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In This Issue

Crop Conditions

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

Fruit crops are finally starting to grow in the Lafayette area after a few days of warmer weather. Apples are at 1/2 inch green to tight cluster. Peaches have 1/2 inch vegetative shoots. There are no live flower buds in our planting. Cherries are at swollen bud. Early grapes varieties are at swell. Raspberries have 1 inch green shoots, but we have significant winter injury in most varieties. Blackberries floricanes are killed to the ground on all varieties, and a few primocanes are beginning to emerge. Strawberry leaves are unfolded and flower buds are visible in some crowns. Paw paw flower buds are fully swollen. Currants and gooseberries are nearing bloom. Dandelions are blooming and grass row middles are starting to grow. It's beginning to look a little like spring!

In southern areas of the state, peaches are in bloom and apples are starting to think about blooming. In more northern areas, peaches are about half-inch green. Apples in the south are just starting to flower but in more northern areas we're approaching tight cluster.

Cherry swollen bud

Apple tight cluster

Peach at 1/2 inch green

Apple at 1/2 inch green to tight cluster

Grape at early swell

Red raspberry with 1 inch shoots

Strawberry leaves fully unfolded

Paw paw flower buds

White currant with flowers visible

Spring 2018

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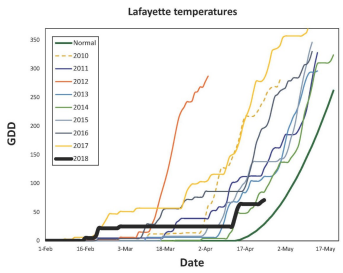
“Spring” might be too strong a word to describe conditions this year. As we see from Figure 1, we’re now officially the latest spring so far this decade, and about the same as the long-term average. Having said that, a good part of our Growing Degree Day accumulation has come from one warm day on February 21 and a couple of warm days from April 13-15. Apart from those days, GDD accumulation has been negligible.

Remember that the ovules of apple king flowers are only receptive for a short period of time, but the ovules of side blooms are receptive for much longer. This year in particular we may be depending on setting fruit on side blooms to achieve a full crop.



2018 Temperature graph

Maryblyt

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

Maryblyt 7.1 is now available for download at http://grapepathology.org/maryblyt

For new growers: Maryblyt is a fire blight prediction model. Fire blight is caused by the bacterium *Erwinia amylovora*. It is one of the most destructive diseases of apple, pear, and quince worldwide (Fig. 1). There are five distinct phases associated with fire blight, and include blossom, canker, shoot, root, and trauma blight phases. However, only the blossom blight phase offers growers the opportunity to break the disease cycle. Today, blossom blight can be managed more successfully using disease forecasters such as Maryblyt. Maryblyt predicts fire blight infection events by identifying periods when weather conditions and tree phenology are suitable for infection, allowing growers to time antibiotic applications when they can be most effective. The current version is due to the efforts of Drs. Nita at Yoder at Virginia Tech.

Fig. 2 apple fire blight blossom

Maryblyt was originally developed by Dr. Paul W. Steiner, University of Maryland, and Gary Lightner, USDA, AFRS. Maryblyt 7.1 was developed by Dr. Alan R. Biggs, West Virginia University, and Dr. William Turechek, USDA, and adapted for Windows from the original source code. Maryblyt, the program, the name, and anything to do with it is copyrighted by the University of Maryland and all rights are reserved.

For more information on the Maryblyt model, see: https://www.plantmanagementnetwork.org/pub/php/volume16/number1/PHP-RS-14-0046.pdf

Early Season Sprays for Grapes

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

There are some potential pest and disease problems that require early season sprays. Phomopsis is a major problem on many grape varieties in the Midwest. Mancozeb should be applied starting at 1-3 inch shoots and repeated each 7-10 days, especially prior to a predicted rain event. Evaluations of delayed-dormant fungicide applications for management of this disease shows that liquid lime sulfur, Sulforix, and fixed copper (copper hydroxide) have proven to be most effective. A single application at bud swell can provide a significant degree of Phomopsis control (a 50 to 60 percent decrease in disease severity on the grape leaves as well as clusters), but will not reduce the need for the standard recommended fungicide sprays for Phomopsis control during the growing season. It is important to recognize that sanitation is part of a Phomopsis management plan. Prune out dead canes and stubs as much as possible since they are the main sources of Phomopsis spores.

Anthracnose is a less common disease, but one that we are seeing more frequently. Vidal, Frontenac and Marquette as well as several Eastern table grapes are very susceptible to anthracnose. Delayed-dormant lime sulfur or Sulforix sprays are very effective against

anthracnose. While sulfur and copper can be toxic to certain varieties, there is minimal chance of phytotoxicity if the products are applied just prior to bud break (at the bud swell stage).

Grape Flea beetle and climbing cutworm can be problems in vineyards. Grape flea beetle is most common in Indiana. Scout vineyards for this pest and its damage, holes eaten into swelling buds. If more than 4% of the buds show damage, apply an insecticide to prevent further damage. Carbaryl (Sevin) is generally recommended.

See the 2018 Midwest Fruit Pest Management Guide (https://ag.purdue.edu/hla/Hort/Pages/sfg_sprayguide.aspx) for a complete discussion of grape pest management.

Insect Management When You Have a Partial or No Crop

(Ricky E Foster, fosterre@purdue.edu)

The severe cold weather we experienced in early January had a dramatic effect on the number of surviving fruit buds on crops such as peaches. The impact was highly variable depending on a number of factors, primarily location within the state. If you have less than a full crop of any of your fruit crops, you need to decide how you are going to manage the insects and mites on those crops. If you have a greatly reduced crop but decide that it is worth saving, you will still need to manage the insects just as if you had a full crop. If you cut back on insecticides, you will end up with a small crop that has poor quality, not a good combination. You need to decide early on if the crop is large enough to justify a full insect management program.

If you decide that your crop is lost, your approach to insect management changes drastically. As I often tell you, you should know what your target pest or pests are for every insecticide application. Pests that attack the fruit, such as codling moth, plum curculio, apple maggot, Oriental fruit moth, etc. are the pests that we build our spray programs around and control with our “cover sprays.” Even though we call them cover sprays, you should know what pests are present at that time so that you can choose the correct insecticide. So, if you have no crop, no cover sprays should be applied because you are no longer trying to protect the fruit. However, that doesn’t mean you can abandon your orchards or plantings. You still need to scout for pests that might affect the growth of the plant such as mites, aphids, leafhoppers, Japanese beetles, etc. Spray only when the damage from these pests will affect the health of the tree for future crops. Large, well-established trees can withstand a lot more of this indirect damage than smaller trees. Think in terms of what affect the damage may have on the health of the tree. Borers that attack trees, such as peachtree borer and dogwood borer, should be controlled just as in a normal year.

Finding Pesticide Labels for State-specific Registrations

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

Many pesticides for use on fruits and vegetables have varying rules for use in different states. This article will review the different classes of labels for pesticides and where to find labels online.

The shorthand names for classes of labels come from the section of the Federal Insecticide, Fungicide, and Rodenticide Act that governs each class. National labels are called Section 3 labels. These labels are approved by EPA for uses throughout the country. The Master Label on file with the EPA includes all registered uses. The

label on a marketed product often contains only a subset of those uses. Even with federal approval of a Section 3 label, in order to be sold and used in Indiana, the product must also be registered with the Office of the Indiana State Chemist. To find products that are registered in Indiana, visit the NPIRS public web site. **http://npirspublic.ceris.purdue.edu/state/state_menu.aspx?state=IN**. Search by product name, EPA registration number, company name, or active ingredient. Several products may come up. Select the appropriate one. For most products, there will be a link to the label that is approved in Indiana.

When there are conditions specific to one state, a Special Local Needs, or 24C label may be approved that describes additional uses registered and permitted in that state. Sometimes 24C labels are available at sites such as **http://cdms.net/**, or from the manufacturer's website. Products with 24C labels in Indiana will be listed on the state NPIRS public site, but the listing title may not include all crops, and the label may not be available there. For instance, a search for 'Dual Magnum®' turns up a listing for 'Dual Magnum® – Transplanted Bell Peppers', with IN Registration Number SLN IN-1300003, but there is no link to a label. In the case of this product, the manufacturer requires that users assume risk of using the product. This is called an indemnified label. For Syngenta products like Dual Magnum®, the indemnified labels are available at **http://farmassist.com/**. To find one, look under 'Crop Protection' and then 'Labels – Indemnified labels.' At this point the user will need to register with Syngenta, agree to the user agreement, and create a username and password. Then, login with those credentials, and follow instructions on screen to obtain a pdf copy of the label.

For other companies, the SLN label is often available through the CDMS.net site. For example, Stinger herbicide (chlopyralid) has a SLN label for use on blueberries in Indiana SLN IN-150002 for Postemergence Broadleaf Weed Control. The Section 3 label does not include blueberry.

When there is an emergency need for a pesticide, a Section 18 label may be approved. On the NPIRS site these products can be identified because the IN Registration Number will begin with S18.

The label is important because it explains how to legally use the pesticide. It is also useful because it provides instruction on how to use it most effectively and with least injury to the crop. A three-ring binder with current labels and MSDS sheets for your pesticides makes it easy to review use and safety instructions. Alternatively, or in addition to a binder, storing pdfs on a computer, tablet, or phone means they are readily accessed even when an internet connection is not available.

References:

Section 3, Federal Supplemental Label, Sections 18 & 24c – What's the Difference? Washington State Department of Agriculture

https://agr.wa.gov/pestfert/chemfert/agassistwsda/2010/9-23-10.pdf

Pesticide Emergency Exemptions. Environmental Protection Agency.

https://www.epa.gov/pesticide-registration/pesticide-emergency-exemptions

Guidance on FIFRA 24(c) Registrations. Environmental Protection Agency.

https://www.epa.gov/pesticide-registration/guidance-fifra-24c-registrations

This article appears in the Vegetable Crops Hotline, a newsletter for commercial vegetable growers prepared by the Purdue University Cooperative Extension Service, written by Liz

Maynard April 26, 2018.
https://vegcropshotline.org/

Upcoming Events

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

May 7, 2018 Purdue Wine Grape Team "From Grape to Glass"
Byler Lane Winery 5858 County Road 35, Auburn, IN 46706
Contact Jill Blume **blume@purdue.edu**

June 26, 2018 Indiana Hort Society Summer Field Day
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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