Fruit Pest News

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An online newsletter whose goal is to provide all interested persons with timely information on diseases and insects of commercial fruit and vegetable crops in Tennessee.

Text appearing in blue or red can be clicked to link to other web sites. Be aware that much of the linked information is produced in other states and may not be applicable to Tennessee.

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1. Current Conditions

We are slightly behind normal in plant development for this date. It has been cool enough to keep most plants at bay. The early blueberry variety O’Neal is a good indicator of the relative earliness of spring. It began bloom this year at Nashville on March 17, about 7 to 10 days later than average. Redhaven peaches are at pink tip and Golden Delicious apples are at green tip. Blackberries are at about 1/2 inch green tip. We have received some much-needed rainfall this winter and spring. The weatherman says that some areas may get frost this Sunday and Monday, so strawberry growers should prepare. (SB).

2. Anthracnose Crown Rot in Strawberry

Be on the lookout for evidence of anthracnose crown rot in plasticulture strawberry plantings. There have been several cases of this disease since the current crop was planted last fall, including two in Tennessee. The infected plants were apparently shipped by nurseries in NC and VA. The pathogen responsible for the outbreak is Colletotrichum gloeosporioides (Cg), one of three species of Colletotrichum that can cause crown rot in strawberry. Affected plants may wilt and die quickly in warm weather. Under cooler conditions, stunting is a more likely symptom, and plants may or may not die. Cut open the crown of suspected plants and look for a reddish-brown marbling. Mildly-affected plants may not show the reddish discoloration.
Anthracnose crown rot is enhance by warm conditions. Most cases appeared during the fall, before covers were applied. It is possible, however, that additional infections could have occurred under the covers during warm periods in the late fall and winter, especially during cover removal and placement. Increasing temps in the spring may cause mild or recent infections to develop and cause the plants to collapse.

If you find wilted or stunted plants, call your county Extension office promptly to arrange for the plants to be sent to the plant diagnostic lab in Nashville for diagnosis. It is important to have plants definitively diagnosed before beginning a treatment program. Do not rely on the visual appearance of the crown alone, as other diseases can bear similar symptoms. For example, Phytophthora crown rot can look much the same as anthracnose.

If you have *C. gloeosporioides*, it is time to begin your spray program, with the onset of warm weather. A spray program should begin at 10% bloom, anyway. Captan has long been a mainstay of control for *Cg*. Research in Florida has shown that Topsin-M (thiophanate-methyl) at 1 lb/A is also effective in slowing the spread. However, preliminary evidence at NC State indicates that resistance to Topsin-M may be widespread in *Cg* strawberry isolates. Your control program should center around captan because of its effectiveness and its freedom from resistance concerns. The strobilurins (Quadris/Abound, Cabrio, Pristine) are usually reserved for use during the harvest period in anthracnose fields, since their use is limited to four applications per crop. However, if your field is infested with *Cg*, you may wish to begin your allocation of strobilurins soon. The fungicide Switch is known to be effective against the common anthracnose species, *C. acutatum*, but may not work quite so well against *Cg*. This limitation in the number of effective alternatives places more importance on captan as a resistance-fighting measure for the strobilurins. **Note: Should you tank mix or rotate? The manufacturors of the strobilurin fungicides ask that you not tank mix their products with non-related products, but instead use them solo and rotate to the other products.** It is thought that this approach more effectively discourages resistance than using tank mixes, which exposes the fungus to the chemical at each application. Use a strobilurin only every third application. (SB)

### 3. Copper for Apples and Peaches

Copper products are used at delayed dormant on apples and pears for reducing fire blight inoculum and on peaches and nectarines for reducing bacterial spot inoculum. You can mix your own Bordeaux mixture, using bluestone copper and lime; however, you may find the fixed coppers to be more agreeable to work with - they dissolve more easily and don't clog sprayer tips, as Bordeaux can. The most common fixed coppers are copper hydroxide (e.g., Kocide) and copper oxychloride sulfate (e.g., C-O-C-S).

If you missed the delayed dormant stage, you can still apply copper to apples at the dormant rate, but no later than the 1/2 inch green tip stage, or you risk causing fruit russetting. Research at NC State indicates...
that copper can be used on peaches well into the growing season, but only at reduced rates, to avoid leaf injury. While 2-2.5 lbs of metallic copper per acre is okay at delayed dormant, only 1-2 lbs should be used at pink tip, and only 1 lb at early bloom. (Four lbs of Kocide 50WP would provide 2 lbs of metallic copper equivalent).

It is safe and even recommended to tank mix copper with dormant oil during the delayed dormant stage. Did you miss it? Apples are forgiving of budbreak applications of this mixture, but not after 1/2 inch green tip. (SB)

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4. Spray Guides: Where to Find

Some of the fruit and vegetable spray guides that we commonly use in Tennessee have been revised and are now available.


- **The Commercial Vegetable Disease, Insect and Weed Control** (University of Tennessee PB 1282) has been discontinued and replaced with the Vegetable Crop Handbook for the Southeastern U.S. This is a sponsored, no-charge publication and print copies are in very limited supply this year. We hope to have this situation rectified next year. The handbook may be downloaded from http://www.sripmc.org/docs/SoutheasternVegetableGuide.pdf. Warning: this is an 8 MB file.

- The home fruit publication, "Disease and Insect Control in Home Fruit Plantings," is available online at http://www.utextension.utk.edu/publications/pbfiles/PB1622.pdf and print copies are available at county Extension offices. The online version contains revisions that are not reflected in the print copies, which will not be revised until the inventory is depleted.
5. Dormant and Delayed Dormant Oil Sprays

If the Dormant Oil Spray has not been applied, there is still time to apply a Delayed Dormant spray for tree fruit. These sprays are relatively inexpensive and quite effective. Also note that two applications (Dormant followed by Delayed Dormant) typically outperform a single, high rate application. Temperatures that are consistently cool are optimal for oil application. Avoid spraying when temperatures are to drop near freezing or are expected to be unseasonably warm. The Delayed Dormant Sprays are especially effective on scale insects as they become more active with the warmer temperatures. (FH)


The use of pyriproxyfen (Esteem 35WP, Knack 0.86 EC) or buprofezin (Centaur 70W) has been added for use with superior oil at the Dormant Spray for increased control of scale and European red mite. Pyriproxyfen (Mode of Action [MOA] Group 7) and buprofezin (MOA Group 16) have distinctly different modes of action so alternating these materials from year to year should slow the development of resistance.

At Pink to 5% Bloom, spinetoram (Delegate WG) and methomyl (Lannate LV, Lannate SP) were added. Spinetoram is the same MOA Group 5 as spinosad (SpinTor 2SC) so do not alternate the use of Delegate and SpinTor, as they are from the same chemical class and MOA Group.

For the 7 to 10 Days After Shuck Split spray, indoxacarb (Avaunt) was added. Note that Avaunt is a reduced risk insecticide with a very desirable worker safety profile that makes it a good choice for use during thinning.

For Summer Cover Sprays, another brand name of pyridaben (Pyramite 60 WSB) was added (already had Nexter 75WP listed). (FH)

7. Redbanded Leafroller Pheromone Traps

Pheromone for redbanded leafroller (RBLR) has been mailed to our cooperators. I put out a pheromone baited trap in Nashville on March 10. Two RBLR male moths were caught by March 13 (biofix date) and 5 more were in the trap when checked March 19. Warm night temperatures got the moths flying. The other pheromone traps will be put out soon. (FH)
The *Fruit Pest News* URL is: [http://web.utk.edu/~extepp/fpn/fpn.htm](http://web.utk.edu/~extepp/fpn/fpn.htm)

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