Inside

FFF 96-08
June 5, 1996

Crop Conditions

Apples are in second and third cover sprays. Early reports indicate that fruit set was variable throughout the state. Grapes are in bloom in the south, just pre-bloom in the central, and at 6 to 10 inch shoot growth in northern areas. Strawberries harvest is underway in south and central areas. Fruit quality has been good for most growers, despite the abundance of rain. Some growers have reported severe gray mold epidemics. Blueberries are at petal fall in Northern Indiana. The bloom period has been prolonged due to cool temperatures. Pollination has been difficult with cold and windy days. Frost on May 30 caused minimal damage in Indiana, but much more to the north in Michigan. Mummy berry is prevalent due to the wet weather, and unprotected sites with a history of disease are showing lots of damage. Blackberries are showing signs of winter injury and associated cane blight in most areas, hardy varieties are in full bloom in West Lafayette. Black and red raspberries faired much better. Most fruit crops are still about 10 days behind normal.

Weather: (From Purdue Crop and Weather meeting Minutes, May 31, Ken Scheeringa) May ended on a positive note with cool, dry weather brought in by passing high pressure. A low pressure system is expected to move into the state by next week-end and this will bring a threat of precipitation. Greatest temperature departure from normal was in northern Indiana due to the front splitting the state. Temperatures were 2.5 degrees below normal in northern Indiana; 1 degree below in central; but 1 to 2 degrees above in southern Indiana. Although below normal, temperatures were not extremely cold based on 100 years of data. Precipitation for the month, based on the whole state, was double of normal. This was the sixth wettest May since records began in 1895.

Weather Outlook: (From Purdue Crop and Weather Meeting minutes, May 31 - Tom Priddy, University of Kentucky) The 6 to 10 day forecast (June 5 to 9) indicates below normal temperatures and normal precipitation. The 30 and 90 day forecasts have not changed. New longer range forecasts will be available June 13. Various computer models disagree over near-term as well as summer weather prospects. No Bermuda high is building yet. This is needed to push the jet stream to the north. Once the Bermuda high appears and affects the jet stream, it could be a quick dry off for the summer weather.

Eastern Flower Thrips on Strawberries: In the last issue we reported the occurence of

eastern flower thrips in southern Indiana strawberry plantings. At that time moderate numbers (up to 8-10 per flower) of thrips had been found. Since then, we have received more reports of eastern flower thrips at relatively high levels on flowers and fruit. It is the consensus of the fruit entomologists in the Midwest that 10 thrips per flower or fruit is a reasonable threshold. We must admit, however, that this threshold is not based on hard data, but is our best guess. We suggest growers continue to scout for this pest on both flowers and fruit and consider an insecticide application if numbers are high. Left unchecked, thrip feeding can cause seedy, tan to brown, tough, hard, or rubbery fruit. It is important that growers not treat during bloom unless they have strong evidence that an insecticide spray is needed. We strongly recommend that growers scout for thrips in their strawberry flowers and fruit and confirm that thrips are present before applying insecticides. Thiodan appears to be the best insecticide choice for thrips control.

Fertilizers for Tree Fruits: Growers who have a crop of peaches should consider the second half of the split application of nitrogen at about this time. If the crop is good and growth is not excessive, then an application of 1/2 the annual rate of nitrogen will probably be beneficial. This should be in the form of nitrate nitrogen to obtain rapid uptake by the tree, followed by little residual nitrogen. Applications made much later than the second week in June run the risk of adversely affecting fruit color and maturity. Further, applications of ammonia forms that give uptake that is longer-term, can also cause trees to grow later in the season than desired. This could result in trees going into the winter too vigorous, with immature wood which is subject to early winter injury.

With the excessive rains that have been received in southern areas, it seems likely that earlier applied nitrogen has already been utilized or has leached out of the root zone. Thus a second application will be needed to carry the crop to maturity and to increase fruit size. Where there is no fruit crop, or a light crop, use your judgment on the need for additional nitrogen based on the tree growth. Tree growth should begin to slow down by about the first of August.

Generally, other tree fruits do not need the split application, but if growth is poor and the trees look unthrifty, an additional application may be desirable. Again, where possible use mostly nitrate forms of nitrogen; or ammonium nitrate, in which half of the nitrogen is in the nitrate form.

Unthrifty Trees: Where trees look less than thrifty, look for causes other than nutrition as well. Heavy rainfall on heavy soils may cause temporary oxygen deficiency in the soil which will restrict nutrient uptake. Look for ways to improve soil drainage, both surface and internal drainage. Other causes for unthrifty growth could include "leftover" effects of the freeze of January 1994, borer damage, crown rot, vole damage, etc. This is a good time to look over trees for problems.

Fertilizer Applications for Grapes and Small Fruits: Split applications are recommended as a more efficient method of nitrogen fertilization. The first application is made a couple of weeks after budbreak, and the second and third (if needed) applications are made at 4 week intervals. Because of the abundance of rain in most parts of the state this spring, much of the initial application has likely been leached from the root zone, so a second and possibly third application will be needed in most plantings. Though the second application is usually made four weeks after the first application, it should not be made during bloom because of the possibility of reducing fruit set. If plants are in bloom, or if bloom is near, delay the application until after fruit set. This is especially important with grapes, as nitrogen applications at bloom, especially urea, can cause significant reductions in fruit set.

Late Season Grape Disease Control: Grape bloom signals the beginning of the transition from early to late season disease control approaches. On most cultivars, especially late maturing wine grapes, the last application of mancozeb is recommended two weeks post-bloom. Because of the 66 day pre harvest interval for mancozeb, and the delay in the growing season this year, one of the other broad spectrum fungicides may have to be substituted for mancozeb in the post-bloom application. This is especially important with early ripening types, such as Foch, where the 66 day PHI may prevent harvest until fruit are overripe. If an application of mancozeb is applied on June 15, the earliest legal harvest date will be August 22. In plots at the Southwest Purdue Ag Center at Vincennes, average harvest date for early ripening cultivars is August 7-15. Other broad spectrum materials currently available for late season disease control are captan, ferbam, ziram, and fixed copper and lime. Ziram has recently been granted a 24c label (Special Local Needs) for Indiana which allows its use during the late season (21 day PHI). Ziram is a good all round material for control of Phomopsis, downy mildew, ripe rot, and black rot, and aides in control of Botrytis. It is a little weak on black rot, so it should be used with Nova or Bayleton if disease pressure is high. Ziram has a 48 hour reentry interval compared to the 4 day REI for captan. The grower must be in possession of the supplemental label in order to use Ziram past bloom. I have the supplemental label in hand to supply growers. If you need a label, contact Bruce Bordelon, 317-494-8212, or Joe Grippi (Elf Atochem) 614-575-2742.

Canopy Management of Grapes: Canopy management is an important cultural practice in grape production. It can improve fruit quality, increase bud fruitfulness, and improve disease management. Canopy management refers to any manipulation of the grapevine canopy including shoot removal, shoot positioning, leaf removal and shoot trimming. Shoot removal; eliminating shoots from non-count buds, should be done before bloom at the same time as cluster thinning to encourage increased berry set. Recent research suggests that waiting until after fruit set to cluster thin may be advantageous for tight clustered, bunch rot susceptible cultivars such as Seyval, because berry set is reduced and clusters are, therefore, looser and less subject to rot problems. The potential reduction in yield from reduced berry set can be offset by leaving more clusters.

Canopy management is particularly important with American cultivars because of the procumbent growth habit, large leaves, long shoots, and tenacious tendrils. Shoots tend to grow horizontally across the fruiting zone, causing shading of fruit and basal nodes. American cultivars such as Concord, Catawba, and Niagara should be shoot positioned soon after bloom before tendrils become tightly attached, but after shoots have hardened enough to prevent excessive breakage. A second shoot positioning will usually be needed about a month later. Shoot positioning is separating the shoots from each other and leaving them hanging down in a vertical position.

Sooty Blotch and Fly Speck: The EBDC fungicides, mancozeb and Polyram, cannot be used for mid and late season control of sooty blotch and fly speck because of their 77 days-to-harvest restriction. Growers must rely on captan or ziram, in combination with either Benlate or Topsin-M. The combination of Benlate or Topsin-M with captan or ziram will: 1) provide better residual protection than captan or ziram applied alone; 2) help prevent development of resistance and; 3) provide protection against a wider spectrum of summer diseases. **Note:** Benlate applied within 40 days of petal fall may contribute to development of scarf skin, a fruit finish disorder that reduces the "shine" on apples and makes the skin look dull or cloudy. Scarf skin is espe-

cially common on Stayman, Law Rome, and Gala.

Infection from sooty blotch and fly speck 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 air flow 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.

Apple Scab: Severe apple scab infection is being reported from many areas of the state. This means that susceptible, unsprayed apples and crabapples will be producing mass quantities of secondary "summer" spores throughout the summer anytime conditions favorable for apple scab occur. We advise all commercial growers, especially those located near abandoned, unsprayed orchards or wooded areas, to be especially diligent this year in maintaining a regular spray schedule for scab. Do not become lax with your scab sprays, even if your orchard is free of scab... the idea is to keep it that way.

Fruit Finish on Apples: Fruit finish on apples is a perennial problem in the Midwest because of our variable weather patterns. Russet is most likely to occur on Golden Delicious, but sometimes affects other varieties such as Jonathan. Weather conditions alone can cause russeting but most russet results from a combination of weather and spray programs and practice. Certain chemicals are more likely to cause russeting when applied under unusual weather conditions. Since the major part of russeting occurs during the time of cell division in the month and a half after bloom, the die is largely cast. However, even now precautions should be taken to avoid damaging that cuticle with sprays. Here are some late suggestions.

Don't apply cover sprays in the heat of the day. Never spray when the temperature is above 90°F. During the summer, spraying at night or in the early morning is suggested. Rapid drying conditions are optimal.

Don't apply sulfur above 85°F.

A Provide spray program, with applications at 7-10 day intervals beginning at petalfall has been shown to be helpful in reducing, but not eliminating the problem. The rate is 10-13 ounces of Provide applied in 100 gallons of water per acre. Do not use surfactants. In theory, the gibberellic acid in Provide keeps the cuticle cells more elastic , which lessens the cracks in the cuticle and thus reduces the russet formed. One lone application has been shown to be <u>not</u> effective.

Pesticide Container Recycling: The schedule for the 1996 pesticide container recycling project includes 19 conveniently located sites. The program, which is sponsored by the Indiana Farm Bureau, Inc., the Indiana Plant Food and Ag Chemical Association, and the Office of the Indiana State Chemist, successfully diverted more than 120,000 pesticide containers from Indiana landfills in 1995. The Solid Waste Management Districts and Purdue Cooperative Extension Service are again cooperating to provide sites and personnel at times. Dates begin August 5 and run through September 12. Exact dates and locations for recycling can be obtained from the Office of the Indiana State Chemist, Purdue University, 1154 Biochemistry Bldg., West Lafayette, IN 47907-1154, or county Purdue Cooperative Extension Service offices.

Indiana Horticultural Society Summer Meeting: June 21-22, 1996. Garwood Orchards and Sunacre Orchards, LaPorte Co. IN. The schedule for the meeting was included in the last newsletter.

Garwood's Orchards are fast growing with many young plantings that are coming into good production. They have planted several of the new varieties and have some

experience with growing them. They have a good crop on most blocks, including the peaches.

Arthur and Frances Schuck's Sunacre Orchard consists of mature blocks of trees of good varieties. Of special interest is the old block of Goldens that has produced consistently heavy crops for many years.

We hope that you can join us for a good meeting. This meeting is co-sponsored by Purdue Cooperative Extension and all fruit growers are invited to attend.

To get to Schuck's Sunacre Orchards for the Friday afternoon program, from US 20, east of LaPorte, go north 4 miles on CR 300 East to the orchard at 8711N 300W.

To get to Garwood Orchards, from SR 2, west of LaPorte, go north on CR 500 West about 1/2 mile to CR 50 S in Pinola. Go west to Forester Rd. The orchard headquarters is on the northwest corner, at 5911W 50S. A map will be included in the IHS newsletter. The usual pink signs should be in place.

Motels in the area include:

• Pine Lake Hotel & Conf. Center, 444 Pine Lake Avenue, LaPorte (219) 362-4585. or 1-800-374-6338. Commercial rate $66 + Taxes (10%).

• Super 8 Motel, 438 Pine Lake Avenue, LaPorte (219) 325 3808. 2 persons 2 beds, $60 + taxes. AARP or other discounts.

• Knight's Inn, I-94 & US 421, Michigan City (219) 874-9500 or 1-800-843-5644. All rooms $70 + taxes. Ask for applicable discounts.

• Red Roof Inn, 110 W. Kieffer Rd. Michigan City (Half-mile north of I-94 just off US 421.) (219) 874-5251 or 1-800-843-7663. $45-52 + taxes.

• Holiday Inn, 5820 S. Franklin St. (US 421 S.), Michigan City (219) 879-0311. For 2P 2 Beds, Ask for their "Great Rate" of $75.06 + Taxes.

(NOTE - The Miss Indiana Pageant is being held this same weekend in Michigan City. Rooms may be scarce, so call quickly.)

There are a number of restaurants at the west edge of LaPorte, on SR 2, and in town. There are also restaurants in the vicinity of the motels at Michigan City.

Blueberry Growers of Indiana Summer Meeting: BGIN will hold its summer meeting at Zylstra's Blueberry Farm, 11881 W. 1200 N. Demotte, Ind. The program will begin at 3:00 p.m. with a tour of the plantings. The potluck dinner will be at 5:00 p.m. Meat and drink is provided, please bring a dish to share. At 6:00 p.m. the business meeting will be held including short presentations by Purdue Extension Specialist Bruce Bordelon, Extension Educator Walt Sell, MBG Horticulturist Dave Trinka, and MBG Grower Relations representative Mark Depta. To reach Zylstra's from the east, take State Rd. 10 through Demotte then 1200 N. west 4 miles. From the south or north, take I-65 to State Rd. 10 (exit 230), go west about 1/2 mile to 1200 W. (County Line), then north 3 miles to 1200 N. then east about 1/2 mile. For more information contact Kevin Goin (219-896-2283) or Bruce Bordelon (317-494-8212).

Indiana Winegrowers Guild Summer Meeting and Grape Workshop: The Indiana Winegrowers Guild will hold their summer meeting in conjunction with a Purdue Grape & Wine Workshop on June 24 at Huber Orchard & Winery in Starlite, Indiana. The Guild Business meeting will begin at 1:30 p.m. The vineyard workshop will begin at 3:00 p.m., followed by the barbecue cookout / potluck dinner at 5:30 p.m. A small fee will be charged to cover the cost of the barbecue dinner. Each family is asked to bring a covered dish to share, and perhaps a bottle or two of wine. The vineyard workshop will focus on canopy management for improved fruitfulness, fruit quality, disease control. Watch for a flyer in the mail. Contact Bruce Bordelon (317-494-1301), Steve Thomas (800-948-8466), or Dave Gahimer (812-877-8227).

Ohio State University Horticulture Field Day: The Piketon Research and Extension Center will host a Field Day on June 18, at 3:00 p.m. Tours will be conducted of research plots and facilities. Some of the highlights will include fertigation studies on peppers, muskmelons, and blueberries. Tours of the small fruit variety trials including blueberries, thornless blackberries, fall raspberries, and seedless table grapes will also be featured. Contact Tom Wall (614-289-2071 or 614-292-4900)

Illinois State Horticultural Society Summer Horticulture Field Day: The University of Illinois South Farm in Champaign-Urbana will be the site of the Summer Field Day on Thursday, June 27, 1996. Field tours and presentations will include tree fruit, small fruit, and vegetable research with special emphasis on techniques to conserve energy. Registration begins at 8:30 a.m. and the program begins at 10:00 a.m. A two hour workshop will be offered on Wednesday, June 26 at 1:00 p.m. for growers interested in learning more about how to use the Internet and World Wide Web. Registration for the Field Day is $15 and pre-registration is urged. The internet workshop is free, but advanced registration is required. Contact Don Naylor, Executive Secretary, I.S.H.S., at 309-828-8929 or e-mail : dhnaylor@heartland.bradley.edu.

Facts for Fancy Fruit Available Electronically: We now have all 1996 issues of Facts for Fancy Fruit available through the Horticulture and Plant & Pest Diagnostic Clinic world-wide web homepages. To locate the newsletters on the web, go to the Horticulture home page at: http://www.hort.purdue.edu/hort/hort.html, select Extension/Outreach, then Extension Bulletins and Newletters. Or you can go directly to the Facts for Fancy Fruit Index at http:///www.hort.purdue.edu/fff/fff.html. To access the newsletters from the Virtual Plant Disease Diagnostic Lab homepage at http://www.aes.purdue.edu/ppdl/p&pdlwww. html, select Newsletters, then Facts for Fancy Fruit.

In addition, a listserv is set up so you can subscribe and unsubscribe to the email version. To subscribe send a message to "almanac@ecn.purdue.edu". Your message should consists of this single one-line message: "subscribe FFF_L <your name>" without the quote marks. To unsubscribe follow the same procedure: "unsubscribe FFF_L <your name>". Do not include anything else in the message. Note that the address to subscribe and unsubscribe is not the same as the return address for FFF_L. If you reply to a newsletter message you receive from FFF_L, all recipients of the list will get the message. If you have any problems contact me at bb@hort.purdue and I'll try to help.

Coming Meetings/Events:

June 6 — Eastern Indiana Fruitgrowers Meeting. Cook's Orchard near Gas City, IN. Contact Harold Brown (317-747-7732)

June 7 — Plant Diagnostic Workshop. Purdue University ARB 116. Contact Gail Ruhl (317-494-4641) or Jim Chatfield Phone: 330-263-3831. FAX: 330-263-3667. E-mail: chatfield.1@osu.edu

June 11 — Blueberry Growers of Indiana Summer Meeting. Zylstra's Blueberry Farm, Demotte, IN. Contact Kevin Goin (219-896-2283).

June 12 — Pre-season strawberry field day. Southwest Michigan Research and Extension Center. 3:00 p.m. to 6:00 p.m. Review of the plasticulture plots on the station, then travel to Hinkelman Farm to see a commercial plasticulture operation. Contact Ron Goldy, Berrien Co. EANR Agent (616-429-2425).

June 18 — Ohio State University Piketon Research and Extension Center Horticulture Field Day. 3:00 p.m. Contact Tom Wall (614-289-2071 or 614-292-4900)

June 19 — Southeast Indiana Fruitgrowers Summer Tour. Apple Junction, Batesville, IN. Contact Karen Witt (317-647-3511) or John Ewart (812-926-1189).

June 20 — Southwest Missouri State Fruit Experiment Station Viticulture Field Day. Mt. Grove, MO. Contact (417-926-4105)

June 21-22 — Indiana Horticultural Society Summer Meeting. Friday June 21, from 3:00 p.m. - 5:00 p.m. Tour of Sunacre Orchard, New Carlisle. Saturday June 22, all day meeting at Garwood Orchards, LaPorte. Additional program details in this issue. Contact Dick Hayden (317-494-1301).

June 23-25 — International Dwarf Fruit Tree Association Summer Tour. Central MI. Contact Dick Hayden (317-494-1301).

June 24 — Indiana Winegrowers Guild Summer Meeting. Huber Orchard & Winery. Starlite, Ind. Contact Bruce Bordelon (317-494-1301), Steve Thomas (800-948-8466) or Dave Gahimer (812-877-8227)

June 27— Illinois Horticultural Society Summer Horticulture Field Day. University of Illinois South Farm, Champaign-Urbana. Contact Don Naylor (309-828-8929) or e-mail dhnaylor@heartland.bradley.edu.

June 27 — Mechanical Raspberry Harvester Demonstration. Dale Stokes Berry Farm near Wilmington, Ohio. Contact Tom Wall (614-289-2071) or Dick Funt (614-292-8327).

July 16-20 — 4th International Symposium on Cool Climate Viticulture & Enology, Rochester Riverside Convention Center, Rochester NY. Contact William Edinger, Dept. of Food Science & Technology, NYS Agricultural Experiment Station, Geneva, New York 14456-0462, Phone: 315-787-2277 Fax: 315-787-2397 E-Mail: TH12@cornell.edu Check us out on the WEB: http://www.nysaes.cornell.edu/fst/asev/cool-climate/

September 15, 1996 — Ohio Valley Harvest Festival. Louisville, KY. Contact Roy Ballard (812-948-5470).

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