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FACTS FOR Fancy Fruit
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In This Issue

Crop Conditions

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

Most crops in the Lafayette area are still dormant. Strawberries and brambles are just starting to grow. It looks like we lost all our peach flower buds. Grapes also were damaged badly by the Jan 30-31 low temperatures in our area. We have several varieties with less than 50% primary bud survival so we are pruning accordingly.

Growing Fruit in the Northern Garden

(Janna L Beckerman, jbeckerm@purdue.edu, (765) 494-4628)

The University of Minnesota Department of Horticultural Science takes a fresh, encouraging new look at growing fruit in the home garden. This guide will help gardeners decide which fruits are right for their gardens and their lifestyles, taking readers through every step from planning, choosing cultivars, and planting, to harvesting and pruning. Readers will find information on the major pests to look out for, and simple tips on how to deal with them; or better yet, prevent them.

Growing Fruit in the Northern Garden

Generic Names: The Errors are Legion

(Janna L Beckerman, jbeckerm@purdue.edu, (765) 494-4628)

Just like other commodities, “generic” versions are increasingly available for many common fungicides as patents expire on various proprietary active ingredients. By law, generic products must contain the same amount of active ingredient as the original fungicides, but the formulation may be different. As a result, confusion continues as formulation of a fungicide is proprietary information that may not be included in a generic product.

For maximum effectiveness, formulation describes the processes performed to the active ingredient affects to improve efficacy. This process can include reduction to appropriate particle size, the addition of ‘inert ingredients’ that alter the characteristics of the fungicide, and improves delivery and persistence of the pesticide. Growers are familiar with this in the myriad of glyphosate (i.e., Round-Up$^{(R)}$) products

available, and their differing performance on the diversity of weeds.

Generic products tend to be more economical than brand name products, but most have not have been separately evaluated for disease control efficacy. And although the active ingredient is the same, the products are not. Generics are assumed to be similar in efficacy to their brand name counterparts. However, few studies exist to evaluate these products, or evaluate them in comparison to the parent product. For this reason, carefully read the label! Do not assume generics or their labels are the same as the brand name product even though they all contain the same active ingredient at the same dose. Work on the Midwest Fruit Pest Spray Guide this fall brought about a number of surprises included differences in the crop registrations (e.g., Tebuconazole products such as Orbit, Elite, Tebustar and Tebuzol all contain 45% tebuconazole, but Orbit and Elite are labeled for berries and stone fruit; Tebuzol45F (tebuconazole) is labeled for stone fruit, **PLUS** apples and pears but **NOT** berries; TebuStar45WSP (tebuconazole) is labeled for stone fruit and grapes). Read the fungicide label just as carefully for generics before use as you would for any new product to prevent any conflicts from arising.

Generic Names: The Errors are Legion

Brand name	Active ingredient	Generic versions
Aliette	fosetyl-Al	Legion
Aliette	phosphites (same breakdown product as fosetyl-Al)	ProPhyt, Phostrol, Agri-Fos, Rampart, Fosphite, Fungi-Phite,
Elite	tebuconazole	Tebuzol45F, TebuStar45WSP
Rally/Nova	myclobutanil	AgriStar Sonoma
Orbit	propiconazole	Bumper, PropiMax, Propiconazole E-AG, AmTide Propiconazole, Topaz
Ridomil	mefenoxaml	MetaStar®, Metalaxyl
Bravo	chlorothalonil	Chlorothalonil, Echo, Equus,
Rovral	iprodione	Iprodione
Topsin M	thiophanate methyl	Cercobin, Thiophanate Methyl, T-Methyl
Agri-Mycin	streptomycin	Agromycin 17, Ag Streptomycin, FireWall
MycoShield	tetracycline	Fertilome, FlameOut, FireLine

For more information on individual products, check out their labels or material safety data sheets at www.cdms.net.

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Indiana Climate and Weather Report

(Beth Hall, hall556@purdue.edu)

As March wraps up, both temperature and precipitation appear to be near normal for the month. This is hard to imagine given the variability experienced throughout the month! The days either felt colder or warmer than normal, but rarely normal. There were some precipitation events that caused flooding – particularly in southern Indiana, but overall the dry days seemed to offset the wet days. There have been very few growing degree-days accumulated across the state in March, so using April 1 as a start date for accumulating GDDs (base 50°F) should be reasonable. Accumulated chilling hours (for temperatures between 35°F and 45°F) are slightly above normal across most of the state (see Figure 1; https://etweather.tamu.edu/chill/), which will hopefully be a good sign for perennial fruit yields

and quality in 2019. The region is still drought free and is anticipated to remain so due to more precipitation in the 1-2 week forecasts.

Temperatures are expected to stay cooler than normal for the next 6-10 days with some confidence of above normal precipitation over the next 8-14 days. The risk for spring freezes still exists across the state. Figure 2 shows the 75th percentile date of the last 32°F freeze across the state, indicating 75% of the years from 1981-2010 had a 32°F freeze event on or before the date indicated (*i.e.*, 25% of the years had a 32°F freeze event *after* the date shown).

Dr. Beth Hall is the new Indiana State Climatologist. She can be reached at bethhall@purdue.edu or (765) 494-8060.

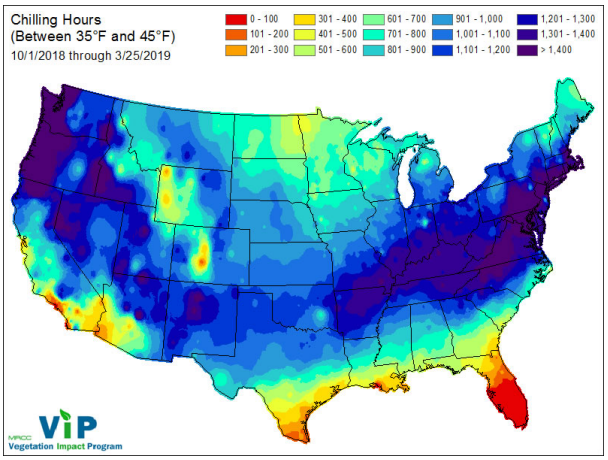

Figure 1a. Accumulated chilling hours since 1 October 2018 for temperatures between 35°F and 45°F. Source: Midwestern Regional Climate Center

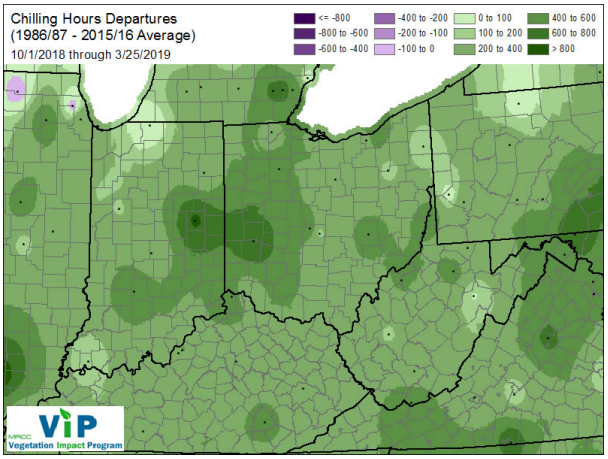

Figure 1b. Accumulated chilling hour departure from the 1986/1987 dormant season through the 2015/2016 dormant season average. Source: Midwestern Regional Climate Center

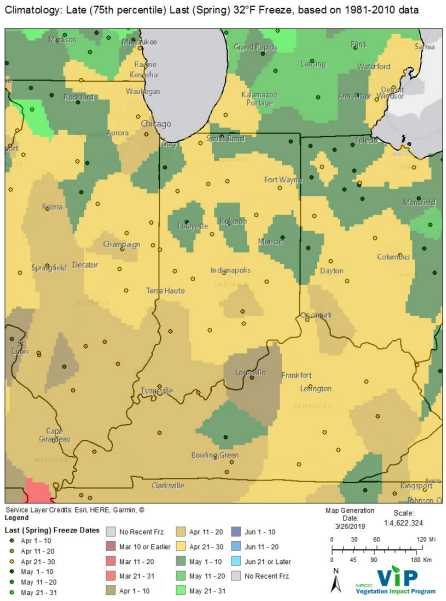

Figure 2. Late spring dates representing the 75th percentile of the last spring dates for years 1981-2010. In other words, when ranking the date of the last 32°F freeze for each of the 30 years, 25% of the time, there was a 32°F freeze event after the date represented in the map shown. Source: Midwestern Regional Climate Center

Spring Pruning

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

Growers across the state are finishing up pruning. Most apple and blueberry growers are done, and bramble and grape growers are finishing up. Even though this is a late spring compared to some recent years, there are still chances of spring frost damage. Grape growers can use long or double pruning to help delay bud break and avoid frost damage. Peach growers also delay pruning as much as possible to help delay bloom. But for other fruit crops, little can be done to passively avoid frost. Hopefully we will have a good year and no spring frost damage will occur.

Grape growers with a high incidence of trunk

disease may want to consider applications of Topsin M after pruning is complete, or anytime that pruning is done in wet weather. The jury is still out of the efficacy of these applications, but they can't hurt. We are seeing increased incidences of trunk diseases in the Midwest and plan to conduct a survey this summer to determine the extent of the problem. If you have vines you would like sampled, please contact Bruce Bordelon for assistance.

Grapes being pruned

Long spurs for double pruning

Unpruned peach tree

Pruning in apples

Anthracnose disease in brambles

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

The most important spray of the season for control of anthracnose on brambles is the delayed dormant spray of lime sulfur, Sulforix or copper hydroxide. If you have a problem with anthracnose, this is one spray that you can't afford to miss. One of these materials should be applied when new leaves are exposed 1/4 to 3/4 inches; if you are late in your application and don't spray until a few leaves have unfolded, cut the rate to reduce the risk of leaf burn. See the 2019-2020 Midwest Fruit Pest Management Guide and the product labels for complete information on rates and timing

ID-465 Midwest Fruit Pest Spray Management Guide


Blackberry shoots about 1/4 inch long

through provides a clean surface for fruit. Straw should be removed from beds before the plants grow enough to cause yellowing of foliage. Allowing the leaves to become etiolated (yellowed with long petioles) due to late straw removal can reduce yields by as much as 25%. However, uncovering the plants early may promote early growth and increase chances of frost or freeze injury. The difference between early removal and late removal may increased first harvest by about three days, so there is no real advantage. After the straw is removed the frost protection irrigation equipment should be set up and tested and made ready for frost during bloom.

Straw Removal in Strawberries

(Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

The proper time to remove straw from matted row strawberries is when the bare-soil temperature at 4 inches averages about 40-43˚F. This usually coincides with mid to late March in central Indiana. This year is later than average. Plants begin pushing new leaves as the soil temperatures rise steadily so the straw should be raked off the tops of the beds and into the row middles before leaves emerge. Leaving some straw on top of the beds for plants to grow up


New leaves emerging in strawberries

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