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July 30, 2004

Crop Conditions:

Apple harvest has begun with early varieties such as Lodi and Pristine. Peach harvest is progressing well, with no widespread problems being reported. Grapes are at or just starting the “veraison,” or ripening stage. Harvest is usually about 35-45 days from the beginning of veraison. Harvest appears to be on a normal schedule this year with early varieties ripening in early August in southern Indiana to early September in northern areas.

ReTain is Now Labeled for Stone Fruit

Except Cherries: Many of you may have used ReTain as a harvest management tool on apples and pears. Well now this product is labeled for use on stone fruits (except cherry) also. The new label lists the following possible benefits for stone fruits: improved harvest management, increased fruit size, maintenance of fruit firmness, reduction of preharvest fruit drop, improved fruit quality, and enhanced storage potential. Rates of application are similar to that of apple, but the timing is different. For stone fruits, the product should be applied 7-14 days before the anticipated beginning of normal harvest. More details and a copy of the label are available at: <http://www.valent.com/> Click on Labels then select ReTain. (Hirst)

Apogee Fights Fireblight and Apple Scab

Infection: Apogee has more effects on fireblight and scab than was first realized. Last week I attended the American Society for Horticultural Science annual meeting in Aus-

tin, TX. One of the outstanding presentations was by Dr. Wilhelm Rademacher, head of the Global Plant Growth Regulator research group at BASF, and the person in charge of research and development of Apogee. He presented research that showed that plants sprayed with Apogee had less fireblight, apple scab and in some cases powdery mildew than unsprayed trees. Apogee modified flavonoid biosynthesis in the apple tree, which in turn made the tree less susceptible to these diseases. Flavonoids are a group of plant pigments that are also antioxidants, and many of the healthy effects of fruits and vegetables that we hear about are due to these kinds of compounds. The Apogee has no direct effect on the bacteria or fungus, but rather enhances the natural defenses of the plant. (Hirst)

Determining Apple Maturity: Making the decision on when to harvest can be a very tricky and complicated issue. The longer you intend to store the fruit, the more precise your timing needs to be. For summer apples, most

growers only intend to store them until their better quality fall apples come on stream, so storage times beyond a week or two are not that common. Even for fall apples, many growers aim to sell the majority of their crop immediately to the consumer, and try to be done by mid November or so. Since storage times are relatively short, harvest maturity is less important. This being the case, harvest apples when fruit are fully ripe. There are various tests for this, but taking a bite out of a few apples is just as good an indicator as any test.

Even in cold storage, fruit continue to ripen, just at a slower rate. Therefore, fruit intended for longer-term storage should be harvested when they are less ripe. There is no single test that will give you the answer but factors such as calendar date, heat unit accumulation, fruit firmness, soluble solids concentration, starch content and ethylene evolution all give answers to a piece of the puzzle. As you can see, this gets complicated real fast. Beyond the taste test, if you are going to perform one test I suggest looking at starch index. This gives an estimate of how much of the starch in the apple has been converted to sugar. It is quick, easy, and doesn't require expensive instruments to perform. For more details look in the Tree Fruit Pest Management Handbook, ID-93, available at <http://www.hort.purdue.edu/fruitveg> under bulletins. (Hirst)

Brown Rot Warning: A first warning for severe brown rot of stone fruits (apricot, nectarine, peach, cherry, plum). Conditions have been excellent for brown rot infection. As fruit softens during the ripening process, it becomes more susceptible to brown rot. Keep in mind that wet, humid weather is ideal for brown rot development. Scout orchards now for brown-rot-infected, aborted fruit. Also maintain good insect control, especially for curculio. Special attention to brown rot control is required where trees are planted closely and/or where woods surround the orchard. Such conditions reduce air movement, and dew or

rain evaporates more slowly, leading to possible brown rot outbreaks. See ID-168, "2004 Indiana Commercial Tree Fruit Spray Guide", for recommended fungicides. This is located at: <http://www.hort.purdue.edu/fruitveg> and look under "Bulletins" (Pecknold)

Necrotic Leaf Blotch On Goldens: Generally we first start noticing necrotic leaf blotch (NLB) on Golden Delicious in late June or July, when the weather becomes hot and sticky. Symptoms of NLB are leaf yellowing and drop; often patches of brown blotches develop along with leaf yellowing. Symptoms develop suddenly, almost overnight, and in waves, generally from June through August. The cause of NLB is not known; however, the disorder is thought to be related to air temperature, light intensity and soil moisture. It is most severe when a cool, rainy period of 4 - 5 days precedes several hot, sunny days. Although it appears NLB is not fungal caused, the disease is reduced when ziram is included in the cover sprays. (Pecknold)

Sooty Blotch & Flyspeck: Young developing apple fruit are already showing the dark smudges and black speckling indicative of sooty blotch and flyspeck. Yes, this is turning into a 'good' sooty blotch and flyspeck year. These diseases are best managed if fungicide applications are maintained on a regular schedule throughout the summer months. They become a problem when the time between sprays is stretched too long (4 weeks between sprays just won't cut it) and/or when spray applications are stopped too early in the season. Check harvest restriction days on the pesticide container label and MAINTAIN fungicide applications on a REGULAR SCHEDULE up to the cut-off period. See ID-168, "2004 Indiana Commercial Tree Fruit Spray Guide", and the previous edition of this newsletter for recommended fungicides. Infection from sooty blotch and flyspeck can further be reduced through IPM strategies that lower humidity and promote rapid drying. Also, remember to remove reservoir hosts,

particularly brambles, from the orchard and surrounding hedgerows to help reduce the level of incoming spores. (Pecknold)

Multicolored Asian Lady Beetle, Grapes, and Wine:

The Multicolored Asian Lady Beetles or “Lady Bugs” as most of us know them have become an indirect pest of grapes. Armed with a smelly defense chemical, these beetles have the capability of ruining vast amounts of wine. In the past few years, we have found them congregating on certain grapes at or near harvest. They tend to stay in the clusters through the crush and pressing operation, depositing their defense chemical (methoxy-pyrazine) into the juice, leading to a distinctive “LB” odor and flavor to the wine. Most people consider this herbaceous odor and flavor a serious wine flaw. The problem exists across the wine regions of the eastern US and seems to be mostly a problem where grape harvest occurs in late August and September. The problem seems to be worse in central and northern Indiana, the Great Lakes region, etc. It has not been a serious problem along the Ohio River Valley. However, we need growers and winemakers to help us monitor this pest. We would like to know when you notice significant numbers of Asian Lady Beetles showing up in your vineyards, what varieties they seem most attracted to, and at harvest, if they are present in harvested clusters. (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 varieties 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)

Upcoming meetings:

July 28 Southwest Michigan Viticulture Field Day and Steak Cookout. Southwest Michigan Research and Extension Center, Benton Harbor, MI Contact SWMREC at 269-944-1477 (ext. 200) or see <http://www.msue.msu.edu/swmrec/index.htm>

Sept 27-29 HACCP training course, West Lafayette. More details to follow.

January 24-26, 2005. Indiana Horticultural Congress, Adams Mark Hotel, Airport, Indianapolis.

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