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FACTS FOR Fancy Fruit
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Crop Conditions

(Peter M Hirst, hirst@purdue.edu, (765) 494-1323) & (Bruce Bordelon, bordelon@purdue.edu, (765) 494-8212)

In Lafayette, apples are 10 – 15 mm diameter and the window for chemical thinning is closing quickly. In more northern areas apples are just past [petal fall and chemical thinning time is in full-swing. In southern areas of the state, apples are approaching 30 mm diameter.

Apple – fruit 10-15 mm depending on cultivar

Sweet cherry – fruit about 10 mm

Strawberries- at fruit set

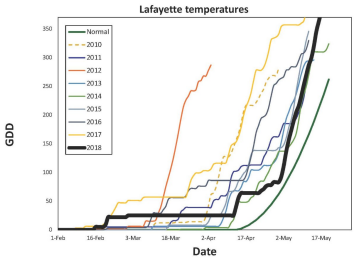
Grapes- pre bloom

Spring Temperatures

(Peter M Hirst, hirst@purdue.edu, (765) 494-1323)

This is the last installment of our series on spring temperatures for 2018. What a strange year it has been. We started out very cool until mid-April and it didn't really warm up until early May (Fig.

1). I think every day since then has been over 80F. Although the early spring was much cooler than the last few years, right now we've caught up and tracking similar to where we have been for most of this decade. My guess is that harvest times will be about normal this year.



Lafayette Temperatures

Eastern Flower Thrips

(Ricky E Foster, fosterre@purdue.edu)

Eastern flower thrips, an occasional pest of strawberries, have been reported in large numbers in central Indiana. They are attracted to and feed on flowers, with the result being leathery fruit or fruit that fail to ripen. This problem occurs every year at some level but has not been serious since 1994. Eastern flower thrips do not overwinter in Indiana and must migrate northward each year on winds from the South. Eastern flower thrips are very tiny, 1/16 inch long, so they are barely visible with the naked eye. There are a couple of ways to sample for them. My favorite is to pick a flower and swish it around in a vial of alcohol. You can also shake the flowers over a white piece of paper or plate. If you find 2-10 thrips per flower, you should probably treat. Brigade, Danitol, Entrust and Radiant should provide excellent control. All of these products are moderately to highly toxic to pollinators that will be visiting your flowers, so you should treat as early in the bloom period as possible and apply the insecticides in the evening after pollinators have left the field.

Important Pre-bloom Sprays for Grapes

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

We've had some weird weather this year. April was cool and crop growth was delayed. But once May arrived, warm conditions lead to rapid development of fruit crops. We are now about "normal" in development. That means that grapes in the southern half of the state are nearing the pre-bloom stage, which is a key time to control important diseases such as black rot, downy mildew, and powdery mildew. The three or four sprays made from immediate pre-bloom to 4 weeks post bloom are critical for controlling fruit infections. Growers should pay extra attention to coverage, especially in the fruit zone, and use the best fungicides available. The Midwest Fruit Pest Management Guide lists recommended products. A protectant (FRAC M) such as Mancozeb, Captan or Ziram, plus one of the sterol inhibitors (FRAC 3) such as Mettle, Procure, Rally or Tebuzol is the recommended fungicide treatment. Rotating with a different mode of action, such the strobilurins (FRAC 11) Abound, Sovran, or Flint is a good option as well. The combination products such as Pristine, Inspire Super, Revus Top, Quadris Top and Adamant are also effective for broad-spectrum disease control. Be sure to read the warnings about phytotoxicity with fungicides containing difenoconazole. These next few sprays are critical to producing sound, clean fruit. Pay close attention to your sprayer output to be sure you're getting thorough coverage. This is the most important time of the year for fruit disease control. Once we get 4 to 5 weeks past fruit set,

disease pressure drops significantly.

Grape cluster at immediate pre-bloom stage

Grape cluster at early bloom

Chemical Thinning

(Peter M Hirst, hirst@purdue.edu, (765) 494-1323)

For chemical thinning of apples, the best time for post-bloom thinning is around 10-12 mm fruit diameter. With warm temperatures fruit can grow up to 1mm per day, so in northern areas we are right in the middle of chemical thinning time. Often at thinning time we talk about temperatures needing to be warm enough for thinners to work. This year we have the opposite problem – how warm is too warm?

Let's think for a moment how chemical thinners work. Natural fruit drop is due to a shortfall in carbohydrates in the tree – leaf area is limited which limits photosynthesis (the supply of carbohydrates) and developing fruitlets are all demanding carbohydrates, therefore there's an imbalance of supply vs demand. Post-bloom thinners work by reducing the supply (NAA, Sevin) or increasing the demand (6-BA) for carbohydrates. With higher temperatures, respiration is increased so there is already a higher demand for carbohydrates. Therefore, it seems to me that 6-BA MIGHT be a slightly safer way to go with higher temperatures. Dr. Jim Schupp at Penn. State University knows more about thinning than anyone I know. Jim says "There is no "safe" thinner at high temperatures". Tread carefully.

In more southern areas where fruit size is larger, the window for chemical thinning is pretty much closed. Once fruit diameter is above about 15 mm, really the only materials likely to be effective are Sevin and ethephon. When applied in very warm conditions, ethephon can easily overthin and could be a good option in situations where you want to drop all fruit off the tree. Such a situation might include very young trees that you don't want to carry any fruit on yet.

Summer Field Tour – fruits and vegetables

(Peter M Hirst, hirst@purdue.edu, (765) 494-1323)

Garwood Orchards

Following the success of last year's Summer Field Tour at Tuttle Orchards, this year we are again planning a combined summer field tour with the Indiana Horticultural Society, the Indiana Vegetable Growers' Association and the Indiana Farm Market Association. We will be hosted by Garwood Orchards in La Porte, IN. While we encourage membership in these industry organizations, all those who are interested are

welcome and invited to attend, regardless of membership status.

Garwood Orchards is one of the largest and best managed orchards in the state. It may seem puzzling that they can manage such a large operation and manage it so well. That's why we're visiting – to not only be inspired but learn a few of their tricks and see how they do it. They have aggressively planted new cultivars and crops and have been on the forefront of adopting new technologies. They are major producers of fruits and vegetables and in recent years have greatly expanded their farm market.

It may seem like quite a drive to travel to the meeting this year, especially for those in southern parts of the state, but I'm confident you'll pick up some good ideas to implement at your farm making the trip worthwhile.

Farm history

The main orchard land has been in the Garwood family since 1831, and the Garwoods have been fruit farmers since the 1920's. The orchards are owned by Tom, Mike and Brian Garwood who represent the 6th generation. Carl is pretty much "retired" from major decision-making, but like many farmers have not quite fully understood the meaning of "retirement". He still works everyday doing many of the things nobody else wants to do. Tom's parents James and Phyllis passed away earlier this decade and were instrumental along with Carl in growing the business from the mid 50s to the mid 90s. Despite the long history of Garwood Orchards, this is still very much a family business. The Garwoods have been very active in the Indiana Hort. Society and both Jim and Brian Garwood are past presidents and Tom and Mike have served on the IHS Executive Board or on committees. They have also been strongly involved in the Indiana Vegetable Growers' Association.

The Garwoods currently farm over 450 acres which includes approximately 140 acres of apples. Peaches, raspberries, strawberries, plums, blueberries, cherries, and blackberries round out the rest of the fruit acreage. They now grow more vegetables than fruit which consist of bell peppers, several kinds of hot peppers, cucumbers, pickles, sweet corn, green beans, eggplant, tomatillo, and some pumpkins for u-pick.

The Garwoods have been actively replanting their orchards with newer varieties, rootstocks and growing systems. Of the apples, about 90% of trees are less than 15 years old. All recent plantings have been on the tall spindle system with trees planted 3-4 feet apart in the rows giving tree densities around 1200 trees per acre. In terms of apple varieties, Gala, Honeycrisp, Evercrisp, Fuji, Pink Lady and Pixy Crunch make up most of the plantings made in the last 5 years.

The peach variety picture consists of about 50% of the newer Paul Friday selections (Brian says they have tried most of them). Then perhaps 25% are Redhaven and other standards, and 25% are the 'Stellar' varieties. There is a small planting of White Lady and some of the newer varieties from Adam's County Nursery. They have established "research" or "evaluation" blocks in which they have made small plantings of a number of new tree fruits or new varieties to test including 9 from the MAIA program.

On the small fruit side, at meeting time, the Garwoods should be just wrapping up harvest on their strawberries. They are using a 1 mil row cover for extending the season and for frost control. They also have portable irrigation. Plantings of red and black raspberries and thornless blackberries on ridges look very good. Increasingly, they are planting on plastic, especially for strawberries, peppers, eggplants, cucumbers and pumpkins.

Fruit and vegetables are sold both retail and wholesale. Retail and especially UPICK and school tours have become much more prominent at Garwoods, and the market at the farm has been expanded greatly over recent years and includes an enlarged bakery. A wide range of produce is sold in the market, as well as fresh donuts. A high percentage of their fruits and vegetables are still sold through wholesale outlets to large chain stores and through brokers. They have several cold storages, including one capable of being CA. The use of 'Smart Fresh' to extend storage life has been very helpful. The fruit packing line includes a waxer for wholesale sales.

They are now also concentrating on growing vegetables for wholesale including sweet corn, green beans, eggplant, pickles, cucumbers, tomatillos and peppers. They have also installed a new vegetable packing line. The Garwood's still make their own cider. The press is now a Frontier Technology continuous feed press housed in a separate press room. The cider is also pasteurized, using a Thermoline pasteurizer.

Garwood's also hold a Primus GFS certificate for food safety. They have completed that audit on the ranch, packing and harvesting for several years to satisfy requirements of wholesale customers.

For more information, visit Garwood's website: http://appleupick.com

Location

Garwood Orchards
5911 W 50 South
LaPorte, IN 46350

The orchard location can be found in Google maps:
https://www.google.com/maps/place/Garwood+Orchards/@41.600327,-86.815679,13z/data=!4m5!3m4!1s0x0:0x678e84d551c18e95!8m2!3d41.600327!4d-86.8156794?hl=en

Also, look on the Garwood orchard Website: http://appleupick.com/find-us/

Program schedule:

Tuesday June 26:

NOTE: Garwood's are on Central Daylight (Chicago) time. Times listed are local time.

Garwood Orchard, LaPorte, IN

8:30 am	Registration. Coffee and donuts.
9:00 am	Welcome and Introductions
Orchard tour – fruit	
11:15 am	Indiana Hort. Society business meeting
12:00 pm	Lunch – cookout at the farm.
1:00 pm	Field tour – vegetables
3:00 pm	Farm marketing and tour of facilities
5:00 pm	Conclude tour and depart

Motels in the LaPorte Co. area include:

Hampton Inn and Suites, Michigan City, IN. $129 + tax. Phone: 855-238-159

Holiday Inn Express, La Porte, IN. $116 + tax. Phone: 855-239-9222

Blue Jay Manor, Michigan City, IN. $80 + tax. Phone: 877-429-7381

Upcoming Events

(Lori K Jolly-Brown, ljollybr@purdue.edu)

June 6-7, 2018 Indy International Wine Competition
Hosted by the Purdue Wine Grape Team
Purdue Memorial Union Ballroom
http://www.indyinternational.org/.

June 26, 2018 Summer Field Tour- Fruits & Vegetables
Garwood Orchard, LaPorte, IN
Contact Lori Jolly-Brown ljollybr@ purdue.edu

October 17, 2018 Indiana Flower Growers Conference
Daniel Turf Center
Contact Lori Jolly-Brown ljollybr@ purdue.edu

January 8, 2019 Illiana Vegetable Growers Symposium.
Teibel's Family Restaurant, Schererville, IN
Contact Liz Maynard **emaynard@purdue.edu**

https://ag.purdue.edu/hla/Extension/Pages/IVGS.aspx

February 12-14, 2019 Indiana Hort Congress.
Indianapolis Marriott East Indianapolis, IN
Contact Lori Jolly-Brown, **ljollybr@purdue.edu** or 765-494-1296
http://www.inhortcongress.org

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