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Scattered frost occurred across the state on May 19 and 21. Several growers are reporting damage to fruit crops. Temperatures ranged from 28°F to the mid 30s on the 19th with central and southeastern areas as cold or colder than sites in the northern and western part of the state, while on the 21st northern areas reported 30 to 32°F while southern and eastern areas were warmer. Overall, damage does not appear to be serious, but some growers have been hit harder than others. Grapes are approaching bloom in the south, and have 6 to 8 inch shoots north. Frost damage will likely kill some shoots, but it appears that most of the damage has been minor. Apples are past petal fall and damage ranges widely, but most growers should still have a full crop. See comments on thinning below. Blackberries are blooming in south and central areas and frost damage to open flowers is likely. Orange rust is prevalent in older plantings and wild patches. Blueberries are at petal fall and are generally tolerant to colder temperatures than other crops. Strawberries are ripening south, but excessive rain and cool conditions have delayed ripening and threaten fruit quality.

Rainfall Reaches Record Levels: According to state climatologist Ken Scheeringa, who is based at Purdue University, the state received, on average, 15.63 inches of rain from March 1 to May 13, the most in the 107 years that precipitation records have been kept. That is over an inch more than the previous record of 14.51 inches set in 1922 and almost five inches above the 9.6-inch average. Spring temperatures also have been cooler than normal, increasing the time it takes to dry up wet fields.

The steady rainfall this spring has wreaked havoc on area farmers' planting schedules. Statewide corn planting was about 3 weeks behind the 5-year average. Only 11

percent of the state's planned corn crop had been planted, compared with the 98 percent planted by the same time last year and the 5-year average of 69 percent. Row crop farmers aren't the only ones suffering. Vegetable growers have had a hard time getting transplants in the ground, and fruit growers have been working hard to keep their crops sprayed.

There may be an end in sight to the wet weather pattern this spring. The current weather pattern of excessive rains followed by very short dry spells may be changing for the better, according to Scheeringa. "The weather systems may be slowing down a bit. This spring two jet streams — the polar jet along the Canadian border and the subtropical jet

from the southwest — have collided right over Indiana,” he said. “This has caused prolonged storminess as colder air clashes with warm, moist air. We’re starting to get some higher amplitude waves in the stronger polar jet stream. Instead of just racing from west to east across the country, the jet stream is doing more looping, creating dry ridge areas that provide longer dry intervals between storms.” This pattern also may detour some storms north and south of Indiana. As the calendar nears summer, the jet stream normally weakens. “Typically in the spring, the cold and warm air battle within weather systems driven by the jet stream,” Scheeringa said. “However, in the summer, the weather is driven more by local heating and the jet stream weakens in intensity.” The new 30-, 60- and 90-day forecasts are calling for near normal temperatures and slightly above normal precipitation. Modified from Ag Answers 5/15 <http://www.aganswers.net>.

Fire Blight Showing in Southern Indiana: Could 2002 be a Repeat of 2001 for Fire Blight? We are again hearing reports of blossom blight showing in southern Indiana. As yet we do not know if this early season blossom blight will turn into epidemic shoot (twig) blight; however, we thought it would be best to prepare for the worst and go over some of the do’s and don’ts in dealing with blossom blight: First, DO NOT bother with pesticide (streptomycin and copper) spraying. There are no pesticides that will cure or prevent further spread of blight. Note: the one exception to this is the use of streptomycin after petal fall following hailstorm or heavy wind damage. This “hail spray” should be made within 18 to 24 hours after the start of the storm, even if the foliage is not completely dry. Also, it is much too late to begin spraying with Apogee to help minimize fire blight for this year (see the previous edition for information on Apogee). Secondly, DO NOT over fertilize or attempt any other cultural practices that will stimulate plant growth. Growers should use management

systems that promote early cessation of tree growth without adversely affecting tree vigor. Excess vigor is an important component of orchard risk for fire blight

Growers, especially in southern Indiana, should be walking their orchards NOW checking for fire blight (mid to late May is generally when fire blight makes itself known in southern Indiana). Look for new growth that appears wilted and crooked at the tip with browning and wilting of leaves. Efforts to limit secondary spread by cutting out fire blight strikes are most successful if these strikes can be removed immediately after they appear. Cut out blighted twigs 10 to 12 inches below any sign of infection, being sure to sterilize pruning tools between each cut. If the infected shoot is associated with the main trunk or a major scaffolding limb you may want to try the “ugly stub” cut, deliberately leaving a naked 4 inch branch stub above the supporting limb. Marking the ugly stubs with flags or a bright colored paint when the cuts are made can help in relocating them during the winter pruning operation. Maintain good control of sucking insects which are primary carriers for secondary spread of blight. Special attention should be given to young trees and/or trees on M.9 and M.26 rootstocks or interstems. If epidemic blossom blight is present, with nearly every branch having a majority of the blossom clusters affected, it is neither practical nor desirable to prune out affected blossoms. Extensive pruning of such fire blighted trees will generally only result in spreading the disease and stimulate the growth of even more new, susceptible tissue. (Pecknold)

Stopping Spread of Apple Scab: About 9 to 17 days are required from the time of infection by apple scab until the appearance of the olive-green, velvety scab lesions. Within the lesions secondary spores (conidia) are produced throughout the summer months... by the billions! All growers should start checking NOW for

the first symptoms of scab. The recommended course of action **where scab lesions are present** has been to apply a SI fungicide (Nova, Procure, or Rubigan) to minimize additional leaf infections **in combination with a FULL rate** of Captan to provide optimum control of fruit scab. However, with the introduction of the new strobilurin fungicides growers have a new alternative for keeping scab in check. Among the primary strengths of the strobies are their ability to suppress the formation of secondary spores and their ability to provide excellent control of fruit scab. This would have been an excellent year to use the Sovran program at 1st, 3rd and 7th covers as described previously. Remember that fruit are at their maximum stage of susceptibility from pink until about 3-4 weeks after petal fall. And as always, we strongly suggest no more than 3 sprays of any strobilurin fungicide. We want these fungicides to last! (Pecknold)

To Thin or Not to Thin: Given the poor pollinating conditions across most of the state this year, and on top of that some recent cold damage, the question many are asking is “Should I still thin?” I wish there was an easy answer, but perhaps some of the following observations will help you make the right decision for your farm.

1. Even if you had one day of warm sunny weather during bloom when the bees were flying, the chances are they transferred enough pollen so that pollination will be adequate, but probably less than ideal. Many orchards had at least one nice day at the start of the bloom period. The cool weather since then will have slowed the growth of that pollen, so that may have negatively impacted fertilization, but I think generally fruit set will not be a limiting factor in terms of yields this year.
2. If you had a reasonable level of bloom, only about one flower in 20 needs to set to make a full crop.

3. The risk of under-thinning is much greater, and the consequences more severe, than in over-thinning. Under-thinning will result in a large crop of small apples (very low value) and will likely result in putting the trees into a biennial bearing pattern, so you’ll pay the price next year also. Over-thinning will result in a short crop this year, but fruit size will be large (high value) and also good return bloom next year should be good.
4. Cold damage from the recent frosts will be variable from farm to farm, and even from block to block on the same farm. Wait a couple of days then cut some fruitlets and look for damage (browning). Remember point #2, only about 1 flower in 20 needs to set for a good crop.

These are some of the factors to consider in making your thinning decision. This is shaping up to be a year to sit back a little and see how things shape up, rather than be too aggressive and early with your thinners. This approach, and the cool weather so far, will certainly reduce your final fruit size, but in a year like this many will be concerned more with reducing risk, rather than going for maximum fruit size and performance. Although Sevin is most effective as a thinner early, it will thin fruitlets up to about 15mm in size, and maybe slightly larger. (Hirst)

Too Late for Apogee: For those who haven’t applied any Apogee yet, it’s now too late for this year. The first application needs to go on before shoots are 3 inches long, and I think in all parts of the state we’re past that now. If applied now, Apogee is likely to have little effect, and is probably just money wasted. (Hirst)

Strawberry Disease Alert: Strawberry gray mold and leather rot are most apt to occur under cool, wet, cloudy conditions, exactly

what we have experienced this spring. Keep an eye on your prevailing weather conditions and act (spray) accordingly. Recent wet conditions have resulted in extreme disease potential during the coming month. See ID-169, "2002 Indiana Commercial Small Fruit & Grape Spray Guide", for further information on suggested fungicides for gray mold and leather rot. (Pecknold)

Orange Rust: Blackberries across the state are showing early stages of orange rust. Leaves appear misshapen and yellowish, and shoots are often excessive elongated. The disease looks somewhat like herbicide injury except that as it progresses, orange pustules appear on the undersides of the leaves. This is a systemic disease that cannot be cured. Well-timed applications of Nova (Immunox for the small grower) can prevent infection of uninfected plants. Infected plants should be destroyed immediately to prevent release of spores. If spores are being shed, then put a plastic trash bag over the plant before removal to prevent widespread dissemination of spores. The fungus resides in the roots as well at the shoots, so the plants must be rouged out completely. An easier way might be to use a systemic herbicide such as glyphosate at a full rate to kill out diseased plants. Refer to our two small fruit publications for a complete discussion of managing this disease: 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/~sfgnet/>). (Bordelon)

ASEV-ES Annual Meeting: The 2002 American Society for Enology and Viticulture/ Eastern Section conference will be held July 9-12 in Baltimore, MD. The program is now available online at www.nysaes.cornell.edu/fst/asev. The conference starts on Tuesday evening, July 9, 8:30pm, with an Amateur Workshop and Tasting. Beginning Wednesday morning half-day sessions focus on the 4 red

varieties Merlot, Cabernet Franc, Syrah and Chambourcin. The traditional student paper competition and the annual meeting complete the program. The conference adjourns on Friday, July 12, at noon. This leaves the entire weekend to explore the Baltimore area with friends and family! Take advantage of it. The Orioles will slug it out with the White Sox on Friday, Saturday and Sunday. Other highlights include the trade show, a grazing lunch in the trade show on Wednesday, "A Taste of Maryland" - a tour and reception at Boordy Winery followed by the dinner at Fiore Winery on Wednesday evening, a theme luncheon matching the 4 focus varieties with local food specialties on Thursday, and finally the traditional sparkling wine reception and banquet on Thursday evening. Registration is also available for individual days. For details and to download the registration forms please check the web site. Purdue's Bruce Bordelon and Ellen Harkness are on the board of the Eastern Section and are involved in planning this year's conference. We would like to extend a personal invitation to Indiana wineries and grape growers.

Save on Long Distance: No, it's not one of those adds from another phone company. Beginning immediately, growers with questions for state Extension Specialist can contact us using the new Purdue Extension toll free number: 1-888-EXT-INFO (398-4636). The operator (a real live person!) will direct your call to the appropriate specialist. We ask that you start by contacting your county Extension Educator for help, then if you need our assistance, feel free to call us and save yourself a little money. You can use this same line to order Extension Publications from the Media Distribution Center.

Upcoming Meetings:

June 4 - Eastern Indiana Horticultural Society. Grabow Orchard and Farm market. The location of the orchard and market is in Madison County on State Road 13, one mile north of I-69 and State Road 13 junction. See <http://www.graboworchard.com> For more information, call Dave Clamme, 765-747-7732

June 11 - Blueberry Growers of Indiana Spring Meeting and Farm Tour. Blueberry Dune Farm, LaPorte. 4:00 PM Farm tour, 5:00 PM Potluck dinner (bring a dish to share), 6:00 PM BGIN business meeting, 6:30 PM MBG business meeting. Blueberry Dune Farm in on State Road 39 1 mile south of I-94 on the west side. For more information call Don Kepler 219-362-3393 or Melvin VanKley, BGIN Pres. 219-956-3687.

July 9-12 American Society for Enology and Viticulture-Eastern Section conference. Baltimore, MD. Contact www.nysaes.cornell.edu/fst/asev.

July 17-19 - July 17-19. Workshop on developing and implementing HACCP for Juice and Cider Industries. Holiday Inn at the Pyramids, Indianapolis. For a brochure and program see <http://www.foodsci.purdue.edu/out-reach/haccpcider/02brochure.pdf> or call Peter Hirst for a copy of the program.

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