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Crop conditions: Apples are sizing slowly due to cool weather, and are approaching the upper limit of where chemical thinning is effective. Grapes are at bloom or just post-bloom, depending on variety, across the state. Raspberries, blackberries, and blueberries are post-bloom and fruit is sizing nicely with the recent rains. Strawberry harvest is underway in southern and central areas. More sunshine and less rain are needed for optimum fruit quality.

Important Grape Sprays: Grapes have been blooming across the state over the past two weeks. Cool weather is causing the bloom period to be extended. The next few fungicide applications are very important for controlling the major fruit pathogens. May has been a fairly wet month, so disease pressure should be high. The immediate pre-bloom (or early bloom) and the first two post bloom applications are the most important sprays for controlling black rot, but also are important for downy and powdery mildew. Care should be taken to get thorough coverage of all foliage and developing fruit. Slow the tractor speed, spray every row middle, increase volume, and use full label rates. This would be a good time to use one of the new strobilurin fungicides such as Abound or Sovran. On bunch rot susceptible varieties, addition of a botryocide such as Rovral, Vangard, or Elevate may be beneficial. For a complete discussion of grape pest management refer to the Commercial Small Fruit and Grape Spray Guide (<http://www.hort.purdue.edu/hort/ext/sfg/>) and the Midwest Small Fruit Pest Management Handbook (<http://www.ag.ohio-state.edu/~sfgnnet/>). (Bordelon)

Crop Load Adjustment in Grapes: Annual pruning of grapes is necessary to balance the amount of fruit production with the amount of vegetative growth to insure economic yields of high quality fruit. Pruning severity is based on the strategy of 'balanced pruning,' which dictates the correct number of buds to retain, or 'crop load,' which determines the number of clusters to retain. Both methods are based on the vine's pruning weight or 'vine size', which is an indication of the vine's capacity to ripen the crop. Many growers prune vines lightly during the early spring to assure adequate bud number in case of damage by a late frost or freeze. Now that the danger of frost and freeze is over and grape shoots are growing rapidly, growers should go back through the vineyard and determine if crop load adjustment is needed. The crop load is adjusted by removing shoots and/or clusters. New shoots are easily broken off by hand without the need for pruners. Growers should pay close attention to the fruitfulness of shoots. Shoots from primary buds have full fruiting potential, whereas secondary buds and latent buds on older wood produce shoots with little or no fruiting potential, depending on

cultivar. Ordinarily, all secondary shoots and shoots from older wood should be removed. However, on early budding varieties that may have suffered frost damage this year, the secondary shoots should probably be retained. Shoots should be spaced evenly along the trellis if possible and at a density of about four to six shoots per foot of row. Cluster thinning (removing one or more of the clusters on each shoot) done before bloom results in the least yield reduction because the remaining cluster(s) generally set more berries. However, on tight clustered cultivars, cluster thinning after bloom can result in looser, less rot susceptible clusters. Keeping records of average cluster weights and vine yields can help determine the appropriate amount of fruit to retain now. (Bordelon)

Where Have All the Insects Gone? – As most of you are already aware, insects are cold-blooded, which means that the rate at which they develop is dependent on temperatures. The warmer the weather, the faster insects go through their life cycles. Obviously, this year insects are developing a lot slower than normal. In some ways that is a good thing. The low temperatures now mean that we are less likely to have a third generation of codling moths and European red mites are less likely to increase to outbreak levels. Remember, of course, that future weather could completely change the situation. Don't be complacent. I have great faith in the ability of insects to cause problems no matter what the weather.

There is at least one scenario that growers need to be aware of that is caused by the cold weather. For codling moth, we generally figure that we will control most of them with first and second cover sprays, spaced 10-14 days apart. That assumption may not be valid this year. It requires about 400 degree days (base 50 F), from first adult emergence to peak egg laying, knowing that egg laying will continue after we reach the peak. In our experiment that we are conducting at Tuttle's Orchard (the one you will all see at the summer Hort Meetings), we put our second cover spray on yesterday, June 2, 14 days after the first cover spray was applied. Normally, we would expect that this spray should take care of the first generation. Tom Roney has been keeping track of degree day accumulation since biofix and, as of June 2, he has only accumulated 324.5 degree days. In other words, we are still 75 degree days (about 7 days at current temperatures) from reaching the peak of egg

laying, not to mention the egg laying that will occur after the peak is reached. This year, it is likely that third cover will also be important for control of first generation codling moths.

For those of you who have been monitoring codling moths and other insects with pheromone traps, don't be fooled by low trap catches. Most evenings have been too cool for moths to fly. They may not be laying too many eggs right now, but the cool temperatures may prolong their lives and allow for an extended generation. Continue to monitor flights of moths in your orchard so that you will know if the first generation is over or if you still need to be concerned about codling moth. (Foster)

Apple Diseases: What To Do? Growers should be walking their orchards now, looking for the first symptoms of apple scab, fire blight, powdery mildew, and rust. When monitoring for diseases select those blocks that are most disease prone. Ida red, Jonathan, and Romes are "good" trees to inspect for disease doings; they are all highly susceptible to scab, blight, mildew and rust. If you do see symptoms of any of the above mentioned diseases we suggest the following: **a) Apple scab** - the safest bet is to apply Rubigan or Nova in combination with a FULL rate of captan, OR, as suggested in the previous edition of this newsletter, use one of the new strobilurin fungicides, Sovran or Flint. **b) Fire blight** - immediately cut out blighted twigs 10 to 12 inches below any sign of infection, being sure to sterilize pruning tools between each cut; maintain good control of sucking insects which are primary carriers for secondary spread of blight and apply streptomycin within 24 hours following injury from hail storms. Special attention should be given to young trees and trees on M9 and M26 rootstocks or interstems. **c) Powdery mildew** - maintain mildewcide sprays until terminal growth stops. **d) Rust** - relax and enjoy the colorful display of orange spots on leaves and/or green depressions on fruit.... no further infection from rust will occur this year, therefore rust is one disease you don't have to worry about any longer. (Pecknold)

Cedar Quince Rust: In some areas of the state this has been a banner year for rust infection. Many growers only think of cedar apple rust when we talk about rust, however, there is another rust that often goes unnoticed and can cause extensive

fruit injury, namely cedar quince rust. One reason we take note of cedar apple rust is because of the very colorful display it provides every year as orange, jelly-like, projections on cedar trees and bright, red-orange spots on apple leaves. Cedar quince rust often goes unnoticed both on cedar and apple. On cedar trees quince rust appears as simply an orange slime on stem tissue. On apple, quince rust seldom affects leaves; rather it is the very young developing fruit that suffers the most harm. Infection is nearly always on the calyx end of fruit. Infected tissue will be indented and often have a dark green coloration. Such fruit will typically drop prior to harvest. While Captan will suppress rust (about 50% control), only Polyram, mancozeb, or SI fungicides (including Bayleton) will provide adequate control. Of course it is now much too late to apply fungicides to control either quince rust or cedar apple rust. Tight cluster and pink is when sprays need to begin for control of rust, keep this in mind as you admire this years rust display. (Pecknold)

Midwest Blueberry Crop Down: At the Blueberry Growers of Indiana meeting this week, growers discussed the crop “guestimate” for the 2003 season. They are expecting a crop 25-30% below average due to winter injury. Jersey, the most widely grown variety in the state, suffered the most damage. Growers in Michigan are also reporting considerable winter injury, so Michigan’s crop will likely be lower than normal as well. Due to below average crops in most production areas, prices this year should be better than last year for both fresh and processed fruit. Last year Indiana produced about 3.1 million pounds of blueberries and ranks 7th nationally in production. (Bordelon)

ASEV-ES Annual Meeting: The 2003 American Society for Enology and Viticulture/Eastern Section conference will be held July 8-11 in Corning, NY Raddison Hotel. The program is now available online at www.nysaes.cornell.edu/fst/

[asev](http://www.nysaes.cornell.edu/fst/asev). A pre-conference tour of the Finger lakes will be held on Tuesday July 8. The Symposium title this year is Wine Closures – Put a Cork in It? and will provide a complete coverage of issues relating to wine bottle closures. The ASEV-ES technical session begin Thursday afternoon and the conference concludes Friday evening. For details and to download the registration forms please check the web site. (Bordelon)

Upcoming Meetings

June 5 - Blueberry Growers of Indiana Spring Meeting and Farm Tour. Bonnell’s Blueberries. North Judson. 4:00 PM Farm tour, 5:00 PM Potluck dinner (bring a dish to share), 6:00 PM BGIN business meeting. Bonnell’s Blueberries is off US 421 in Starke County. Go east on 400 S (North of San Pierre, 1st road south of the Kankakee River) to 750 West. Turn Left (north). 1/4 mile on left. Watch for sign. Contact Wanda or Cliff Bonnell, 574-896-5365 or Melvin VanKley, BGIN Pres. 219-956-3687.

June 23-24 Summer meeting, Indiana Horticultural Society and Indiana Farm Market Association. Tuttle Orchards, Greenfield, IN. For a schedule and more information look at <http://www.hort.purdue.edu/fruit/> and for directions look at <http://www.tuttleorchards.com/directions.htm>, or call Peter Hirst.

July 8-11 American Society for Enology and Viticulture-Eastern Section conference. Corning, NY. Contact www.nysaes.cornell.edu/fst/asev.

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