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## CROP CONDITIONS

FFF99-06  
 May 19, 1999

Warm weather combined with adequate rainfall has provided an environment ideal for crop growth. The only peaches in the state are in southern areas, and these are generally at about 1/2 – 3/4" diameter. Crops are looking very good. Bloom on apples was heavy in many orchards and with the warm weather fruit are growing quickly. The stage of apple development ranges from petal fall in the north to 1/4-1/2" fruit in southern areas. Grapes are nearing bloom in southern areas and will bloom over the next week or two across the state. Blackberries are in full bloom at West Lafayette. Blueberry bloom is just ending in northern Indiana. Strawberry harvest should begin within a week in southern areas. The season seems to be about a week ahead of 'normal.'

### **Weather Update:**

The month of April, 1999 was the 20th wettest and 17th warmest April in the last 105 years according to Ken Scheeringa, State Climatologist. Overall for the month the northern 1/3 of the state received 6-7 inches of rain (70-80 percent above the normal rainfall) while the central and southern thirds received near normal or slightly above normal rainfall amounts EXCEPT southeastern Indiana which received below normal rainfall for the month. Temperatures were very warm early in the month then quite cool later in the month. Temperature averages state wide for the month of April were 1-2 degrees above normal. When you look at the weather pattern for the 90's in the 105 year records, April has been wet and cool. In the last 105 years April ranks as follows: April 1996 - 3rd wettest, April 1998 - 9th wettest, April 1994 - 14th wettest and April 1999 - 20th wettest. Temperature ranks are: April 1991 - 12th warmest and April 1999 17th warmest. April 1996 & 1997 were very cold. *Source: Purdue Crop and Weather Notes, Friday May 7, 1999*

**Eastern Flower Thrips on Strawberries:** High numbers of Eastern Flower Thrips have been reported on late blooming strawberry varieties in the Bedford area. Growers should scout their plantings closely for this pest. As you may recall, Eastern flower thrips were a serious problem across the Midwest in 1994. Since that time we have not seen serious problems with this pest. However, growers should scout their plantings to avoid the major losses that occurred in 1994. It is the consensus of the fruit entomologists in the

Midwest, after discussions with entomologists from around the country, that 10 thrips per flower is a reasonable threshold. We must admit, however, that this threshold is not based on hard data, but is our best guess. We all agree that it is important that growers not treat during bloom unless they have some evidence that an insecticide spray is needed. Our bee colonies are in serious trouble, so we need to protect them as much as possible. We strongly recommend that growers scout for thrips in their strawberry flowers and confirm that thrips are present before applying insecticides. Thiodan or Lorsban appear to be the best insecticides for thrips control. See ID-169 Indiana Commercial Small Fruit & Grape Spray Guide for complete information regarding this pest.

**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! Growers should start checking NOW for the first symptoms of scab. The preferred course of action **where scab lesions are present** would be to apply a SI fungicide (Nova, Procure, Rubigan) to minimize additional leaf infections **in combination with a FULL rate** of Captan to provide optimum control of fruit scab. Remember that fruit are at their maximum stage of susceptibility from pink until about 3-4 weeks after petal fall. An article in last years Scaffolds newsletter stated: "Captan alone works well against a running scab epidemic in years

when rainfall stays at or below average. If the spring turns unusually wet, then the SI-plus-Captan combination will probably prove superior." The bottom line is that good old Captan is the fungicide of choice for prevention of fruit scab. NOTE: Dodine (Syllit), benomyl (Benlate), and thiophanate-methyl (Topsin-M) are **not recommended** to prevent secondary spread of scab because of the high potential for resistance to these fungicides. – *Pecknold*

**Fire Blight:** Even though streptomycin is registered for use until 30 days before harvest on pears and 50 days on apples we do not recommend the use of streptomycin after petal fall due to the potential for resistance to develop. The one exception for the use of streptomycin after petal fall is following a hail storm 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. –*Pecknold*

**Strawberry Diseases:** Strawberry gray mold and leather rot are most apt to occur under cool, wet, cloudy conditions. Keep an eye on your prevailing weather conditions and act (spray) accordingly. Recent wet conditions may result in extreme disease during the coming month. See ID-169, "1999 Indiana Commercial Small Fruit & Grape Spray Guide", for further information on suggested fungicides. –*Pecknold*

**Chemical thinning:** With the warm weather, fruit set has been heavy in many areas. This is both good news and bad. A heavy set means that more fruit will need to be thinned, but on the other hand it is far more preferable to have too many fruit and have to thin some off rather than not enough fruit set in the first place. The flip side of warm weather leading to heavy set, is that the warm weather has also provided some very good conditions for chemical thinning. In many areas around the state, conditions for chemical thinning have been excellent, as long as you've managed to time applications between the thunderstorms. Remember that one of the key factors determining the effectiveness of a chemical thinner application is the temperature at the time of application and for a few days afterwards. Temperatures below 65°F will result in poor thinning effect, whereas temperatures above 85°F can lead to an unpredictable response and often over-thinning. Temperatures in the 70's are ideal for chemical thinning. To minimize the risk of either under or over-thinning, don't try to get the job done in a single application. Try an early, weak application of thinner and then assess set 7-10 days later and apply another application if needed. Remember, the best guide to thinning on your particular farm is the thinning history on your particular farm, and you are the only person who can provide this. Make good records. These should include information such as the variety, age of tree, thinner applied and rate, stage of crop development and environmental conditions. Records such as these taken each year will allow you to build up a history for your farm. –*Hirst*

**Important Grape Sprays:** Grapes are nearing bloom in the southern part of the state so growers should be aware that the next few fungicide applications are very important for controlling the major fruit pathogens. The pre-bloom, bloom, and post bloom applications are the most important sprays for controlling black rot and powdery mildew. Care should be taken to get thorough coverage of all foliage. Slow the tractor speed, spray every row middle, increase volume, and use full labeled rates. –*Bordelon*

**Cluster Thinning and Shoot Removal in Grapes:** Annual pruning of grapes is necessary to balance the amount of fruit production with the amount of vegetative growth to insure high 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 amount of fruit to retain based on the vine's pruning weight. Most 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 behind us and grape shoots are growing rapidly, growers can go back through the vineyard and adjust the crop load by shortening spurs, removing shoots, or cluster thinning. 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 produce shoots with little or no fruiting potential, depending on cultivar. Typically, all secondary shoots are removed during final pruning adjustment or later at cluster thinning. Shoots should be spaced evenly along the trellis if possible and at a density of about six shoots per foot of row. Cluster thinning 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. –*Bordelon*

**Nitrogen Fertilization on Grapes:** Active root growth is required for uptake of nitrogen and other nutrients from the soil. Root growth in grapes does not begin until a few weeks after bud break. Since nitrogen fertilizers are quickly available and prone to leaching, application prior to bud break is inefficient and may lead to ground water contamination. Mid- to late-May applications are the most efficient. Try to apply nitrogen when rain is expected in the day or two following application. This is especially important with urea, as it volatilizes into the air, especially under warm conditions. Ammonium nitrate is usually preferred for this reason. Avoid applications close to bloom as fruit set may be reduced. Split applications are generally better than a single application. Applying 1/2 to 2/3 of the expected total in mid-May, followed by the remainder after fruit set (about 4 weeks later) allows more efficient nitrogen use and better assessment of the need for fertilizer. Often the second application can be skipped, depending on the crop load and vine vigor. Nitrogen can be banded or broadcast in mature vineyards, but

should be banded on young vines. Banded applications are probably better on deep, well drained soils where root growth does not extend laterally into the row middles. Rates of up to 100 pounds of actual N are commonly used and there seems to be little justification for exceeding that rate. On deep, fertile soils typical of Indiana vineyards, 50 pounds may be adequate. Foliar analysis does not provide a good measure of nitrogen status unless samples are taken at full bloom (rather than 70 days after full bloom as is recommended for other nutrients). The best indicators of nitrogen status are shoot growth, vigor, leaf color, etc. Experience is the best guide. Excessive nitrogen fertilization leads to excess vigor, poor fruit set, poor fruit quality, and inadequate hardening off in fall. By splitting applications growers have more chances to adjust for various conditions and avoid over fertilization. -Bordelon

**Warm Temperatures and Insects:** Temperatures in general have been above normal this spring. Last night in Lafayette the low temperature was equal to the normal high for this time of year. The rate at which insects and their close relatives, mites, develop is largely driven by temperature. If it's cold enough, they don't develop at all. Above a certain temperature, they develop faster when temperatures are higher. How can this affect how you manage your pests? For an insect such as plum curculio that only has one generation per year, higher than normal temperatures means that the adults become active within a narrower window. As a result, you can most likely get good control of plum curculio with your petal fall and first cover sprays. When temperatures are cooler, the activity of the curculio gets more spread out and some may need to be controlled at second cover.

For an insect such as codling moth, higher temperatures mean that they may become a problem sooner than they normally would. This year in Lafayette, I reached biofix for codling moth (first sustained moth flight) on May 3, which is somewhat earlier than normal, although later than last year. I started counting heat units (Base 50 F) on May 4, because the codling moth eggs should begin hatching at 250 heat units after biofix. At the time I am writing this article, May 17, I have accumulated a total of 210 heat units since May 3, including 24 heat units yesterday. With these sorts of temperatures, I would anticipate reaching 250 heat units about May 19 or 20. I normally spray on a 14-day schedule and my petal fall spray went on May 10. By using heat units to time my codling moth sprays, I will improve my timing by about four or five days. This means that when the eggs start to hatch, the small larvae will be exposed to a much higher concentration of insecticide than if I relied on the residue from my petal fall spray, hopefully resulting in better control. The other potential result of sustained above average temperatures is the possibility of a third generation of codling moths late in the season.

European red mites complete develop from egg laying to adulthood in 30 days at an average temperature of 60 F, but that time is cut to 15 days at an average temperature of 70 F. Shortening the generation time not only means that the mites will

complete generations more quickly, but it also means that more generations can be completed during the season. Generally, this means that mite populations will be higher when temperatures are higher. This is not universally true. Last summer, populations in most areas started to build up early in the season, but rapidly crashed to very low levels. Growers should be scouting for European red mites at least every two weeks now. -Foster

**FQPA Update:** Many of you have probably read the article in the May issue of the American Fruit Grower describing the meeting between Steve Johnson of EPA and Northeast fruit growers. Mr. Johnson asked a fruit grower what would happen if a particular insecticide were no longer available and was told that the grower would be out of business. Apparently, the EPA is aware that at this time there are no viable replacements for the organophosphate insecticides most of you rely on. In the same magazine, there is an article indicating that Bayer is concerned that Guthion may be targeted for complete elimination for uses on fruit. No public announcements have been made about the fate of these pesticides. It is doubtful that decisions will be announced before the August, 1999 deadline. If you have an opinion regarding the future availability of these insecticides, you should contact your elected officials and the EPA. -Foster

#### **Organophosphate Preliminary Risk Assessments:**

Source: [http://www.gowanco.com/FQPA\\_current.htm](http://www.gowanco.com/FQPA_current.htm) as reported by Ohio Fruit ICM News, Volume 3, Issue 16, May 13, 1999

EPA is in the process of releasing the preliminary risk assessments for all the organophosphates. You can check the status of any of the organophosphates on EPA's website <<http://www.epa.gov/oppsrrd1/op/>>. EPA is seeking comments on these products. The website can give you the specific timelines for commenting on specific products. It is important that users of these products provide comments to EPA because others will be commenting on why these products should not be allowed to remain on the market. That perspective needs a reality check - are the products important to agriculture or public health? If so, why? What would be the impact of the loss of uses? This information is important for EPA to know and consider as they make decisions. Right now time is of the essence. Many different groups are in the process of generating critical data regarding use of products. We must insist on realism in the risk assessment process. EPA must be basing decisions on real rather than theoretical risk.

Coalitions - The Implementation Working Group (IWG) is a broad-based coalition of affected stakeholders working on issues related to FQPA implementation. IWG has representation from growers, commodity groups, food processors, registrants, non-ag users, public health, chemical manufacturers, and others who use pesticides. IWG has drafted the "Road Map", a science-based, workable framework for implementing the FQPA. The Road Map addresses all of the critical science

policies addressed by the Tolerance Reassessment Advisory Committee (TRAC).

Two New Bills Introduced - On March 25, 1999, Representative La Hood introduced a bill HR 1334 "The FQPA Implementation Act of 1999". This bill requires EPA to do a public impact assessment on proposed actions and also requires or allows the development of additional data before so modifying, revoking, or suspending a tolerance.

On April 28th, a second bill was introduced, "The Regulatory Fairness and Openness Act of 1999" (HR1592). This bill was introduced by Representative Pombo of California. There were 22 cosponsors - 11 Democrats and 11 Republicans. Representative Gary Condit of California was a cosponsor. This bill will provide direction to the EPA on how to fully implement the FQPA in accordance with the original intent of Congress. You can see a copy of this bill, background information, and a current list of co-sponsors, click HR 1592 Bill Summary and Status.

#### The legislation will:

- Lessen the likelihood that effective pesticide products used by growers and other pest control users will be removed from the market unnecessarily,
- Provide for the smooth transition from provision of the prior law to the provisions of FQPA, which require new science policies and more pesticide use and exposure data,
- Provide for a transparent and predictable regulatory process, based on reliable data and sound science, for the review of pesticide food tolerances, and
- Establish a permanent Pesticide Advisory Committee to provide advice to the EPA and USDA on the regulation and registration of pesticides.

For additional information, please contact Cindy Baker at Gowan Company. [cbaker@gowanco.com](mailto:cbaker@gowanco.com).

**Pesticide Container Recycling:** The Office of the Indiana State Chemist is offering pesticide container recycling at several locations across the state August 3 through September 9. Contact the OISC at 765-494-1594 for the date of a location near you.

**IHS Summer Meeting:** The summer meeting of the Indiana Horticultural Society will be held on June 29-30 this year. Dave and Bonnie McAfee, County Line Orchard in Hobart IN, have graciously agreed to host the meeting this year. It will begin with a dinner and round table discussion at 6:00 pm on Tuesday, June 29 to be followed by a farm tour and presentations on Wednesday, June 30. This will be a great opportunity for us to see first hand the energetic and creative marketing that the McAfee's are famous for. More details will follow later, but write the dates on your calendar now.



**Subscribing electronically:** To subscribe (or unsubscribe) to Facts for Fancy Fruit, send a message to [fff@lists.hort.purdue.edu](mailto:fff@lists.hort.purdue.edu) with the subject or body "subscribe" (or "unsubscribe"). You can also use the form at the web site <http://www.hort.purdue.edu/fff/maillinglist.html> to submit your subscription. Electronic access is free of charge.

#### Coming Meetings:

**June 8** - multi-county Twilight Orchard Tour and Program. To be held at the orchard and market of Carl Funk, 4682 West C. R. 350 South, Portland, Indiana. Jay County. Off SR 67 at Como (between Redkey and Portland), go east on C. R. 350 South about 1/2 mile. In Delaware County, a carpool will leave the Quality Farm and Fleet parking lot's northwest corner at 5:15 p.m. Contact Harold Brown at 765-747-7732 or John Knipp at 219-726-4707.

**June 10** - Blueberry Growers of Indiana Summer meeting. Luedtke's Blueberries, 725 East 1400 North, Wheatfield. Contact Melvin VanKley at 219-956-3687.

**June 27** - Indiana Winegrower's Guild Summer meeting, Huber Orchard & Winery, Starlight, IN. Contact Bruce Bordelon at 765-494-8212.

**June 29-30** - Indiana Horticultural Society summer meeting, McAfee Orchard, Hobart, IN. More information to follow but write these dates on your calendar. Contact Peter Hirst at 765-494-1323.

**July 8** - Southeast Indiana Fruit Growers Twilight Orchard Tour. Chateau Pomije Winery, New Alsace. Contact Dan Baugh at 812-926-1189 or Karen Witt at 765-647-3511.

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