

Volume 24, Issue 5

April 22, 2016

## Vegetable Crops

#### <u>Vegetable Crop Insect Management</u> - Joanne Whalen, Extension IPM Specialist; <u>jwhalen@udel.edu</u>

#### Asparagus

Be sure to scout for asparagus beetle adults and eggs on newly emerged spears. Feeding by beetles can disfigure spears. Depending on the market, the presence of eggs on the spears can make them unmarketable. As a general guideline, a treatment is recommended if 2% of the spears are infested with eggs or if 5% of the plants are infested with adults.

#### Cabbage

Continue to scout fields for imported cabbage worm and diamondback larvae. Low levels of larvae can now be found. Sprays will be needed before they move deep into the heads. As a general guideline, a treatment is recommended if you find 5% of the plants infested with larvae.

#### Peas

Continue to sample fields for aphids. The continued cool weather favors increases in populations. On small plants, you should sample for aphids by counting the number of aphids on 10 plants in 10 locations throughout a field. On larger plants, take 10 sweeps in 10 locations. As a general guideline, a treatment is recommended if you find 5-10 aphids per plant or 50 or more aphids per sweep. When sampling dry land peas, you may want to reduce the threshold, especially if they become drought stressed.

#### Potatoes

As soon as plants emerge, be sure to sample fields for Colorado potato beetle adults, especially if an at-planting material was not used. The first emerged adults can now be found. A treatment should not be needed for adults until you find 25 beetles per 50 plants and defoliation has reached the 10% level

#### Sweet Corn

The earliest planted fields should be scouted for cutworms. A number of cutworm species may be present at planting, including the black cutworm, dingy cutworm and clay backed cutworm. Regardless of the species, treatments should be applied for cutworms if you find 3% cut plants or 10% leaf feeding. Please refer to the Commercial Vegetable Recommendations for suggested chemical controls:

https://cdn.extension.udel.edu/wp-

content/uploads/2012/03/20132545/SweetCorn. pdf

#### Windbreaks for Early Vegetable Production

- Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

Windbreaks are a very useful tool for producing early vegetables. Most commonly, rye is used because it grows taller than other small grains and elongates in April. Using rye windbreaks requires planning because they are planted the previous fall (September-October).

Windbreaks can be planted between every vegetable bed, every 2-3 beds, or in drive row

areas only. For early protection, every-bed windbreaks are recommended. Most commonly a drill is used and 2-4, 7" drill rows of rye are planted and the other drill spouts are blocked off to leave the area where the vegetable crop will grow (bed areas) unplanted. As an alternative, the field can be solid planted and areas between windbreaks can be tilled in early spring to terminate the rye in bed areas. Windbreaks can be use in bare ground systems but are most effective when combined with plasticulture

Windbreaks serve several functions:

1) Windbreaks block high winds, thus protecting transplants and seedlings from direct wind damage (whipping, tearing, shredding, and breaking stems and leaves).

2) Windbreaks reduce or eliminate "sandblasting" in sandy soils where fine sand particles are picked up by the wind. Sandblasting can severely damage young plants by shredding leaves and cutting stems.

3) Windbreaks reduce transpiration losses in young transplants thus reducing losses to wilting and desiccation.

4) Windbreaks reduce convectional heat losses from the soil, thus providing a warmer environment for early growth.

5) Windbreaks can serve as a mulch between plastic beds, reducing soil contact for vining crops such as melons, thus producing cleaner fruit and reducing the potential for soil borne diseases infecting fruits.

Rye is the most common crop used for windbreaks because of its early growth and height. Triticale (wheat/rye cross) matures 1-2 weeks later and also can be used as a windbreak. Barley is also early; however, modern varieties are shorter in stature and less effective as a windbreak. Wheat is later still and not as effective as rye for early plantings.

If rye windbreaks have not been fall planted, then early spring planted mustard crops can be used as windbreaks; however, they are less dense than rye. March planted spring oats is lower growing and much later in stem extension than rye thus limiting its use as a windbreak to late plantings. If high winds are an issue for late spring and summer plantings or for fall crops then May-June planted sudangrass or sorghum/sudangrass crosses would be recommended as the preferred windbreak.

In no-till or strip till systems using rye covercrops or mixtures with rye, windbreaks can be left in the field by rolling some areas and leaving others unrolled as a windbreak.

Windbreak growth termination is also important. All rye (or other small grain) windbreaks should be killed using a non-selective herbicide before viable seed is produced, otherwise volunteer grain will come up in later crops. This is not a big problem for farms that only produce vegetables, but can be a major issue on farms that rotate with other crops (volunteer rye in a wheat field for grain is a problem).

Another caution on using windbreaks is that they can build up other pests such as mites, and when killed may serve as a reservoir to infest vegetable plantings (a common problem is mites moving out of windbreaks into watermelons). Therefore, fields with windbreaks should be monitored closely for these pests and treated accordingly.



Plastic mulch bed between every-bed-planted rye windbreak that is full height. This will provide maximum protection and heat accumulation.



Rye windbreak with drive row area for pesticide application and harvesting.

<u>Specialty Pepper and Processing Pepper</u> <u>Variety Trial</u> - Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu

In 2015 the University of Delaware conducted a pepper trial with types that are used for processing but also that could be used as fresh market specialty peppers. Included were sweet and hot banana types; hot and no-heat jalapenos; Italian and pimento peppers; and hot and sweet cherry peppers.

For the long Italian group, Crest Red, Crest Yellow, Carmen and Mama Mia Giallo were the highest yielding. Both Crest Yellow and Mama Mia Giallo are yellow types that compare to banana peppers and merit evaluation for processing, yielding over 20 tons per acre. Crest Red and Carmen are green-ripening-red Italian types. In the pimento group Tennessee Cheese and Pimento L. were the highest yielding at around 18 tons per acre.



For the Jalapeno group, the top yielding varieties were Bilbao, Much Nacho, Rayo, Grande, El Jefe, Campeon, Felicity (non-hot type), Barajas, Compadre, Major League, and New Park. Barajas, Compadre, Campeon, and New Park had the least fruit cracking when green mature. Yields of the top Jalapenos ranged from 28 - 34 tons per acre.



Mucho Nacho

In the Banana and Hungarian pepper group, Ethem, Budapest, Inferno, Sweet Savannah, Pageant, Sweet Arrow, Bounty, Superette Sweet, Boris, and Sopron were highest yielding ranging from 18-25 tons per acre. Ethem was particularly impressive for a sweet type and Budapest was the highest yielding hot type in the trial.





Late Blight Fungicide Application Tool for Delaware Now Online - Nathan Kleczewski, Extension Specialist - Plant Pathology; nkleczew@udel.edu

Kevin Brinson and I worked with Bill Fry and Ian Small at Cornell to develop a late blight fungicide application tool for Delaware. The tool is for use after fungicide applications have begun to tomatoes and potatoes, and helps you determine when another application should take place given weather conditions, previous applications, and cultivar susceptibility. The permanent link to the landing site can be found here: <u>http://blight.eas.cornell.edu/blight/DE</u>. You can also access the site from my Field Crop Plant Pathology Page, which I discussed last week <u>http://extension.udel.edu/ag/plantpathology-and-diseases/commercial-fieldcrops/</u>.

When you click on the link you are taken to a landing page. On this page you will see links to tomato and potato links at several locations in Delaware. I am working on updating the names of some of the stations, which should be completed within a few days.

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Decision Support System (DSS) for the potato & tomato late blight disease									
To obtain a user account for your farm, contact Ian Small, ims56@cornell.edu					link to Webinar				
Forecasted Late Blight Critical Thresholds									
Click on the location to see thresholds. Blackbird potato Blackbird fomato Blackbird fomato Bridgeville tomato Driver potato Dover potato Dover potato Dover contot Ellendale potato: missing weather Ellendale potato: missing weather Frederica notato Greenville potato: missing weather Greenville potato: missing weather									

A portion of the main landing page from the late blight Decision Support System.

Click on the location nearest your farm or field. This will take you to a report. A portion of the report is below. Reports are generated each day for all sites.

#### Report Date: 4/21/2016 Location: Bridgeville Crop: tomato

The table below was designed to help you decide when to reapply fungicides for late blight. All tables will be updated daily. The information is from the Late Blight Decision Support System (DSS). To use this table, choose the date of your last fungicide application. Then find the fungicide you used last. The intersection of the two is the suggested date for your rest fungicide application.

			Last spray date (month/day)							
Last fungicide applied			4/14	4/15	4/16	4/17	4/18	4/19	4/20	
Active ingredient	Example fungicide product	Cultivar susceptibility <sup>1</sup>	Next spray date (month/day)							
chlorothalonil	Bravo WS	s	4/26	4/27						
		mod S								
		mod R								
copper hydroxide	NuCop	s	4/24	4/25	4/26	4/27				
		mod S	4/26	4/27	-					

The tool is easy to use. Simply choose your chemical, your cultivar, and last application date, the tool shows you estimated next day for application. If the weather seems conducive to an accumulation of disease severity units within a 72 hour period (thereby increasing disease risk) the dates will turn red in the report. Simple, quick, and hopefully something you can use to help you with your disease management in tomatoes and potatoes.

## **Agronomic Crops**

#### Agronomic Crop Insect Management -

Joanne Whalen, Extension IPM Specialist; jwhalen@udel.edu

#### Alfalfa

Continue to scout fields for both alfalfa weevil and pea aphids. Both can be found in fields throughout the state. Fields should be scouted for these two insect pests until the first cutting. Examine 5-10 stems for damage and weevil

larvae until damage or larvae are found on the plants. Once larvae are found, a decision to treat should be based on collecting a minimum of 30 stems throughout a field and checking for the number of larvae per stem. The following thresholds, based on the height of the alfalfa, should be used as a guideline when making a treatment decision for alfalfa weevil: (a) up to 11 inches tall - 0.7 per stem; (b) 12 inches tall -1.0 per stem; (c) 13 to 15 inches tall - 1.5 per stem; (d) 16 inches tall - 2.0 per stem and (e) 17 to 18 inches tall - 2.5 per stem. The following thresholds should be used as a guideline when making a treatment decision for aphids : (a) alfalfa less than 10 inches tall treat if you find 40-50 aphids per stem, and (b) alfalfa 10 inches or taller in height treat if you find 75-100 per stem.

#### **Small Grains**

Low levels of cereal leaf beetle adult (eggs and small larvae), armyworms and grass sawfly larvae have been found in an occasional field in Kent and Sussex counties. Cereal leaf beetle populations are often unevenly distributed within a field so it is important to carefully sample so that you do not over or under estimate a potential problem. Eggs and larvae are also found on leaves near the ground so careful examination of the entire plant is critical. The treatment threshold is 25 eggs and/or small larvae per 100 tillers/stems, with more larvae than eggs present to justify a spray. More information on sampling and treatment thresholds for grass sawfly and true armyworm can be found at the following link

http://extension.udel.edu/factsheets/grasssawfly-and-true-armyworm-management-insmall-grains/

#### Wheat Disease Update and Fungicide

Application Decision Making - Nathan Kleczewski, Extension Specialist - Plant Pathology; <u>nkleczew@udel.edu</u>

Overall, wheat across Delaware and the Eastern part of Maryland looks very good. I continue to see and hear about excellent stands, little disease, and good yield potential. Many growers have been asking about the need for a fungicide application to the flag leaf this year. My advice has been this: go out and look at your wheat. Really look at it, don't just drive by at 60 mph with Lynyrd Skynyrd blaring on your radio. Here is what to look for:

1. Presence of active foliar disease in the mid to upper canopy. The name of the game now is protecting the flag leaf and then the glumes, which contribute the lion's share of carbohydrates for grain fill. Diseases such as powdery mildew tend to stay low in the canopy due to humidity and temperature constraints. Diseases such as leaf blotch complex move slowly and often make it to the flag leaf after flower. Rusts, for the most part come in late, after flower, if at all. Be aware though, that there were reports of stripe rust in parts of Eastern Maryland a few days ago, although overall disease risk is low. Most of the fields we have been in across Delaware for survey purposes and applied research trials have been largely free of disease.

2. Yield potential- Are you looking at a field with excellent yield potential? Paying for an application is much easier when you are pushing 100 bu/A vs 60 bu/A.

3. Costs of inputs up to this point, and disease pressure compared to your projected yield. Fungicide applications are not cheap. If you do not have disease pressure and can save the trip, it will help your bottom line.

If you don't look at your field or pay someone to do it, you could potentially apply fungicides to low disease potential, low yielding fields. With wheat prices hovering around \$4.40 /bu, margins will be tight. This is why it is important to consider the amount of disease loss you are protecting by making a fungicide application. How much will you have to make back? I posted an online breakeven calculator on my blog at: http://extension.udel.edu/fieldcropdisease/201 6/04/20/should-i-apply-a-fungicide-to-mywheat/

The calculator provides you with average costs of products and application costs for the various application timings in the mid-Atlantic. The application cost of the greenup/jointing application only considers product (\$US / A) as you will typically be going across the field at this time anyways to apply your second shot of nitrogen. Below is a snapshot of the calculator with average costs included.

#### Wheat Fungicide Breakeven Calculator

Price per Bushel								
Application	3.00	4.00	4.50	5.00	6.00	app cost (enter your cost)		
Greenup (G)	1.0	0.8	0.7	0.6	0.6	Greenup (G)	3	
Flag Leaf (L)	7.7	5.8	5.1	4.6	4.6	Flag Leaf (L)	23	
Flower (F)	7.7	5.8	5.1	4.6	4.6	Flower (F)	23	
G+L	8.7	6.5	5.8	5.2	5.2	G+L	26	
G+F	8.7	6.5	5.8	5.2	5.2	G+F	26	
L+F	15.3	11.5	10.2	9.2	9.2	L+F	46	
G+L+F	16.3	12.3	10.9	9.8	9.8	G+L+F	49	

You can see that at \$4.00-4.50/bu, most applications will need to protect roughly 6 bu/A to break even. Over 10 bu/A are required for programs using a flag leaf application plus a flowering application or a three-spray program! That's a pretty good slug of disease. Most fields out there are not at risk for a 10 bu/A loss.

You have your own deals and discounts, so go to the blog, open up the calculator, and see what you'd need to break even, enter in your application costs in the table on the right (greenup, flag leaf, or flowering). The calculator will do the rest. Do you have enough disease in the upper canopy and yield potential to justify the application?

That's one piece of the puzzle. The next is the likelihood of a return. Thankfully, our lab is doing some excellent work answering this question (led by M.S candidate and Kent County Ag. Agent Phillip Sylvester). Phillip's work will lay the ground work to begin to develop a small grains calculator that will provide growers with estimated probabilities of an application paying off over a range of yield potentials given the application cost and commodity price.

Bottom line- don't make an application without looking at your fields.

### Control Marestail When They are Small -

Mark VanGessel, Extension Weed Specialist; mjv@udel.edu

One of the most common questions is how to control marestail for no-till soybeans. Treating them early is the key to success. Control of marestail when its 4 to 6 inches is more likely than when it's over 10 inches tall. Furthermore, when marestail is tall, it typically is closer to planting and herbicide options are limited. Remember, most of the marestail is resistant to glyphosate and we are seeing more populations that are resistant to ALS herbicides such as chlorimuron (an active ingredient in premixes such as Canopy, Envive, Authority XL, or Trivence) or cloransulam (an active ingredient in FirstRate, Surveil, or Sonic). So the most consistent options include 2,4-D at 1 gt/A or Sharpen applied to small plants. These rates and products have specific replant restrictions requiring early applications.

Also, early treatment of the horseweed provides time to retreat prior to planting if Mother Nature does not cooperate and initial control is not as effective as you had expected.

Should you include a residual herbicide with these early burndowns? I generally don't see the benefit to using the residuals so early. The residual herbicides will only provide residual control for 3 to 4 weeks. So, you may have a field that is clean at planting, but weeds will begin to emerge shortly after planting. On the other hand, if the residual herbicide is applied at planting, or shortly before planting, then the soybeans will have good weed control for the first 3 to 4 weeks after planting. This is a serious consideration for some weeds, such as Palmer amaranth or morningglory species, that are difficult to control once they get more than 3 inches tall.

In most situations, improving weed control is a matter of application timing rather than trying to be creative on herbicide combinations.

#### Acetochlor vs Metolachor for Weed Control

<u>in Corn</u> - Kurt M. Vollmer, Postdoctoral Researcher, University of Delaware; <u>kvollmer@udel.edu</u>

There are often comments from growers who have switched from using s-metolachor containing products (Dual, Cinch, Bicep) to ones containing acetochlor (Breakfree, Degree, Harness, Keystone, Surpass, and Warrant). However, this switch may not necessarily provide better weed control; rather control of different weeds that may have not been as prevalent when s-metolachor was being used. Both of these are Group 15 herbicides and are generally effective on grasses and small-seeded broadleaf weeds, but there are some differences in the control of certain weed species. Acetochlor provides slightly better control of pigweeds and better suppression of lambsguarters and common ragweed. It also has activity on smartweed and velvetleaf, compared to no control with s-metolachor. Both herbicides provide similar levels of control on grass species including: barnyardgrass, bermudagrass, crabgrass, fall panicum, foxtail, goosegrass, and quackgrass. S-metolachor also tends to have longer soil residual activity than acetochlor.

An activating rainfall is required for both of these herbicides, but *s*-metolachor requires less moisture to activate than acetochlor. The addition of atrazine to the tank mix of either herbicide will provide more effective preemergence control than either acetochlor or s-metolachlor alone, including control of morningglory and pigweed species.

## Announcements

# Free Webinars in April, Sponsored by the Mid-Atlantic Women in Agriculture

**4/27: Soil pH, Liming Rates and Fertility** - Soil pH is only one number on a soil test report, but can control a lot of your production potential. To maximize your returns from the soil, understanding where soil acidity comes from and how we determine lime rates is essential.

#### To register:

http://www.eventbrite.com/e/wednesday-webinarsregistration-11452674257

Webinars begin at noon EST. Duration is approximately 1 hour. For optimal performance we suggest using Internet Explorer as your web browser and connecting via Ethernet connection instead of wireless (wireless will work, but a hard line is more stable)

See website for more information and other upcoming topics: <u>https://extension.umd.edu/womeninag/webinars</u>

If you do not have access to high speed internet and would like to participate in one of the above webinars, contact Tracy Wootten at <u>wootten@udel.edu</u>.

#### Specialty Crop Block Grant Workshop

Tuesday, April 26, 2016 5:00 p.m. Delaware Department of Agriculture 2320 South DuPont Highway, Dover

DDA is holding its annual informational workshop for potential applicants to the Delaware Specialty Crop Block Grant Program. The program offers grants from \$5,000 to \$50,000 for research, marketing, and education on fruits, vegetables and other specialty crops, including tree nuts, dried fruits, horticulture and nursery crops.

Details are available at <u>www.de.gov/scbg</u> or by contacting JoAnn Walston at 302-698-4592 or joann.walston@state.de.us.

The application deadline is 4:30 p.m. June 3.

#### Farm Succession Planning Education Series Financial Planning: Creating a Retirement Paycheck

Thursday, May 5, 2016 7:00 - 9:00 p.m. University of Delaware Paradee Center 169 Transportation Circle, Dover, 19901

If you're pre-retirement and planning for your retirement, this session will help you learn how to calculate what you will need, provide some strategies for using your savings assets to create a "retirement paycheck", and offer resources to assist you in your planning. It's never too late...or early, to start!

Please RSVP by calling (302) 831-2506 by May 2.

For more information, contact Extension agents, Dan Severson at <u>severson@udel.edu</u> or 302-831-8860 or Laurie Wolinski at <u>lgw@udel.edu</u> or 302-831-2538.

#### Season Extension Workshop and Field Day

Friday May, 20, 2016 10:00 a.m. - 3:30 p.m. Delaware State University Smyrna Outreach & Research Center (SORC) 884 Smyrna-Leipsic Road, Smyrna, DE

#### Presented by DSU Cooperative Extension, Small Farms Program.

The focus of the workshop is spring, fall and overwintered vegetables, fruits and herbs; the EQIP Program and high tunnels; and farmers' perspective on high tunnel production.

#### **SPEAKERS**

Growing the Best Tomatoes, Peppers and Cucumbers Ever Steve Bogash, Penn State Extension

Increasing the Availability of Delaware's Specialty Crops through High Tunnels Gordon Johnson, University of Delaware

**The State of High Tunnel Production in Delaware** *Rose Ogutu*, Delaware State University

*RSVP by May, 16, 2016. To register for the free workshop or for more information, call Rose Ogutu at* (302) 587-6397 or email <u>rogutu@desu.edu</u>

#### **UD Small Grains Field Day**

Thursday, May 26, 2016 3:00 - 5:00 p.m. University of Delaware Warrington Irrigation Research Farm

Harbeson, DE

Join University of Delaware Cooperative Extension Specialists and Agents at the Warrington Irrigation Research Farm for a Small Grains Field Day. **Save the date** and stay tuned for more information.

## Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of April 14 to April 20, 2016

Readings Taken from Midnight to Midnight

#### Rainfall:

no rainfall recorded

#### Air Temperature:

Highs ranged from 82°F on April 19 to 58°F on April 14.

Lows ranged from 45°F on April 19 to 31°F on April 14.

#### Soil Temperature:

57.2°F average

Additional Delaware weather data is available at http://www.deos.udel.edu/monthly\_retrieval.html and http://www.rec.udel.edu/TopLevel/Weather.htm

Weekly Crop Update is compiled and edited by Emmalea Ernest, Associate Scientist - Vegetable Crops

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