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Crop conditions:

Peach harvest is progressing well, with about average ripening times and good crops. Red Haven harvest is winding up in southern areas of the state. Early varieties of grapes are just starting to ripen (veraison) in southern areas. Raspberry harvest is winding down in central and southern areas. Blueberry harvest is well underway across the state. Japanese beetles are the major concern at this time.

More rain: Rain has continued to fall in the last 2 weeks, especially in northern areas of the state. In some northern areas flooding and power outages were common. July rainfall (inches) in areas across the state is reported in the following table.

Location	July to date	July average
LaPorte	4.67	3.79
Kendallville	6.71	4.05
Indianapolis (SE)	4.51	4.78
Vincennes	2.07	4.67
North Vernon	7.01	4.12

Of the 7" of rain in North Vernon, most of this (over 5") fell on July 10. (Hirst)

Leaning trees: When we have a lot of rain combined with wind, often the result is a lot of leaning trees. The biggest mistake that people make is to wait until the ground dries out then go and straighten them up, and in the process damaging the tree further by snapping more roots than are already broken. The trick is to straighten trees while the soil is still fairly wet. This is likely to allow roots to move in the soil rather than break. Options are to tie up a leaning tree to a post, some kind of trellis, or to the trunk of the adjacent tree. (Hirst)

Japanese Beetles: Japanese beetle adults are out in full force throughout the state. The reports vary from location to location, with some people reported lower populations than normal and others reporting very high populations. Japanese beetles can be very problematic for fruit growers. The beetles feed voraciously on the leaves of many different fruit crops. The most serious damage, of course, comes when the beetles damage the fruit.

There are a number of insecticides that are effective against Japanese beetles. One that is commonly used by many growers is Sevin (carbaryl). Using Sevin on tree fruits is usually no problem, since the PHI is 3 days, which is about the expected effective life of the insecticide. However, the PHI on small fruits is 7 days, which can be a real problem during harvest season. Over the past two seasons, I have had good results using products that contain neem (azadirachtin) such as Neemix or Align. Neem has little or no toxicity to the beetles, but does seem to act as an effective repellent. It is best to apply the neem before large numbers of beetles are present on your crop. If you use it, don't expect to see immediate results. It may take a few days for the beetles to leave the plants. However, even with several heavy rains, I have seen over a week of good repellency. Neem has a 0 day PHI and a 12 hour REI for small fruits. A reasonable approach during harvest would be to spray after you finish harvesting for the day, which will give plenty of time before the next day's harvest begins. (Foster)

Apple Fruit Rot Alert: An 'alert' in any business means to have heightened awareness of a specific 'situation'...the specific situation we have in mind is the combination of wet weather and the fungi that cause fruit rot, a deadly combination. Wet weather is ideal for fungal diseases such as sooty blotch and flyspeck, black rot, bot rot, bitter rot and any other rots that might have made their way into your orchard. If wet conditions do persist the most critical thing you can do is to maintain a tight spray schedule; see ID-168, "2003 Indiana Commercial Tree Fruit Spray Guide", for suggested fungicides. As always, **good orchard sanitation** is a must for control of summer rot disease problems. Remove and destroy all dead and/or dying wood from your orchard...NOW; this means brush piles, old prunings on the orchard floor, dead trees, dead limbs in trees, etc. 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. (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)

Late Season Grape Disease Control: Early July usually signals the shift from early season to late season disease control strategy in grapes. From now until harvest the spray interval can generally be extended to 14 to 21 days (depending on rainfall). While we can normally extend our spray intervals this time of year, growers with severe black rot leaf spot should be prepared to respond to an infection period with one of the sterol inhibitors such as Nova, Bayleton, Rubigan, etc within 72 hrs of the start of the infection period.

On most grape cultivars the last application of mancozeb is recommended two weeks post-bloom because it has a 66 day pre harvest interval. One of the other protectant fungicides must be substituted for mancozeb for the remainder of the season. Materials currently available for late season disease control are captan, ferbam, ziram, and copper. Ziram has been granted a 24c label (Special Local Needs) for Indiana that allows its use during the late season (21 day PHI). The protectant should be combined with one of the sterol inhibitors (SIs) such as Nova, Bayleton, Rubigan, etc. Another option is one of the strobilurin products such as Abound, Flint, or Sovran.

We are at bunch closing so it is time to make an application for Botrytis bunch rot control on varieties that are susceptible such as tight-clustered hybrids (Vignoles, Seyval) and most vinifera, especially Riesling and Pinot noir. Use either Rovral, Vanguard, or Elevate and follow the guidelines in the 2003 Indiana Commercial Small Fruit and Grape Spray Guide (ID-169). (Bordelon)

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 blade). 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. After collection, leaves should be washed gently to remove any pesticide residues and dust that might affect analysis, laid out to dry for a couple of days, then bagged in paper bags for submission to the lab. Some labs offer tissue analysis sample kits.

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 on line at <http://www.ag.ohio-state.edu/~sfgnet/> (Bordelon)

Indiana Winegrowers' Guild Summer Meeting:

The Indiana Winegrowers' Guild will hold its summer meeting Aug. 11 at Butler Winery and Vineyard, 6200 E. Robinson Road in Bloomington. For a map and directions to the vineyard see <http://www.butlerwinery.com>. The general meeting will start at 2 pm and will include a vineyard tour with Jim Butler and Bruce Bordelon. At 3 pm Ellen Harkness will host a blind tasting of Vidal wines from across the eastern U.S. This will be the first of a continuing series of blind tastings focused on grape varieties currently grown in Indiana, or that have potential for Indiana. Indiana wineries are urged to bring any Indiana grown Vidal wines they would like to have included in the tasting. The Business meeting will follow the tasting at 4:30 pm, which should make for some lively discussion. Dinner will be served for those wishing to stay and enjoy the evening watching the deer feeding on Jim's grapes. Dinner cost will be \$10. Please call Butler Winery at 812-339-7233 to reserve a dinner ticket. We need to know how many to expect for dinner.

Upcoming meetings:

July 30	Southwest Michigan Viticulture Field Day and Steak Cookout. Southwest Michigan Research and Extension Center, Benton Harbor, MI Contact SWMREC at 269-944-1477 or see http://www.msue.msu.edu/swmrec/index.htm
Aug 11	Indiana Winegrowers' Guild Summer Meeting See note above.
Jan. 26-28	2004 Indiana Horticultural Congress. Put the date on your calendar and plan to attend.

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