in trees.

Horticultural suggestions IF YOU HAVE SOME BUT NOT MUCH LIVE BLOOM. This is a tough situation too. Blossoms may open that don't have live stigma, styles and ovaries, and so cannot develop into a fruit, although the petals are not damaged. Partial damage of female flower parts is also possible and will result in lopsided developing

fruit. Freeze rings result from damaged “apple” tissue (botanically the receptacle). Management and marketing factors will need to dictate your decision to work with this fruit or to attempt to remove it by thinners. Tree management suggestions are the same as above.

Horticultural suggestions: IF YOU STILL HAVE CONSIDERABLE LIVE BLOOM. This is the situation most of you in northern and eastern Ohio have thankfully. Primary spur leaves supply the apple during the cell division growth phase. Dave Ferree’s studies showed that urea included in the early sprays can increase fruit size about 7%. These studies were on trees that were not nitrogen deficient by the normal measure. This can begin at pink blossom stage. Five lbs of urea/100 gal or per acre (back off to 3 lbs if temperatures are above 75-80 F). It is more important to have multiple sprays during the 35-50 day cell division period than to apply higher rates. These sprays have not caused excessive growth or deleterious effects to fruit quality.

Overall: We are in some uncharted territory this season and will have to observe trees/crop closely, share observations, and figure it out as we go.

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