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Crop Conditions: The hot, hazy days of summer have arrived. Temperatures in the 90s with similar humidity levels are making outdoor work very uncomfortable. Growers should take care to avoid heat related health problems. Drink plenty of water, avoid work during the hottest parts of the day, know the signs of heat exhaustion and heat stroke, etc. Be careful! Peach harvest is underway in southern and central areas. Quality is good and disease problems such as scab and brown rot are minor. Apples continue to size well. Blueberry harvest continues and size and quality are excellent. Fall-bearing red raspberries are beginning to ripen. Early grape varieties are at veraison and harvest should start by mid August in southern Indiana. Japanese beetles continue their onslaught on grape leaves, blueberry and raspberry fruit, etc.

Notice: This will be the last newsletter issued on a bi-weekly basis. The rest of the issues for 2001 will be published on a monthly basis August through November.

Disease Management: Wet conditions result in high disease pressure from apple scab, sooty blotch, summer rots, flyspeck, brown rot of peach, plum and cherry, strawberry leafspot, grape black rot and the list goes on. Under such conditions sprays need to be applied on a tight schedule as long as wet weather prevails. However, as we move into drier summer months the disease pressure lessens and protectant sprays do not need to be applied on such a tight schedule. BUT, this does NOT mean you can stop applying fungicides altogether OR stretch the interval between sprays to 4 or more weeks. Remember that most fungicides are protectant, not curative, and need to be in place before infection occurs, not after. This means applying fungicides before it rains, not

after. By all means, if dry conditions persist in your area, use the longest interval between sprays as recommended on the label, but for dependable disease control, maintain a regular fungicide spray program up to the preharvest restriction date.

Also, many summer diseases can further be reduced through IPM strategies that lower humidity and promote rapid drying. These include keeping grass mowed during summer and keeping trees well pruned. Tree spacing within and between rows should allow air movement between all trees. Removing adjacent woods or cutting breaks in hedgerows will also help improve airflow in the orchard. Of course it goes without saying (so I'll say it) that all the above suggestions are pretty much a waste of time if **good sanitation** measures are not strictly followed. (Pecknold)

Black Rot and White Rot: Branches which show bright yellow leaves that eventually turn brown and die are likely candidates for having black rot

or white rot cankers. All such yellow “flags” should be pruned out completely several inches below any signs of obvious cankering or discolored wood as soon as they appear. Removing dead wood, mummies and cankers from the trees is critical in the management of these diseases. Current-season prunings should be removed from the orchard or chopped with a flail mower. Prunings piled on the orchard perimeter (let alone within the orchard!!) can serve as important disease sources...both this year and next! Act now to get rid of such sources. (Pecknold)

Tissue Analysis Grapes and Small Fruits: Plant nutritional status is important for all phases of plant growth and has a direct effect on vigor, fruitfulness, cold hardiness, and other factors. Tissue analysis is the most reliable means of determining plant nutritional status. Combined with soil testing, tissue analysis can help pinpoint the source of problems and determine what measures may be needed to ensure proper nutrition of the crop. Tissue analysis samples should be collected at the appropriate time to give the most meaningful results. For strawberry, sample the first fully expanded leaves after renovation, usually in mid to late July. For brambles, sample leaves on non-fruiting canes (primocanes) between August 1 and 20. For blueberries sample leaves during the first week of harvest. For grapes, samples should be taken about 70 days after full bloom, usually early to mid August. Samples should be adequate in size. Collect 30-60 leaves for strawberries, brambles, and blueberries, and 100 leaf petioles for grapes (for grapes submit only the leaf petiole, or stem, for analysis, discard the leaf). Collect samples to represent the entire field, not just from a few plants. Sample different cultivars separately. If specific problems exist, collect separate samples from both normal and problematic areas of the planting.

There are several private companies and a few universities that provide tissue analysis. Your county extension office has a list of the ACP Certified plant and soil analysis labs in Indiana. The Midwest Small Fruit Pest Management Handbook has a chapter on tissue analysis and fertilizer recommendations. It is available for \$6.00 from the Purdue Media Distribution Center at 1-888-EXT-INFO (1-888-398-4636) or on line at <http://www.ag.ohio-state.edu/~sfgnnet/> (Bordelon)

Botrytis Bunch Rot: Many grape varieties are now at or approaching ‘veraison’, a stage when berries begin to change color, soften, increase in sugar content... in other words “ripen.” This is an important time to apply a fungicide to protect against Botrytis bunch. Botrytis is particularly severe on tight-clustered French hybrids, such as Vignoles and Seyval, and most vinifera varieties, especially Pinot noir, Riesling, and Chardonnay. Proper timing and thorough spray coverage are essential for good control. Direct the spray toward the fruit zone, and use a minimum of 100 gal/A of water. Removal of leaves around clusters before bunch closing has been shown to reduce losses caused by Botrytis.

Materials: Three products are registered specifically for control of Botrytis. It is important to realize that these fungicides are effective ONLY against Botrytis. They provide no protection against black rot, bitter rot, the mildews, etc. It is also important to remember that these fungicides are prone to resistance development in the pathogen population, so they should be used carefully. The strobilurins (Abound, Sovran, Flint) have shown some activity against Botrytis, but are not as effective as the true botryocides.

Rovral 50 WP is registered for use at the rate of 1.5 to 2 lb./A. Include a spreader-sticker, especially at the 1.5 lb. rate. Do not apply within 7 days of harvest.

Vanguard 75 WG is registered for use at 10 oz./A when used alone, or at 5 to 10 oz./A when used in a tank mix. No more than 20 oz. of Vanguard can be applied per acre per season and it cannot be applied within 7 days of harvest. Vanguard is a system fungicide that resists wash-off and has shown limited (48 hr) post infection activity against other diseases on other crops. It is classified as a ‘reduced risk’ fungicide by EPA due to its favorable environmental and toxicological properties.

Elevate 50 WG may be applied at 1 lb. per acre. No more than 3 lbs. of Elevate may be applied per acre per season. Elevate can be applied up to and including the day of harvest (0 day PHI).

NOTE: Growers in Europe and Canada have experienced loss of disease control due to the development of fungicide resistance when more than 3 sprays/year of Rovral were applied over a period of 3-5 years. Vanguard and Elevate are also at risk for fungicide resistance development. It is therefore strongly recommended that Rovral, Elevate, and Vanguard use be limited to a maximum of 3 applications per year to reduce the probability of developing strains of Botrytis that are resistant to these materials. In addition, growers should consider alternating applications of Rovral, Elevate, and Vanguard during the growing season (Bordelon)

Grape Bitter Rot: Bitter rot is a common problem in southern Indiana, especially during wet years. Unlike black rot, which does not infect berries once they are past 5-8% sugar content (veraison), bitter rot attacks only mature berries. Both diseases result in black, shriveled (mummified) fruit, and some growers mistake bitter rot for black rot. A “rule of thumb” is that if a rot resembling black rot develops on mature berries (8% sugar or above), the cause is probably not black rot. This late season rot is likely to be bitter rot. The new systemic fungicides (Nova, Bayleton, and Rubigan) are NOT effective against bitter rot. If bitter rot is a problem, pre-harvest applications of Captan may be beneficial. However, infection likely starts at or near bloom, so good coverage in the pre-bloom and 1st postbloom spray is critical. (Bordelon)

Indiana Pesticide Clean Sweep: On Thursday September 6, 2001, licensed pest control operators, golf courses, ag facilities, and farmers will be given the opportunity to dispose of unwanted, suspended, or cancelled pesticides through a program sponsored by the Office of the Indiana State Chemist (OISC) through a grant provided by EPA.

The Indiana Pesticide Clean Sweep project will accept any currently registered, cancelled and/or suspended, opened, unopened, usable, unusable herbicides, insecticides, rodenticides, fungicides or miticides. You should only bring containers that are labeled, leak-free, and safe to transport. Materials should be left in their original containers - DO NOT mix materials. In case of an emergency, we ask that you bring a list of products you are carry-

ing and phone number of a responsible party to be contacted. Pesticides brought in leaking and unlabeled containers will not be accepted.

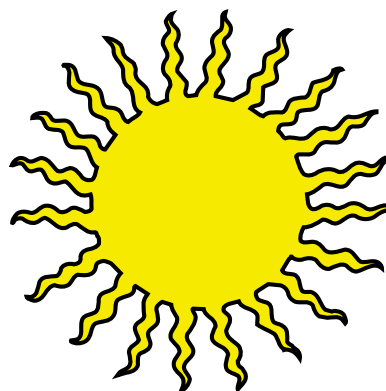
The site of the pick up will be West Apple Orchard located at 9470 County Road 500 West in Brazil, Indiana. Directions to West Apple Orchard: North off of State Road 340 on County Road 500 West. Orchard is located 1.5 miles north of State Road 340 on the west side of the road. We will accept deliveries between 9:00 am and 3:00 pm. To assist in planning, we are requesting information on the type and volume of materials you will be delivering. We must have your form returned by August 30 to the Office of the Indiana State Chemist attention Kevin W. Neal. Forms are available through the OISC.

This service is provided free of charge for up to 200 pounds. Over 200 pound will be a \$2.00 per pound charge up to 250 pounds. If you were to dispose of 250 pounds of pesticides on your own, the charge would be approximately \$2,500. The most you will pay under the “Clean Sweep” program is \$100.

This is a great opportunity to dispose of unwanted products at little or no cost. Contact Kevin Neal at 765-494-1585 if you have any questions, or to get a copy of the form.

Upcoming Meetings:

None scheduled at this time



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