

FACTS FOR *Fancy Fruit*



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Crop Conditions: Apples are 30-40 mm and beginning to set terminal buds. Grapes are at the bunch closure stage in central and northern areas. Strawberry harvest is essentially over and renovation has begun. Summer bearing red and black raspberry harvest has begun. Blueberry harvest is underway in the south and will start soon in central and northern areas. Overall, berry crops look very good.

Fire Blight: Fire blight seems to have established itself in many orchards throughout the state, meaning it can still be a huge threat in the event of trauma, like hail, due to secondary spread. Secondary spread develops when stormy weather, especially hailstorms, occurs after the primary (blossom) infections. The amount of fire blight that develops after severe weather appears to be directly related to the amount of disease in the orchard, with inoculum levels highest near infected blossoms, cankers, or blighted shoots that were not previously removed. It is difficult to understand the numbers involved in fire blight—but a single droplet of ooze (Figure 1) can contain 10 to 100 BILLION bacteria. That's a lot of possible fire blight, people!

Fire blight infections start primarily at the flowers, although bacteria can enter and establish through wounds caused by hail or high winds associated with summer storms (referred to as shoot blight or trauma blight. Note: Shoot blight is often the result of carryover flower infections from the previous year). (Figure 2). The degree the bacteria spread has a lot to do with type of cultivar infected: Red Delicious, Honeycrisp, McIntosh, and Empire are more resistant to fire blight, compared to cultivars like Crispin(Mutsu), Fuji, Gala, Ginger Gold, Gravenstein, Jonathan, Ida Red, and Lodi that are much more susceptible. These susceptible cultivars serve as reservoirs for the bacteria. At our research plot at Meigs, we have witnessed a severe outbreak of fire blight in the Fuji/Gala/Jonathan/Ruby Jon planting—a ground zero of sorts. This block of super susceptible cultivars acted as a source of inoculum for other cultivars, quickly spreading throughout the block, and then radiating out to those trees adjacent to or downwind from the Fuji/Gala/Jonathan/Ruby Jon planting.



Figure 1. Bacterial ooze contains billions of bacteria. Photo by Peter Hirst



Figure 2. Fire blight outbreak. Photo by Gene Matzat.

Dealing with shoot blight is stressful, because there are no truly effective treatments; adding to the stress and frustration is the fact that new strikes may keep appearing all summer. This leaves the grower with the question: To cut or not to cut? In Michigan, in 2000, during the big fire blight epidemic, some apple growers pruned out fire blight infections and strikes as they appeared. Other growers left the fire blight strikes until winter before pruning. Regardless of when they pruned, both found some fire blight in their orchards the following season. I think this is an important point to make—that there is no silver bullet.

Dave Rosenberger of Cornell has suggested a type of fire blight triage when it comes to making a pruning decision once blight has struck, going from highest to lowest priority. This is a great approach, so I've expanded upon this:

1. Young orchards (less than 8 years old) with few strikes should be pruned out as soon as they appear. Failure to do so increases the likelihood that blight will continue to spread both to adjacent trees and possibly into the rootstocks of affected trees.
2. Young orchards (3-8 years old) with severe strikes. Take out trees, if necessary.
3. Older orchards with a few strikes. Pruning out infections in mature trees may not be practical, but

mature trees with a full crop will set terminal shoot buds earlier than young trees. When trees set terminal buds, blight stops spreading both between trees and within the affected trees. Under dry conditions when only a few strikes occur, pruning to the previous year's growth (the non-infected 2-year-old wood) should limit spread and reduce inoculum. This strategy also works when infections are few or is limited in location (one block or area of the orchard).

4. DNR- Definitely Need to Remove! Okay, a bad triage pun, but this group you prune at ground level-- - trees with so many strikes that most of the tree would need to be removed. In this instance, severe pruning can stimulate new growth that can become re-infected, thereby increasing and not removing inoculum!

Trees should be examined two or three times weekly until either the epidemic slows or tree growth slows (which will slow the epidemic).

One final note: Streptomycin or other antibiotic sprays should NOT be applied during summer because summer applications can result in rapid development streptomycin-resistant strains of the blight pathogen. (Beckerman)

Maryblyt: Bill Turechek and Alan Biggs have completed a software revision of Maryblyt 7 for Windows (we are calling it Maryblyt 7.1). Maryblyt 7.1 incorporates several cosmetic and functional changes, including: capability to run in international units, a spray effectiveness module that allows users to enter a spray efficacy threshold to account for treatments that are less than 100% effective (default value set to 100%), the ability to turn on and off the effect that spraying antibiotic has on EIP and subsequent blossom blight symptoms (BBS) so that users can track symptom development as if they had not sprayed so that BBS can be monitored more effectively and spray effectiveness can be evaluated, and, we've re-established the audible warning to alert users when an infection event has occurred and provided a switch to turn it on and off.

The update can be downloaded from the WVU KTFREC web site: <http://www.caf.wvu.edu/kearneysville/Maryblyt/index.html> (Beckerman)

Japanese Beetles: The first adult Japanese beetles showed up in the Lafayette area last week. They could be out in full force very soon. Most growers know they can be very damaging on grapes (leaves) and blueberries (fruit), brambles (leaves, fruit and flowers) and peaches (fruit). Scout for adult feeding activity and treat as necessary. Recommendations for control can be found in the Midwest Small Fruit and Grape Spray Guide (https://ag.purdue.edu/hla/Hort/Pages/sfg_sprayguide.aspx). (Bordelon)

Facts for Fancy Fruit is a newsletter for commercial and advanced amateur fruit growers. It provides timely information on pest control, production practices, and other topics likely to be of interest to fruit growers. All growers and interested persons are welcome to subscribe.

Subscriptions are \$15 per year. Subscribers will receive 12-15 issues biweekly during the growing season and monthly otherwise.

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Strawberry Renovation: Matted row strawberry plantings must be renovated after harvest to establish new crowns for next year's crop. For best results, renovation should be started immediately after the harvest is completed to promote early runner formation. The earlier a runner gets set, the higher its yield potential. Growers should begin renovation as soon as the last marketable berries are harvested. Delaying renovation is one of the most common mistakes growers make. Renovation should be completed by the end of July in normal years. The following steps describe renovation of commercial strawberry fields.

1. **Weed control:** Post emergent application: Annual broadleaf weeds can be controlled with 2,4-D amine formulations. Check the label as only a few products are labeled for use on strawberries. e.g. Amine 4 [Dimethylamine salt of 2,4-D (3.74 lb./gal.)] at 2 to 3 pts/acre in 25-50 gallons of water applied immediately after final harvest. Be extremely careful to avoid drift when applying 2,4-D. Even though the amine formulation is not highly volatile, it can vaporize under hot, humid conditions and cause damage to sensitive plants a considerable distance from the site of application. Some damage to strawberries is also possible. Read and understand the label completely before applying 2,4-D amine. If grasses are a problem, sethoxydim (Poast 1.5 EC) or clethodim (Select 2 EC) will control annual and some perennial grasses. However, do not tank mix these materials and 2,4-D. See the Midwest Small Fruit and Grape Spray Guide and the product label for rates and especially for precautions.
2. **Mow** the old leaves off just above the crowns 3-5 days after herbicide application. Do not mow so low as to damage the crowns.
3. **Fertilize the planting:** Generally, nitrogen should be applied at 25-60 lbs/acre, depending on vigor. It is more efficient to split nitrogen applications into two or three applications at regular intervals, rather than apply it all at once. A good plan is to apply about half at renovation and half again in late August when flower bud development is occurring. A soil test will help determine phosphorus and potassium needs, but foliar analysis is a more reliable measure of plant nutrition. For foliar analysis, sample the first fully expanded leaves following renovation.
4. **Subsoil:** Where picker traffic has been heavy on wet soils, compaction may be severe. Subsoiling between rows will help break up compacted layers and provide better infiltration of water. Subsoiling may be done later in the sequence if crop residue is a problem or if soils are too wet at this time.
5. **Narrow rows:** Reduce the width of rows to a manageable width based on your row spacing, the aisle width desired, and the earliness of renovation. A desirable final row width to attain at the end of the season is 12-18 inches. Wider rows lead to low productivity and increased disease pressure. This means that rows can be narrowed to as little as 6 inches during renovation. Use a tiller or cultivator to achieve the reduction. Since more berries are produced at row edges than in the middle, narrow rows are superior to wide rows. Narrow rows will give better sunlight penetration, better disease control, and better fruit quality.
6. **Cultivate:** Incorporate the straw and other plant material between rows and throw a small amount of soil over the row by cultivation. Strawberry crowns continue development at the top, and new roots are initiated above old roots on the crown, so 1/2 - 1 inch of soil on the crowns will facilitate rooting. This also helps cover straw in the row and provides a good rooting medium for the new runner plants.
7. **Weed control:** Pre-emergence weed control should begin immediately. There are more options today than in past years. Chateau, Dacthal, Devrinol, Prowl H₂O, and Sinbar are labeled materials. See the Midwest Small Fruit and Grape Spray Guide and check the product labels carefully. Devrinol must be incorporated by irrigation, rainfall, or cultivation to be effective. Rate and timing of Sinbar or Prowl H₂O application is critical. If regrowth has started at all, significant damage may result. Some varieties are more sensitive to Sinbar than others.
8. **Irrigate:** Water is needed for both activation of herbicides and for plant growth. Don't let the plants go into stress. Ideally the planting should receive 1 to 1-1/2 inches of water per week from either rain or irrigation.
9. **Cultivate** to sweep runners into the row until plant stand is sufficient. Thereafter, or in any case after early September, any runner plant not yet rooted is not likely to produce fruit next year and can be removed. Coulter wheels and/or cultivators will help remove these excess plants in the aisles.
10. **Adequate moisture and fertility** during August and September will increase fruit bud formation and improve fruit yield for the coming year. Continue irrigation through this time period and fertilize if necessary. An additional 20-30 pounds of N per acre is suggested, depending on the vigor. (Bordelon)

Summer Tipping Brambles: Tipping of primocanes is an important management practice for summer bearing blackberries and black raspberries. Tipping the new primocanes causes lateral branching and most of the fruit production next year will be from buds on

those lateral branches rather than buds off the main cane. Tipping also helps increase the diameter and strengthen the main cane. Height to tip is relative to vigor. Vigorous thornless blackberries can be tipped at 40-48 inches for best results. Black raspberries should be tipped no higher than 30-36 inches to help develop a stout cane capable of supporting itself. Ideally primocanes should be tipped as they reach the appropriate height with minimal tissue removed. Just pinch or break the tip off. However, if some canes have escaped notice and are taller than desired, it's still preferable to tip at the appropriate height, even if that means removing a foot or more of cane. Tipping red raspberries and all primocane fruiting types is not recommended. (Bordelon)

Spotted Wing Drosophila – Two weeks ago we had an unconfirmed report of maggot-infested raspberries in southern Indiana. Last week, Anderson Orchard near Mooresville had a positive catch of spotted wing drosophila adults in traps. If you are growing small fruit, it would be a good idea to have SWD traps in place now. Currently in the absence of any better information, we are recommending that you start your spray program if you have fruit that is near ripening and you are catching any SWD in your traps. See previous FFF articles for details about construction of the traps and for spray recommendations for various small fruits. One important note is that for the second year, strawberries have escaped damage from SWD. We don't know for sure that this will always be the case, but for now it looks like damage to strawberries may not be an issue. (Foster)

Stink Bugs – Again this year, we are on the lookout for the brown marmorated stink bugs. Last year, for the first time, we saw confirmed crop damage resulting from feeding by this insect, although not in fruit. Based on previously observed very serious damage to fruit crops on the east coast, this is a pest to be very concerned about. So far this year, we have had a few new reports of counties

with BMSB infestations, but no report of crop damage. However, my observation has been that populations of native stink bugs seem to be higher than I have seen previously. Stink bugs can damage all sorts of fruit crops with their sucking mouthparts. When they insert their mouthparts to feed on fruit, it kills the neighboring tissue and causes the fruit to be misshapen, or catfaced. Products recommended for stink bugs include Avaunt, Carzol, Seven, and Endosulfan. (Foster)

European Red Mites – So far I have received no reports of serious problems with European red mites this year. However, right now is prime time for ERM to become a problem. Populations usually peak in late July. Growers should be scouting their apples on a regular basis, focusing on those areas where ERM usually shows up first, such as in Red Delicious or along a dusty road. If you find mites there, you should check the remainder of the orchard. Right now the spray threshold is 7.5 mites per leaf, which will increase to 10 mites per leaf in the second half of July. (Foster)

USDA Reminds Producers of 2014 Acreage Reporting Requirement: U.S. Department of Agriculture (USDA) Indiana Farm Service Agency (FSA) Executive Director Julia A. Wickard reminds agricultural producers that July 15, 2014, is the deadline to file an acreage report for spring seeded crops. Planted acres must be reported to FSA by July 15, 2014. The Agricultural Act of 2014 (2014 Farm Bill) requires producers on a farm to submit annual acreage reports on all cropland.

“Although some federal farm program enrollments have not yet started, timely acreage reports for all crops and land uses, including prevented and failed acreage that producers submit to their local FSA office, are important to ensure program eligibility,” said Wickard.

Acreage reports to FSA are considered timely filed when completed by the applicable final crop reporting deadline, which may vary from

state to state. Perennial forage crops intended for grazing or haying were required to be reported last fall, whereas perennial forage crops with an intended use of cover only, green manure, left standing, or seed, must be reported by July 15.

Although July 15 is the most common deadline to report acreage for spring seeded crops, this date may be different in locations with climates that are warmer or cooler than average. Producers should contact their county FSA office if they are uncertain about acreage reporting deadlines. Wickard said that failed acreage must be reported before the disposition of the crop and that prevented acreage must be reported within 15 calendar days after the final planting date for the applicable crop.

For questions on this or any FSA program, including specific crop reporting deadlines and planting dates, producers should contact their county FSA office or seek information online at www.fsa.usda.gov

Today's announcement was made possible through the 2014 Farm Bill, which builds on historic economic gains in rural America over the past five years, while achieving meaningful reform and billions of dollars in savings for the taxpayer. Since enactment, USDA has made significant progress to implement each provision of this critical legislation, including providing disaster relief to farmers and ranchers; strengthening risk management tools; expanding access to rural credit; funding critical research; establishing innovative public-private conservation partnerships; developing new markets for rural-made products; and investing in infrastructure, housing and community facilities to help improve quality of life in rural America. For more information, visit www.usda.gov/farmbill (USDA)

Indiana Pesticide Clean Sweep Program:

Indiana Pesticide Clean Sweep Project designed to collect and dispose of suspended, canceled, banned, unusable, opened, unopened or just unwanted pesticides (weed killers, insecticides, rodenticides, fungicides, miticides, etc.) is being sponsored by the Office of Indiana State Chemist (OISC). This disposal service is free of charge up to 250 pounds per participant. Over 250 pounds there will be a \$2.00 per pound charge. This is a great opportunity for you to legally dispose of unwanted products at little or no cost.

WHO: All public and private schools, golf courses, nurseries, farmers, ag dealers, cities, towns, municipalities and county units of government or others receiving this notice are eligible to participate.

WHEN: 9:00 a.m. to 3:00 p.m. Local Time

WHERE: August 12, 2014: Clay County Fairgrounds, Brazil, IN

August 13, 2014: Dubois County Fairgrounds, Huntingburg, IN

August 19, 2014: Lake County Fairgrounds, Crown Point, IN

August 20, 2014: Tippecanoe County Fairgrounds, Lafayette, IN

August 21, 2014: Hendricks County Fairgrounds, Danville, IN

HOW: Complete the Pesticide Clean Sweep Planning Form to the best of your ability. Find the form at: <http://www.oisc.purdue.edu/pesticide/index.html> Mail, fax or e-mail the completed form to Kevin Neal at 765-494-4331 or nealk@purdue.edu no later than Monday, July 28, 2014. Then bring your labeled, leak free and safe to transport containers to the collection site. DO NOT mix materials. In case of an emergency, you should bring with you a list of products you are carrying and a contact phone number.

*NOTE: OISC reserves the right to cancel this Pesticide Clean Sweep Project if there is not adequate demand. Participants submitting the planning form by July 28, 2014 will be contacted immediately if cancellation is necessary.

Backyard Bug-Zappers: Don't Expect

Much Help: Insect electrocuters provide some impressive crackles, flashes, and sizzles on summer nights but apparently little pest control around the home landscape. Homeowners expect to rid the area of mosquitos, and perhaps a variety of other pests, by using these devices. Research has generally shown little positive effect. A study from Delaware investigated the "catch" from electrocuters placed around some homes near potential mosquito breeding sites during June and July. Of the 13,000+ insects eliminated by the electric grids, only 0.2% (31 specimens) were biting flies. On the other hand, more than 1,800 beneficials- including predators and parasites- were dispatched (about 13% of the catch). Not much return on the investment -- actually a loss, considering that more than 45% were aquatic insects that were at least, harmless and at best, important fish food. Several factors contribute to this performance. For example, UV lamps that give off a lot of visible light are less attractive to mosquitoes and other night-biting flies than those that give off only UV light. That is, the more visible the light to us, the poorer it is in luring biting flies. Also, many species of mosquitoes are not attracted by black lights at all. For species that do respond to UV, only a portion will actually make it to the charged grids. (Lee Townsend, Kentucky Fruit Facts)

Upcoming meetings:

Aug. 21-24, 2104. Apple Crop Outlook and Marketing Conference, US Apple Association. The Ritz Carlton, Chicago. Register at www.usapple.org

Jan. 21-23, 2015. Indiana Horticultural Congress, Wyndham Hotel, Indianapolis. www.inhortcongress.org

Current Bud Stages in West Lafayette, IN

Apple



Apple at 30-40 mm

Grape



bunch close

Black raspberries



harvest



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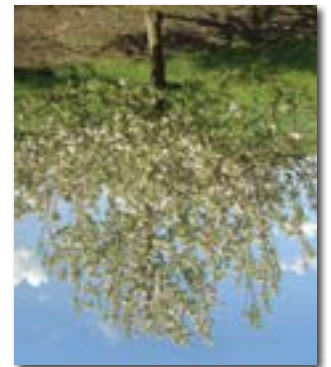
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