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Crop Conditions

FFF 97-09
June 18, 1997

Continued cool, wet, cloudy weather has slowed fruit plant development considerably. We are at least 100-200 growing degree days behind normal for the season. Strawberry harvest is underway in the south and central areas. Fruit quality has been good despite the cloudy weather, but yields appear to be somewhat below normal due to flower bud damage from the cold temperatures in April. Early grape varieties are at bloom in the central areas. Growers should stay on a tight spray schedule to control diseases.

Brown Rot of Stone Fruits: 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 the orchard is surrounded by woods. Such conditions reduce air movement, and dew or rain evaporates more slowly, leading to possible brown rot outbreaks.

Strawberry Fruit Rots: An excellent cultural practice to help avoid strawberry fruit rot problems is to maintain a thick layer of straw mulch between rows. If dry weather persists throughout harvest, fungicide sprays for grey mold should not be required. If extended rain is in the forecast growers should be applying fungicides on a regular protectant schedule as outlined in ID-169. Be sure to check labels for harvest and re-entry restrictions.

Rosy Apple Aphids: Serious infestations of rosy apple aphids have been observed throughout Indiana. Growers should be scouting their apples on a regular basis for this pest. It is important to control this insect early because feeding will cause fruit to abort or be small or poorly shaped. Growers can tolerate many more aphids of different species. Rosy apple aphids can be identified by their rosy color and the white powdery substance on the backs of many individual aphids. Control options include Thiodan and Provado.

European Red Mites: European red mites are active in most areas of the state. Growers who applied Apollo, Savey or Agri-Mek should be safe for awhile, although it would be a good idea to scout to monitor the level of control received. Remember that Agri-Mek should be applied within six weeks of petal fall for best control. If you did not apply one of these preventive miticides, you definitely should be monitoring your apples on a regular basis (at least every 2 weeks). Predator

mites are also active, so be careful to conserve them as much as possible.

New Miticide - A new miticide, Pyramite from BASF, has recently received clearance for use on apples. Pyramite should be applied at a rate of 4.4 to 13.2 ounces per acre in 100-400 gallons of water. No more than two applications may be made per season and you must allow 30 days between applications. The preharvest interval is 25 days. Pyramite is the rescue type miticide that we have been hoping for. If you run into a mite problem, this new material should allow you to clean it up. I would appreciate it if any growers who choose to use Pyramite this year would let me (Rick Foster) know their opinion on how well the product worked for them.

Apple Maggots: The adult apple maggots should be emerging from the soil about now. Growers in areas where apple maggots are a problem should monitor them with cardboard yellow sticky traps or sticky spheres. The flies will usually continue to fly and lay eggs through most of September, so applications aimed at controlling apple maggots should continue as long as flies are active. Apple maggots are controlled with cover spray materials such as Imidan or Guthion.

Brambles-Orange Rust: Orange rust is now appearing on blackberries and black raspberries; it does not affect red and purple raspberries. The fungus grows systemically through the plant into the canes, crown, and roots. An infected plant remains infected throughout its life and will produce spores every year after it is infected. There are no controls for orange rust other than immediately removing the entire plant -roots and all- to prevent spread to healthy plants. Where spore pustules are already fully developed (which they are) and the spores are easily dislodged, bag the plants before removing them from the field. Diseased plants may appear to recover later because they produce symptomless leaves, but they are still infected.

Herbicide Injury to Grapes: Application of volatile herbicides, such as 2,4-D, to field crops can lead to serious herbicide injury to fruit crops due to drift or re-volatilization. Grapes are the most susceptible fruit crop to 2,4-D and related

compounds, and are most susceptible during the early stages of growth when new shoots are developing rapidly, and at bloom. Exposure to volatile herbicides later in the season may cause minor damage, but exposure during the first few weeks of growth can cause serious injury that may last for years, and in some cases vines never fully recover. We have had a few reports of serious 2,4-D injury to grapes around the state. Grape growers should contact their farming neighbors and remind them of the potential hazards of 2,4-D and related herbicides. Though it may be uncomfortable to approach a neighbor and suggest they be careful in their farming practices, it is a lot less uncomfortable to approach them before damage occurs than afterwards. If you have questions about herbicide drift, state laws governing injury to crops, or other pesticide related issues, contact your County Cooperative Extension Office, the Office of the Indiana State Chemist (317-494-1594) or Purdue Pesticides Program (317-494-4566).

Yield Assessment and Adjustment in Grapes:

Grapes require careful control of crop size to balance the amount of fruit to vegetative growth. An optimum balance leads to maximum yields of high quality fruit and adequate vine growth for consistent productivity. Excess fruit production leads to poor fruit quality and reduced vegetative growth, resulting in lower potential production in the future. Though crop control is generally accomplished through balanced pruning, many French hybrid cultivars tend to be overly productive, so balanced pruning alone will not adequately control crop size. These cultivars require careful crop load adjustment to prevent weakening of the vines.

The period from just before bloom to 1-2 weeks post-bloom is a good time to assess the crop potential. The first step is to evaluate potential yield to determine if crop reduction is necessary. Potential yields are determined by the number of vines per acre (based on row and vine spacing), the number of clusters per vine, and the weight of the mature clusters. At standard spacing (8' x 10') there are approximately 545 vines per acre. If each vine produced 20 lbs of fruit, the yield on a per acre basis would be 10,900 lbs, or about 5 1/2 tons. To determine how much fruit a vine will yield, count the number of clusters and estimate potential cluster weight based on cultivar and past perfor-

mance of the vineyard. Multiply cluster size by number of clusters by number of vines to determine yields per acre. Cluster size is largely determined by genetics of the cultivar and is relatively consistent from year to year, however, factors such as cluster thinning, fruit set and environment will also have an effect. Large clusters average about 3/4. Large clustered cultivars include: Seyval, Vidal, Chambourcin, Himrod, and Reliance. Medium clusters average about 1/3 lb. Medium clustered cultivars include: Chelois, Concord, Catawba, and Mars. Small clusters average about 1/4 lb or less. Small clustered cultivars include: Foch, Leon Millot, Baco noir, Ventura, LaCrosse and Vignoles.

Five to seven tons per acre is a reasonable yield range for most wine grape cultivars in moderately vigorous vineyards. Some cultivars and vineyards are capable of producing much higher yields while maintaining good fruit quality. Growers must know the relative vigor of their vines (pruning weights) and past performance to determine the maximum yield potential of a vineyard. It is easy to overcrop grapes if careful attention is not paid to crop load. Set a target yield and adjust the crop to meet that target. Keep good records to determine the appropriate yields for each particular vineyard.

To adjust the crop load first adjust shoot number. Adjust shoot density to approximately 6 shoots per foot of row (48 shoots/vine at 8 ft spacing). An excessive number of shoots can create a shading problem which reduces fruit quality and bud fruitfulness for next year. Remove secondary and non-count shoots before primary shoots. After shoots are thinned to the proper density, estimate the yield by counting the clusters on the remaining shoots. To further reduce the crop cluster thin to one or two clusters per shoot depending on cluster size and number per shoot. Leave the basal cluster as it is usually the largest. Shoot removal should be completed relatively early in the season to reduce vine stress, but cluster thinning can continue up through veraison if necessary.

Indiana Winegrower's Guild Summer Meeting and Vineyard Tour: The IWG will hold its annual summer meeting on June 23 at Chateau Pomije Winery, 25060 Jacob Rd., Guilford, IN (Dearborn County). The business meeting will begin at 1:00 PM EDT (That's 1 hour ahead of the rest of us). The Vineyard tour will begin at 3:00 PM and will

be followed by a family style barbecue and potluck dinner at 5:30. IWG will grill chicken, steaks, and sausage, and provide chips, bread and soft drinks. Attendees are asked to bring a favorite dish to share. To add variety, attendees with last names A to H are asked to bring vegetable dishes; I to O bring pasta, rice, etc.; P to Z bring dessert.

The vineyard tour promised to be very informational. Chateau Pomije is the largest vineyard in the state and has several acres of vinifera varieties in production. Established plantings range from 4-20 years old and feature a full range of varieties. New plantings in 1997 feature grow tubes and drainage tile. This is a 'must see' for anyone thinking about growing grapes or expanding acreage.

Directions: Chateau Pomije is near New Alsace in Dearborn county. From the northwest, exit I-74 at the Sunman Exit (SR 101), go 2 miles south on SR 101 to Sunman. In Sunman turn left (East) on North Dearborn Road (which joins SR 101 right at the railroad crossing in Sunman.) Follow North Dearborn Rd (it makes a jog south then east just outside Sunman) through New Alsace (about 4 mi). Chateau Pomije is on the left just east of New Alsace. If you have problems call the winery at 812-623-3332.

IDFTA Summer Tour: The International Dwarf Fruit Tree Association (IDFTA) is holding a summer tour in Washington state from July 20-22. A brief outline of the tour is:
Sunday, July 20. Welcoming reception and introduction to the north central Washington tree fruit industry.

Monday, July 21. Visit the Quincy/Babcock Ridge areas of the Columbia Basin, with stops including nursery production and tree quality, Valley View Orchards and Morgan orchards. During the afternoon the tour will visit Stemilt Growers packing house and sweet cherry production areas.

Tuesday, July 22. Stops at Bear Mountain Ranch, Marker Orchard, Hubbard Orchard, Wee Hoot Orchard, Grady Auvil Orondo Orchard and Tom Auvil Orchard.

Many of the orchards that will be visited have higher density plantings of 1000-2000 trees per acre mostly on M.9, M.26 and M.7 rootstocks. Some orchards have also planted trees on B.9, Mark and Ottawa 3.

The registration fee of \$100 is due on July 11 to avoid the \$25 late fee. The registration fee includes transportation and meals. Accommodation is extra. Contact Peter Hirst for more details or IDFTA directly at 717-837-1551.

Calcium Nutrition on Apples: Many disorders of apple are associated with low calcium status. The most common of these are bitter pit and Jonathan spot, and cork spot on pears. Problems are generally worse in trees which are very vigorous or those which have a light crop load. In many cases, fruit from young trees can also be more prone to these disorders.

Applying calcium to the ground is not very effective in increasing the calcium levels in the fruit since calcium isn't very mobile within the tree. In order to get calcium into the fruit, it must be sprayed directly onto the fruit surface. On varieties prone to these problems (Jonathan, Rome, Delicious, Braeburn) it is important to include calcium in the early season cover sprays. More calcium will find its way into the fruit in early season sprays compared with later season sprays when the fruit cuticle (the waxy outer layer of the skin) is more developed. Calcium is usually applied by adding 2 lbs/100 gallons of calcium chloride to the spray mix for 8 sprays. Since calcium chloride is corrosive to metal, proper cleaning of equipment after use is important to reduce these effects and increase the life of your equipment.

National Peach Council: The National Peach Council (NPC) is a voluntary organization representing fresh market peach and nectarine growers across the nation. It lobbies the U.S. Congress for the best interests of peach growers, makes crop estimates and compiles peach statistics and related information. The NPC produces a publication, Peach Times, to communicate with their membership. The organization has launched a membership drive to increase its membership to place it in a more sound financial position to become more aggressive in lobbying. Their lobbying efforts were successful in getting USDA to purchase freestone peaches for its feeding program and have contributed to other changes of benefit to agriculture in general.

Their agenda for 1997 includes continuing to lobby USDA to purchase peaches for their feeding programs in addition to lobbying the U.S. Congress to:

- lift the Mexican quarantine of U.S. peaches
- to eliminate/reduce funding for Legal Services Corporation
- support a temporary guest worker program for agriculture
- make improvements in crop insurance for peach and nectarine growers
- allow the continued use of methyl bromide
- to disallow OSHA to apply and enforce ergonomic standards to the agricultural workplace.

Membership in the National Peach Council, including receiving the newsletter Peach Times, is \$20/year. Checks should be made payable to National Peach Council and sent to National Peach Council, 12 Nicklaus Lane, Suite 101, Columbia, SC 29229

Indiana Nut Growers Association to Host Northern Nut Growers Association 88th Annual Meeting: The INGA is hosting the 88th Annual NNGA meeting at Indiana Wesleyan University, Marion, Indiana from August 3 to 6, 1997. This promises to be a very good meeting for anyone interested in growing nuts or rare fruits. The meeting will feature paper presentations, a field trip to Ken Dooley's plantation, barbecue dinner and banquet. For a complete program, or more information about INGA or NNGA contact Charles Spurgeon (317-297-1326).

From the Editor: We have heard that some of you are having trouble receiving either the printed version, email version, or both. We apologize for an inconvenience and are working to sort out the problems. If you have subscribed to the email version but are not receiving it, please send me an email message (bordelon@hort.purdue.edu) and I will correct the problem. If you are having problems receiving the printed and mailed version please let me know. If you have not been receiving the newsletter, or subscribed mid-season, we can either send you the back copies or apply the unused portion of your subscription fee to next year. In any case, let us know if you are having any problems so we can solve them.

Coming Meetings/Events:

June 23 — Indiana Winegrowers Guild Summer meeting and Vineyard Tour. Chateau Pomije Vineyard and Winery, 25060 Jacob Rd. Guilford, IN. Business meeting: 1:00 - 3:00pm, Vineyard Tour: 3:00 - 5:00pm. Cookout following. Contact Bruce Bordelon 765-494-8212.

June 23-26 — Kentucky and Tennessee Cooperative Summer Apple Tour. Contact Jerry Brown 502/365-7541 ext.204 for additional information.

June 26 — Summer Field Day and Cider Makers School, Illinois Horticultural Society. Mills Apple Farm, 11477 Pocahontas Rd, Marine, IL. Field Day begins at 10.00 am (cost \$15/person including lunch) and Cider Makers Certification School 2.00 pm. (cost \$100 per farm). Directions: I-70 to Marine then follow signs from the center of town for 3 1/2 miles NE. Contact: Don Naylor, RR#13, Box 36A, Bloomington, IL 61704. Phone 309-828-8929, email: dhnaylor@heartland.bradley.edu

July 1&2 — Indiana Horticultural Society Summer Meeting. July 1: Applacres, Inc. in Bedford. July 2: Beiersdorfer Orchard in Guilford. See program in FFF 97-08. Contact Dick Hayden (765-463-6587).

July 9-11 — American Society for Enology and Viticulture/Eastern Section Annual Meeting and Riesling Symposium, Corning, NY. Contact: E. Harkness, Dept. Food Science, Smith Hall, Purdue Univ. W. Lafayette, IN 47907-1160, Phone 317-494-6704, FAX 317-494-7953 Email: Harkness@foodsci.purdue.edu.

July 20-22 -- IDFTA summer tour, Washington State. Registration fee of \$100 due by July 11. Contact Peter Hirst (765-494-1323) for more details.

July 23 — Commercial Apple IPM Meeting, Robert Rudd's Orchard, East Bernstadt, KY (Laural county). Contact Jerry Brown 502/365-7541 ext.204 for additional information.

July 24 — Robinson Substation Field Day, Quicksand, KY. Contact Terry Jones 606/666-2438.

July 30 — Viticulture Field Day at Southwest Michigan Research and Extension Center, all day, pre-registration required. Contact Tom Zabadal (616-944-1477 x 206).

August 3-6 — 88th Annual Northern Nut Growers Association meeting. Indiana Wesleyan University, Marion, IN. Contact Charles Spurgeon (317-297-1326).

August 4-6 — Kentucky Vineyard Society Grape Vineyard and Winery Tour. See article above.

August 7 — Early Season Peach Showcase at Southwest Michigan Research and Extension Center. Self-guided tours any time 3:00 - 6:00 PM, group discussion 6:30 PM. Contact Bill Shane (616-944-1477 x 205).

August 21 — Mid Season Peach and Early Season Apple Showcase at Southwest Michigan Research and Extension Center. Self-guided tours any time 3:00 - 6:00 PM, group discussion 6:30 PM. Contact Bill Shane (616-944-1477 x 205).

August 21-22 — Apple Crop Outlook and Marketing Conference, US Apple Association, Chicago. Starts 2.00 pm on August 21 with regional break-out discussions of the USDA's 1997 apple crop forecast. An updated forecast will be presented to attendees starting at 8.00 am on August 22. Registration required. Contact: US Apple Association, 800-781-4443.

September 18 — Late Season Peach and Mid Season Apple Showcase at Southwest Michigan Research and Extension Center. Self-guided tours any time 3:00 - 6:00 PM, group discussion 6:30 PM. Contact Bill Shane (616-944-1477 x 205).

November 5 — Late Season Apple Showcase at Clarksville Horticultural Research Station. Contact Clarksville Station (616-693-2193).

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