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## ***Crop Conditions***

FFF 98-05  
May 4, 1998

***Crop Conditions:*** Apples are at or beyond petal fall in most areas. Peaches are past shuck split. Grapes are progressing slowly with early varieties in southern areas averaging 8-12 inch shoots while the same varieties in central and northern areas have 3-4 inch shoots. Blackberries are beginning to bloom in southern and central areas. Strawberries are in bloom throughout the state. Blueberries are at petal fall in the south and just beginning to bloom in northern areas. Pawpaws are blooming heavily this year. It looks like we are out of frost danger now, so we should have an excellent crop of all fruits this year.



***Weather Update:*** The outlook for the next 6-10 days calls for below normal temperatures and normal precipitation. The 30 day forecast (May) calls for normal temperatures and precipitation. The 90 day forecast for May-July calls also calls for normal temperatures and precipitation. In the month of April areas of Indiana near Seymour as well as parts of Lawrence and Martin Counties received up to 12 inches of rain. The northern 1/3 of the state received 3-5" of rain (30% above normal), the central portion of the state received 5" (50% above normal), and the southern third averaged twice the normal rainfall with amounts of 7.8 - 8.9". Temperatures for this period were closer to normal with the northern 2/3 of the state averaging approximately 1 degree above normal

and the southern 1/3 averaging 1/2 degree below normal. Overall April 1998 was the 27th wettest in the last 104 years and right in the middle of the pack for the last 104 years temperature wise.

Over the last two weeks precipitation in the northern 2/3 of the state was 1-2" which is relatively near normal while the southern 1/3 of the state received approximately 3" of rain which is 1 1/2 times the normal rainfall amounts for the period. Temperatures during this time were colder than normal with the northern 2/3 recording temperatures 1/2 - 2 degrees below normal while the southern 1/3 averaged 4 degrees below normal. Soil temperatures are looking good with overnight lows only dropping to the upper 40s and daytime maximums in the upper 50s and into the 60s. -from the minutes of the Purdue Crop and Weather meeting May 1.



### ***Cider - Get Ready For HACCP:***

The FDA has proposed two regulations relating to fresh fruit juices, including cider in an April 21 press release. The first proposed regulation would require processors to implement Hazard Analysis Critical Control Point system (HACCP). As many of you will know, HACCP is a system which identifies steps in the process where microbiological, physical or chemical hazards are most likely to occur, then put procedures in place to address the potential problem. HACCP programs have recently also been mandated in meat, poultry and seafood processing plants. The new HACCP regulation is aimed at juice manufacturers who distribute packaged products to consumers. Locations where juice is made and consumed on premises, such as a child's lemonade stand, juice bar, or a restaurant would not be affected. Part of this proposal would require manufacturers of unpasteurized juices to adjust their processes to achieve a 100,000-fold reduction (also referred to as a 5-log reduction) in the numbers of harmful microbes in their finished products compared to levels that may be present in untreated juice. At the moment, heat pasteurization is the only method shown to be able to achieve this level of microbial kill. If other processes can be developed which show they can achieve this level of microbial kill, then they would also be acceptable. It makes a lot of sense that the FDA is saying what the end result must be, and not telling us how we have to get there. Once the HACCP regulation is finalized, implementation would allow a year for large manufacturers, two years for small businesses, and three years for very small businesses. Very small businesses are defined as those that "have either total annual sales of less than \$500,000, or that have total annual sales that are greater than \$500,000 but total annual food sales of less than \$50,000, or that employ fewer than an average of 100 full-time equivalent employees and that sold fewer than 100,000 units of the product in the United States". I would expect that all of our cider producers in Indiana would fall into this category, and therefore that the 3 year phase in

period would apply.

The second proposed regulation would require warning labels on all packaged juice products that have not been pasteurized or otherwise treated to eliminate harmful microbes. The label would state: "WARNING: This product has not been pasteurized and, therefore, may contain harmful bacteria which can cause serious illness in children, the elderly, and persons with weakened immune systems." The labels would be required for all packages of untreated juices. A label would not be required for unpackaged juice sold for immediate consumption such as freshly squeezed juice served at a restaurant. Warning labels on untreated juice products would ensure that consumers are adequately informed of the risks from consumption. Warning labels would not be required on juice products that are processed under HACCP programs or that are treated to reduce harmful microbes by 100,000 - fold. "These proposed labels will warn consumers that products that are not pasteurized or otherwise treated to kill harmful microbes should not be fed to people most vulnerable to infection — young children, the elderly, or anyone who has a suppressed immune system from cancer treatment, HIV infection or other significant health problem" according to Secretary of Health and Human Services Donna Shalala.

According to a report from the US Apple Association, fresh juice producers processing less than 40,000 gallons per year would be exempt from both federal proposals. Some states however, may impose their own, more stringent, regulations.

FDA is soliciting comments from the public and industry on its proposals. Comments may be submitted for the next 75 days on the HACCP proposal and the next 30 days on the labeling proposal to FDA's Dockets Management Branch, HFA-305, Food and Drug Administration, 12410 Parklawn Drive, Room 1-23, Rockville, Md. 20857.

For those with internet access, the proposed rules are in the Federal Register at: [http://fr.cos.com/cgi-bin/retrieve?db=fr\\_1998&ac2=19980424a131](http://fr.cos.com/cgi-bin/retrieve?db=fr_1998&ac2=19980424a131) or keep up with the latest

developments through the FDA's website: <http://vm.cfsan.fda.gov/~news/whatsnew.html>

**Note:** The comment period for the warning label proposal is only 30 days from April 22 as the FDA want to get this finalized for this coming season. If you have other warning labels left over from last year, you should be able to use them. - *Hirst*

**Chemical Thinning:** If growers haven't already started with their chemical thinning, now would be a good time to apply your thinners. Remember that Sevin will kill bees so don't apply this material before petal fall. Flowering in the state looks to be excellent this year, so this may be the year to get a little more aggressive with your chemical thinning than you have in the past. Look to apply your thinners at the start of a warming trend when temperatures are forecast to be above about 68°F for about 5 days. The bottom line is that thinners don't work when it's cold. I still have a few copies of the Chemical Thinning Guide written by Phil Schwallier of Michigan State. This is an excellent publication which is very practical and written for the grower. Contact me if you would like a copy. Price is \$10. - *Hirst*



**Young Tree Care:** If you planted trees this spring, don't forget about them as you get busy with other things. The first thing is prune them only very lightly in the early years. The more you prune a young tree, the more you will delay cropping. A little time and attention to trees at this stage pays big dividends. Summer pinching can be a good example of this. Pinching is the removal of young unwanted shoots before they become large branches. Shoots that arise very close to the leader of the tree and look like they will compete with the leader should be removed as soon as they can be identified - this is usually when they are a couple of inches long, so now is a good time to be thinking about this. By removing these unwanted shoots at this stage, we encourage the tree to put its growth into branches

we want to keep, rather than grow undesirable branches and then remove them later.

The other thing to watch on young trees is weed control. Good weed control is essential if our young trees are to get off to a good start. We are not interested in our trees just surviving, but we want them to grow as well as we can make them, and good weed control is an essential part of achieving this. Be careful when applying herbicides that you don't let them come in contact with the trunk, as burn and damage to the still green bark of young trees can result. This is especially true with knock-downs such as paraquat. - *Hirst*



**Apple Scab:** As I look out the window and see the rain coming down, with the temperature at 65°F, my reflections go to apple scab. At these temperatures it will only take 9 hours for a light infection or 18 hours for a heavy infection; and to make you feel even better, the new scab infection tables indicate infection can take place in as little as 6 hours at 65°F. In addition, the period when the number of ascospores reach their peak is generally pink through bloom. What this means for many growers is that the current rainfall will likely be the peak infection period of the year for apple scab. Hopefully all growers are covered with a good protectant or plan to spray at the *first* opportunity with Nova or Rubigan. - *Pecknold*

**Fire Blight:** Bloom + Warm Weather + Rain = Fire blight! An old refrain but one that needs repeating at this time of year. Blossom sprays protect only those flowers that are open at the time of treatment. Thus, the protective value of an application made too early can be lost quickly with the opening of many new flower buds. Paul Steiner points out the rate of flowers opening on a Jonathan apple is approximately 1 percent per 1.5 DD > 40°F so that in just one or two warm days nearly 20% more buds may open. This poses a risk of approximately one unprotected flower per spur. Think about it! - *Pecknold*

**EBDC Fungicides:** We strongly suggest that growers calculate the 77 days to harvest date for each of their major cultivars and make their final application of EBDC fungicide (Dithane M-45, Manzate 200, Penncozeb, Polyram) on that date to take full advantage of the excellent control these fungicides provide for sooty blotch and flyspeck. In the Lafayette area this would make July 20<sup>th</sup> the final spray date assuming harvest occurs October 4<sup>th</sup> (unless I counted my days wrong). This recommendation applies **only to growers who used the low rate** of mancozeb - 3 lb./acre. See product labels for full details. - *Pecknold*



**Peach Scab:** Peach scab was epidemic in many orchards last year...early shuck-split and shuck-fall sprays are critical for peach scab control. The first spray should be applied about one week after petal fall. Do not wait until the shucks have slipped to begin this program. Continue to spray on a 10 day interval until 40 days before harvest. See ID-168, "1998 Indiana Commercial Tree Fruit Spray Guide", for further information. - *Pecknold*

**Sevin as a Chemical Thinner and Predators:** Over the last couple of years I have gotten a lot of questions about whether the use of Sevin as a chemical thinner will kill predator mites and cause European red mites to flare up. As most of you know, Sevin is quite toxic to predator mites. To look into this question, Peter Hirst and I started a study last year to evaluate the effects of various thinners on predator mites. In the first year of the study, we saw no evidence that predator populations were harmed by the relatively low rates of Sevin used to thin the crop. As always, I want to caution against jumping to conclusions based on data from one study. However, I see no reason at this time to stop using Sevin as a thinner if you have been satisfied with the results you have gotten in the past. We will continue to research this topic and report the results to you. - *Foster*

**Spotted Tentiform Leafminer:** Growers should be inspecting their trees for signs of spotted tentiform leafminer feeding. Look for the mines and the sap feeders on the undersides of leaves. The generally accepted threshold is about two mines per leaf. Of the materials available for use, Provado will provide the best control without disrupting predator mite populations. Provado will also give good control of white apple leafhopper and rosy apple aphid. - *Foster*

**Codling Moths:** Codling moths are emerging from overwintering sites and have begun laying eggs in southern Indiana. The strategy for preventing the newly hatched larvae from entering the fruit is to have a lethal dose of insecticide present when the eggs hatch. Codling moths usually are controlled well by routine cover sprays of broad spectrum organophosphate insecticides such as Imidan or Guthion. However, control can often be improved by using pheromone traps and the accumulation of heat units to better time the application of the insecticide. You may hear the terms heat units and degree days used interchangeably, but I will stick to heat units to avoid confusion.

Pheromone traps baited with codling moth lures should have been placed in the orchard at bloom. Traps should be checked daily and catches recorded. When the third moth is caught in a trap, start to monitor the accumulation of heat units. Insect development is driven mostly by temperature, so we want to use heat unit accumulations to predict when the eggs will begin to hatch. There are several ways to measure heat units but the simplest uses daily high and low temperatures.

To monitor the accumulation of heat units, follow these steps daily.

1. Find the high and low temperature (Fahrenheit) for the day.
2. Add the high and low temperatures together and divide by 2 to get the average temperature for the day.
3. Subtract 50 from the average daily temperature to get the day's heat units. Codling moths don't develop below 50 F, so we are only interested in temperatures above their developmental

threshold.

4. Add the day's heat units to the previous total to get the updated accumulated heat units. (On the first day you will be adding to zero.)

When you have accumulated 250 heat units, it is time to spray. The eggs will have developed to the point where they are almost ready to hatch, so if you put on a spray at this time, you will have the maximum amount of residue present to control the young larvae before they enter the fruit.

**Example:** Let's say that you catch the third moth in your pheromone trap on May 5. The next day, you check the newspaper and find that the high temperature on May 5 was 76 degrees and the low was 54. When you add 76 and 54 together you get 130 and when you divide that by 2 you get 65. Subtract 50 and you accumulated 15 heat units on May 5. If the high and low on May 6 were 78 and 60, you would accumulate 19 heat units. Adding the heat units from the two days gives you  $15 + 19 = 34$ . If on May 7, the high was 56 and the low was 42, the average temperature would be 49, so no heat units would be accumulated for that day.

Second generation moths will begin to fly about 30 days after petal fall. Because there are relatively few pests attacking apples at this time, monitoring the second generation may provide the best opportunity for reducing the number of sprays necessary. Be sure to replace your pheromone lure for the second generation. Start over counting your moth catches and your heat units for the second generation. - *Foster*

**European Red Mites** - As we get beyond petal fall and the temperatures start to rise, it is time to begin monitoring your orchards for European red mites. Start monitoring in those blocks that you always seem to have problems with, especially if you did not put Apollo, Savey, or Agri-Mek on those trees. Pick 10 -20 leaves per tree from several trees scattered through the block and inspect the underside of the leaves with a 10X hand lens. I have given out a number of these lenses over the past couple of years, or you can

buy them from a number of places relatively inexpensively. As you are looking for red mites, also notice if you see any small, white, pear-shaped predator mites. At this point in the season, if you are seeing more than about 2.5 red mites per leaf, you should consider applying a miticide. If you see a serious population in your problem blocks, you should also begin looking in the rest of your orchard to see how widespread the problem is. As always, when you make your spray choices, be sure to consider the potential effects on predator mites. - *Foster*



**New Strawberry Publication:** The eagerly anticipated *Strawberry Production Guide for the Northeast, Midwest, and Eastern Canada* is now available from the Northeast Regional Agricultural Engineering Service (NRAES). The guide is a comprehensive, up-to-date resource for both novice and experienced growers in northeastern North America. It contains 178 pages, 115 color photos, 37 illustrations, 47 tables, and adjustable budget spreadsheets on diskette for Macintosh or IBM Compatible computers. The publication is the latest in the highly acclaimed series from NRAES that include the *Bramble Production Guide* (NRAES-35) and *Highbush Blueberry Production Guide* (NRAES-55). The cost is \$45.00 plus postage and handling. Quantity discounts are available. It can be ordered from NRAES, Cooperative Extension, 152 Riley-Robb Hall, Ithaca, NY 14853-5701. Phone: (607)255-7654, Fax (607)254-8770, E-mail [NRAES@cornell.edu](mailto:NRAES@cornell.edu), Web site <http://rcwpsun.cas.psu.edu/NRAES>. If you would like an information flyer on this new publication let me know and I'll send you one. - *Bordelon*

**Herbicide Drift:** Each year herbicide drift causes problems for growers in Indiana. With the corn planting season upon us, we are likely to have several cases of herbicide drift over the next few weeks. The number of reported cases has not changed much over the past few years despite efforts by the Office of the Indiana State Chemist to educate applicators. They plan to increase

enforcement this season to try to reduce the problem. Nevertheless, herbicide drift problems will likely occur. What should you do if you believe that your crops have been injured by herbicide drift? Dr. John Masiunas of University of Illinois has the following suggestions: Start by contacting your neighbor who had the herbicide applied. Find out as much information about the application as possible. Contact the person or company who made the application. Your goals should be confirm that drift occurred, to have the applicator acknowledge responsibility, and to obtain a settlement.

Your local Extension Educator or experts at the University can help confirm that herbicide drift occurred. Samples are usually sent to the Purdue Plant and Pest Diagnostic Clinic for experts to evaluate. The P&PDL will forward the sample to the appropriate experts for diagnosis. Though Extension Specialists can make a diagnosis of herbicide injury, investigators with the Office of the Indiana State Chemist are the ultimate authority on herbicide drift complaints.

If you believe that your neighbor or the applicator is responsible for the drift, but they will not accept responsibility, then your only recourse for recovering money from the crop loss is a civil lawsuit. You need to collect as much evidence as early as possible. You should contact your lawyer. Sometimes a letter or telephone call from a lawyer can make an applicator or their insurance company assume responsibility. You should file a formal complaint of herbicide misapplication with the Office of the Indiana State Chemist. They will send out an investigator to survey the damage and collect samples of your injured crops for chemical analysis. At the same time collect your own crop samples for analysis. There are a number of private laboratories that can analyze plant tissue for herbicides. Expect to pay as much as \$300 per sample depending on the laboratory and the suspected herbicide. Problems can occur with chemical analysis. Some herbicides have no widely available procedure for their analysis. Other times the analysis may not detect the herbicide because concentrations were below detection limits or compounds in the

plant interfere with detection. But if the analysis is positive, it will prove that the herbicide is in your crop.

If you are planning a civil lawsuit, take as many pictures as possible or video tape the damage and have experts look at the plant samples and visit your farm as soon as possible. It is far easier to diagnose recent injury than symptoms that are months old. Make sure the experts you rely on for advice are knowledgeable about herbicide injury to your particular crops and do not have a vested interest in the outcome of the case. Experts from the applicator or the herbicide manufacturer usually will not be helpful to building your case. Lastly, expect this process to drag on for years. -Adapted from an article by John Masiunas in the *Illinois Fruit and Vegetable News* #5.



### ***Early Season Grape Disease***

**Control:** The most important time of the season for disease control in grapes is during the early growth stages. The major diseases of concern during the early season are black rot, Phomopsis cane and leaf spot, downy mildew, and powdery mildew. Grape pathogens overwinter on grapevines and vineyard debris and become active between bud break and two weeks after bloom. Spores produced from these overwintering structures are the 'primary inoculum' for the new season. If these primary spores cause infections on the new growth, secondary spores can be produced throughout the growing season, causing a high level of disease pressure whenever environmental conditions are conducive. When vines are protected from primary infections by a good spray program during the early season, or if weather conditions are unfavorable for infection, the overwintering inoculum will diminish, no secondary spores will be produced, and there will be much less disease pressure during the remainder of the season. The basic rule is: it is much easier to prevent a disease outbreak than to stop one in progress.

There are many factors to consider when deciding on a spray strategy, including weather

conditions, disease history of the vineyard, varietal susceptibility, canopy vigor, and so on. There are two main strategies growers can consider. The first uses the plant growth stage and calendar to determine when and what to spray, with little regard to the weather. The second strategy, called post infection spraying, has come about with the advent of newer fungicides, called Sterol Inhibitors (SIs), that have the ability to 'cure' an infection after an infection period has occurred, but before symptoms develop. Applications are timed based on weather related events. Weather must be monitored closely and sprays applied in response to specific conditions that signal an infection period. Post infection programs generally lead to a reduction in the number of sprays applied.

In the calendar strategy growers should start disease control measures once new growth reaches the 1 to 3 inch stage and continue those measures at 7 to 10 day intervals through two weeks past bloom. The interval should be relatively short during periods of rapid shoot growth and wet weather to keep the new growth protected. The period from budbreak through bloom usually lasts about 4 to 6 weeks, depending on the weather so 3 to 6 sprays may be required during this time. The early season disease control program should include a broad spectrum protectant EBDC fungicide such as mancozeb (Dithane, Penncozeb, etc.) combined one of the sterol inhibitor (SI) fungicides (Nova, Bayleton, Rubigan, Procure). Mancozeb provides good protection against black rot, Phomopsis and downy mildew, but no protection against powdery mildew. SIs provide excellent control of powdery mildew and, in most cases black rot. (Rubigan and Procure are not as effective as the others on black rot.) Mancozeb is a broad spectrum fungicide that will provide protection for at least 7 days. It must be on all susceptible plant parts before infections occur. The SIs are systemic, protectant, and curative fungicides that give good protection against infection for up to 14 days. Since the SIs provide 14 days of protection, they can be used in every other spray if applying on a 7-day schedule.

In a post infection program, sprays are timed according to the occurrence of an infection period. An infection period for powdery mildew occurs when 0.1 inch or more of rainfall occurs and the temperatures are equal to or above 50°F. Infection periods for black rot are determined by the number of hours of leaf wetness at various temperatures. See the 'Spott's Chart' on page 9 of the 1998 Indiana Small Fruit & Grape Spray Guide. In short, approximately nine hours of leaf wetness are required for infection to occur at temperatures between 60°F and 85°F. Once an infection period for either black rot or powdery mildew has occurred, an application of SI fungicide must be made within 72 hours after the start of the infection period. The higher labeled rates of Nova (4-5 oz/A) or Bayleton (at least 4 oz/A) should be used to insure control. The first application provides 14 days of protection. There is no need to respond to another infection period during that time. However, once the 14 days is up, weather monitoring begins again and an application is made when the next infection period occurs. In order to follow a post infection program, growers must have the ability and dedication to accurately measure rainfall and maximum and minimum temperatures daily. One problem with the post-infection program is that it is aimed at powdery mildew and black rot so other diseases, such as Phomopsis cane and leaf spot and downy mildew may become a problem. Phomopsis and downy mildew are not controlled by the SIs, and the 14 day interval used is too long for protectant fungicides.

Lots of information is available to growers on disease control in grapes. ID-169, the 1998 Indiana Small Fruit & Grape Spray Guide has recommendations for the standard calendar approach to grape disease and insect control, as well as comments on post infection programs and specific diseases. The Midwest Small Fruit Pest Management Handbook has a thorough discussion of IPM strategies for grape diseases and insects. Another good source of information is the manual Grape IPM in the Northeast (NYSIPM No. 211) which contains complete descriptions of post infection and traditional approaches to

disease and insect control and information on weather monitoring equipment. Though the manual was specifically developed for the Northeast US, the information is applicable to Indiana. The manual is available through the Finger Lakes Grape Program office for \$30. For information on ordering contact the Finger Lakes Grape Program, 110 Court Street, Penn Yan, NY 14527-1130 Phone: 316-536-5134 Fax: 315-536-5117. ID-169 and the Midwest Small Fruit Pest Management Handbook are available through the Purdue Horticulture Department. - *Bordelon*

***Abound- A New Tool for Grape Growers:***

Abound was registered on grapes in 1997. It is the first of a class new fungicides being developed, the azoxystrobines. These materials are 'reduced risk' materials that are less toxic to man and the environment. Tests in New York show that Abound is excellent against powdery and downy mildews, very good against black rot, and good against Phomopsis. It is an excellent protectant with long residual activity that is relatively resistant to weathering. Postinfection activity is limited (24-48 hrs?), not in the same class as SIs for black rot and powdery, or Ridomil for downy. It is also an excellent anti-sporulant, that is, it suppresses spore production (hence, disease spread) from existing lesions. This does not mean that it 'burns out' infections (it doesn't). It does mean the fungicide helps control disease spread through more than one mechanism.

Abound isn't a wonder drug. If you mess up on the usual necessities (timing, rate, coverage), you'll have the usual problems. The greatest advantage of Abound is that it's not the same class of materials as the SIs. Integrating Abound into a disease control program will significantly reduce the pressure for resistance development against the SIs by the powdery mildew fungus, prolonging their usefulness. In turn, maintaining the viability of the SIs will reduce pressure for the eventual development of resistance to Abound and similar materials being developed.

Convenience is another major advantage of Abound. It controls all major diseases except Botrytis, has a 14 day preharvest restriction (versus

66 days for mancozeb), and has a 12 hour re-entry interval (versus 4 days for Captan). The disadvantages of Abound are that it is expensive (though not considerable more than a SI plus mancozeb application), and it is extremely phytotoxic to some varieties of apples.

Abound is labeled for use at a rate of 11.0 to 15.4 fl. oz./ acre. In repeated trials in New York trials with excellent spray coverage, excellent control was obtained at the 11 fl. oz rate at 14 day intervals. Note that the label allows no more than two sequential applications of Abound; you must then alternate with a different fungide(s) in the following spray before resuming the use of Abound. -Adapted from an article by Wayne Wilcox in the Finger Lakes Vineyard Notes #5. - *Bordelon*

***Free WPS Training Again Offered:*** For the third year running Transition Resources Corporation (TRC) is offering free Worker Protection Standard (WPS) safety training for workers. TRC is a private nonprofit organization serving migrant and seasonal farm workers in Indiana. Last year, TRC trainers delivered pesticide safety education to 770 Indiana farm workers.

This year's program will be funded by Purdue Pesticide Programs, the Office of the Indiana State Chemist, and AmeriCorps. Two bilingual trainers have been hired to train employees who work in greenhouse, nursery, forest and agricultural settings. The advantages of using TRC include: on-site training sessions, flexible scheduling of sessions, training materials provided, verification of training provided, bilingual trainers, no cost to you.

Each on-site session will be conducted by bilingual trainers who provide one hour of training free of charge and at times convenient to employers and their workers. Workers will be issued training verification cards and employers will be provided a list of those attending the training. For additional information or to schedule a training session, contact AmeriCorps members Gus Vasquez or Maria Moore at (317) 547-1924 - *from Indiana Pesticide News, April 1998*



**Questions and Answers:** Growers often have questions about articles that appear in this news letter, or perhaps topics we don't cover. If you have a question or a topic you would like to see discussed, send it one of us by mail or email and we'll be happy to do an article for the next issue of the newsletter.

**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*

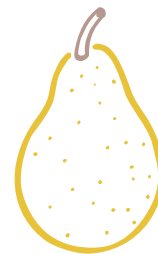
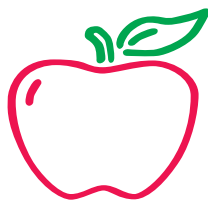
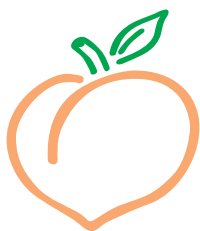
**May 6** — Eastern Indiana Fruitgrowers meeting. Contact Harold Brown, 317-747-7732

**May 7** — Northeast Indiana Fruitgrowers meeting. Contact Rick Kemery, 219-481-6826

**May 18** — LaPorte County fruitgrowers twilight meeting. 6.30 pm. Location to be announced. Contact Walt Sell, phone 219-326-6808 ext. 271

**June 2** — Eastern Indiana Hort. Society Orchard Tour. Memory Lane Farm, 12,200 W. Randolph Co. Rd. 400 S., Parker City. This is almost right on the Delaware/Randolph County Line. 6.00 pm. Contact: Harold Brown, Delaware County Extension Office, 317-747-7732.

**June 15** — Southeast Indiana Fruitgrowers twilight meeting. Location and time to be announced. Contact Karen Witt at 765-647-3511.



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