

FRUIT NOTES



Vol. 22, No. 1

January – March, 2007

Scale Insects

The last few years have seen a considerable increase in scale insects in apple and peach orchards. The reason for this is not entirely obvious to me. In some cases, growers have opted to eliminate oil sprays; however, this is not the case in many other instances. Some other factors appear to be involved as well.

Oil sprays used in the dormant to pre-bloom period can give good control of scale insects and selected other insects that overwinter in the trees, such as rosy apple aphids in apples and European red mites in apples and peaches. I like to think that these early sprays set a baseline for insect control for the upcoming growing season. Thus, they are extremely important.

Successful control of scale insects through the use of oil sprays involves using the proper materials at the proper times and getting great coverage. Remember, when these early sprays are applied, pests are not moving in the trees and are often found in areas where it is difficult to get spray coverage: cracks and crevices in the bark, on the undersides of limbs and in the crotches of limbs. For all of the above reasons, you should apply oils at a dilute concentration so you can literally wash the tree with the spray. Slow down a bit in order to apply more gallons of spray — enough that it runs down and under limbs to get into the cracks and crevices of the bark where insects may be. Theoretically, one good application of oil should do the job. In reality, there is no such thing as 100 percent coverage so making more than one application should reduce the chances that any area will escape coverage. If scale insects have been a problem, spraying twice is a good idea.

When apple trees are fully dormant, a 3 percent oil/water solution (3 gallons of oil in 100 gallons of water) is suggested. During the early stages of growth (green tip to one-half inch green), reduce the oil rate to 2 percent. Oil sprays applied at pink should be

reduced to a 1 percent strength to lessen chances of injury from the spray.

Adding an insecticide to the oil when sprays are applied after green tip may improve control of scale and rosy apple aphid. Lorsban 4E used to be the material of choice; however, instances of resistance are appearing. If you have experienced good control with Lorsban plus oil in the past, there may be no reason to change now. However, if scale insects or rosy apple aphids have been building, you might consider replacing Lorsban with Esteem. This has proven to be a good combination.

Insecticides other than Lorsban and Esteem are listed in the culture guides as possible additions to oil spray used at the green tip to one-half inch green stage. It should be noted that, in some orchards, rosy apple aphid is no longer controlled by Asana and Ambush. Pyrethroids such as Asana, Ambush, Danitol and Warrior will not control scale insects. They are also highly toxic to predator mites, and their use can lead to flare-ups of European red mites.

Consult the latest issue of the “Integrated Orchard Management Guide for Commercial Apples in the Southeast” for additional information on early sprays for insect and disease control.

When peach trees are fully dormant, the suggested use rate of superior oil ranges from two to four gallons per 100 gallons of water. However, as bud development advances, oil rates should be reduced to the range of 1 to 1½ gallons of oil per 100 gallons of water to reduce the risk of phytotoxicity. Oil sprays should not be applied to peach trees after 5 percent pink bud. Adding Esteem, Knack or Centaur to oil sprays in the 1 percent to 5 percent bud swell stage has been shown to provide very good scale control. Lorsban or Supracide added to the oil spray at this time can enhance the performance of oil for scale control and may offer some suppression of lesser peachtree borer.

If an oil spray is applied to peach trees while they are fully dormant, a fungicide for peach leaf curl can be included in the spray. For oil sprays applied at the delayed dormant stage, a copper material may be included to lessen bacterial spot problems. Refer to the most recent issue of the "Southeastern Peach, Nectarine and Plum Pest Management and Culture Guide" for further information on suggested rates and materials for leaf curl and bacterial spot control.

A couple of cautions regarding the use of oil sprays need to be mentioned. First, if you are going to apply a dormant spray, select a time when temperatures will not dip below freezing for about 48 hours following the spray. Second, captan should not be applied within two weeks of an oil spray application. Consider some of the other fungicides listed for scab, mildew and rust control for use during this critical time. If you have had problems with black rot and frog-eye leaf spot, you may need to apply captan in the tight cluster to pink stage. With this scenario, an adjustment in the timing of the oil spray should be made to give the proper separation.

Weed Control

Dormant season herbicide applications to suppress broadleaf weeds will reduce the risk of bee kill and reduce plant bug abundance by eliminating blooming weeds on the orchard floor. An application of 2,4-D six to eight weeks before bloom in peaches can control vetch, henbit, cutleaf evening primrose and Carolina geranium, which serve as host sites for catfacing insects, and prevent their buildup on the orchard floor. Use a low-volatility formulation of 2,4-D and do not apply where trees are less than one year old. Use of this treatment later in the season (once the two-spotted spider mite populations have already built up on the orchard floor) can actually cause increased problems in the trees as the mites will move up in search of a food source.

Stinger can be applied for control of thistle, dandelion, clovers, vetch, sowthistle and common groundsel. Stinger and 2,4-D can be tank mixed to achieve a wider spectrum of weed control than would be occur with either material used alone.

Food Safety

Fresh fruits and vegetables have been identified as the source (or suspected source) in numerous cases of foodborne illness over the past several months. It seems like hardly a week goes by without news reports of suspected food poisoning incidents related to fruits and vegetables. With the recent trends in marketing and consumption, Tennessee growers are having to shoulder increased responsibility for food safety. Increasingly, fruits and vegetables are being sold directly to consumers at markets on the farm or nearby. There

is no wholesaler, distributor or processor between the grower and the consumer. In addition, greater quantities of fruits and vegetables are being consumed. For fresh produce, there is no cooking process or "kill step" to reduce the potential for food-borne illnesses resulting from microbial contamination.

Growers need to be aware of Good Agricultural Practices (GAPs) that can be utilized to lessen the potential for microbial contamination of produce. GAPs take into account factors such as site (what is the previous cropping history of the field, what is happening in the vicinity of production areas that could increase chances of microbial contamination), production practices (how clean is the water being used for sprays or irrigation, what type of irrigation is being used, are organic fertilizers being used), harvesting and transportation (worker sanitation, cleanliness of containers and transport vehicles), storage conditions (cleanliness, temperature, duration), grading and sales. It is in our best interest — as well as the consumers' — for us to know as much as possible about food safety issues.

Mark your calendar for February 21, 2006 and plan to attend the one-day workshop entitled "Food-borne Illnesses From a Legal Perspective: Lessons Learned," presented at the Radisson Hotel at Opryland in Nashville. The workshop is sponsored by the Tennessee Food Safety Task Force. It will begin at 8:30 a.m. and conclude at 4:00 p.m. Come and listen to Bruce Clark of Marler Clark, the nations leading legal firm in the area of foodborne litigation. Also hear first hand about lessons learned from Jack in the Box and their food safety program and from the Vice President of Scientific and Technical Affairs for the United Fresh Produce Association concerning the challenges this industry faces today. The cost for the workshop is \$35.00 per person. A detailed program can be viewed at the following web sites: <http://wcmorris.com/> and <http://foodsafetytaskforce.org/>. Brochures about this workshop are being sent to Extension offices throughout the state and copies can be picked up there. You can register online at the above web sites or by contacting Nancy Austin at 865-974-7331.

2007 Pest Control Recommendations

Commercial pest control recommendations are revised annually to keep up with the addition of new pesticides, label revisions on existing pesticides and loss of pesticides. It is important to acquire and utilize the latest recommendations each year in order to select and use the best materials in the manner that will optimize their performance and extend the period over which they will be effective. It is also important to know which pesticides may no longer be labeled for use on certain crops.

Over the past several years, development of pest control recommendations in both tree fruit and small fruit crops has evolved from each state doing its own

publications to a regional effort involving scientists from several states. This cooperative effort is a good thing since attrition has resulted in a significant reduction in the numbers of individuals in each state available to work on maintaining these recommendations. In addition, having input from scientists at universities in several states has resulted in better information for growers.

The Southern Region Small Fruit Consortium, which involves research and Extension personnel from North Carolina State University, Clemson University, the University of Georgia, Virginia Tech and the University of Tennessee, has developed production guides for the major small fruit crops in the region. This includes strawberries (both matted row and plasticulture), blueberries, brambles, muscadine grapes and bunch grapes. These guides are only available on the Internet. To find them, go to the UT Extension Web site (www.utextension.utk.edu) and follow these steps:

1. Click on "Publications" in the list at the left of your screen.
2. Under the "Consumer, Agribusiness and Ecology Information" title, click on "Commercial Horticulture."
3. Then click on "Commercial Horticulture, General."
4. Click on the name of the appropriate guide.

These guides may also be accessed via the Small Fruit Consortium's Web site, www.smallfruits.org. Once the home page appears, click on "IPM/Production Guides" in the menu on the left side of the page. Once the list of guides appears, click on the one you want to view.

Both the "Southeastern Peach, Nectarine and Plum Pest Management and Culture Guide" and the "Integrated Orchard Management Guide for Commercial Apples in the Southeast" are available as hard copies and on the internet. Limited copies of each will be available at your county Extension office once the 2007 versions are released. You can also find these on the UT Extension Web site by following the steps listed above.

New Byron Peach Varieties

Two new peach varieties that may be of interest to Tennessee growers have been released by the USDA Agricultural Research Service at Byron, Georgia. They are Early Augustprince and Augustprince. Both of these have performed well in South Carolina and Georgia and are suggested for trial wherever Sunprince is grown.

Early Augustprince is described as ripening a few days (0 to seven) after Cresthaven and three to seven days before its sibling, Augustprince. The fruit is described as being large, about 3 inches in diame-

ter when adequately thinned, and usually very round. It has more red color than either Sunprince or Cresthaven, with 70 to 80 percent of the surface being bright red with an attractive yellow ground color and very little pubescence. The flesh is yellow with some red if allowed to mature on the tree. The fruit is freestone, firm with melting flesh and very good flavor.

Early Augustprince trees are described as being vigorous, productive and moderately resistant to bacterial spot. Blossoms have large, showy pink petals and are self-fertile. Bloom time is slightly after Sunprince or Cresthaven. The chilling requirement is 800 to 850 hours.

Augustprince ripens about with Jefferson at Byron. The fruit is large, ranging from about 2 3/4 to 3 inches in diameter when adequately thinned. The fruit is round, larger, firmer and redder than Jefferson, having 70 to 80 percent bright red color over an attractive yellow ground color with little pubescence. Augustprince fruit is freestone and firm with a melting texture and excellent flavor.

Augustprince trees are vigorous and productive and appear to have moderate resistance to bacterial spot. The blossoms have large, showy pink petals and are self-fertile. Bloom time is after Sunprince and Cresthaven. Augustprince is rated as having a chilling requirement of 850 hours.

Anthracnose on Grapes

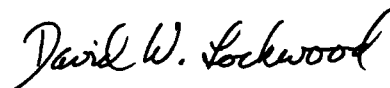
Anthracnose can be a serious problem with certain grape varieties, and Vidal appears to be quite susceptible. Symptoms occur on all aboveground parts of the vine, especially on young tissues. On the leaves, anthracnose injury appears as numerous, small dark brown spots, with the largest ones being less than one-fourth inch in diameter. The centers will fall out of the lesions giving a shot-hole appearance to the leaf. Under severe infection, leaves will become curled and distorted. Lesions on shoots are sunken and dark brown with grayish centers. With severe infections, entire shoot tips may appear to be blighted. Anthracnose on the fruit is also referred to as "bird's eye rot" due to the purplish brown or bleached tissue having a dark edge. Infected berries remain firm until they finally crack or shrivel. Anthracnose overwinters in infected parts of the vine. Years with heavy rainfall early in the season favor development of the disease.

A dormant application of lime sulfur is important for reducing overwintering inoculum on canes. Use a rate of 10 gallons of lime sulfur solution per acre. Other fungicides having some activity against anthracnose include mancozeb, captan, ziram and copper. However, these are rated as being only slightly to moderately effective. Pristine is also labeled for use on grapes. However, Pristine can cause foliar damage on Concord or related varieties. Also, in the interest of resistance management, Pristine should be used

sparingly with a maximum of six applications per season recommended. Due to the limitations of some of the other fungicides for control of anthracnose, the dormant application of lime sulfur becomes more important.

Meetings

February 16 & 17, 2007. **Tennessee Viticultural and Oenological Society Annual Meeting** at the Riverview Inn, 50 College Street, Clarksville, Tennessee. For additional information on this meeting and the TVOS organization, check out their Web site at <http://www.tvos.org/>.



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Fruit Notes

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3.1M E12-5115-00-003-06 07-0152

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