



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetable Crops

Blister Beetles on Swiss Chard – Jerry Brust,
IPM Vegetable Specialist, University of Maryland; jbrust@umd.edu

Normally at this time of year when I talk about any insect problems in crucifers I talk about harlequin bugs that feed by sucking out plant juices and inject toxins into the plant. But I have gotten reports about several fields and even high tunnels where blister beetles feeding is defoliating swiss chard (Fig. 1). The presence of blister beetles now is not unusual as they are often found in large clusters in late summer-early fall. They can arrive in large groups, seemingly overnight and can do a great deal of damage in a short period of time.

Adults are large, oblong beetles with relatively large heads, long 'necks' and usually with some stripes (but not always) (Fig. 1). Striped blister beetles are shades of gray or brown with yellow stripes running lengthwise on their wing covers. The ash-gray blister beetle is gray, the black blister is completely black, and the margined blister beetle is black with a grayish band around the edge of each wing cover (Fig. 1A). Blister beetle abdomens usually extend past their leathery wings. Striped blister beetles hide beneath plants during the hotter periods of the day, becoming active when temperatures are more suitable for them. If disturbed when on plants beetles will immediately fall to the ground and run. Adults begin laying eggs in late spring or early summer and continue through

most of the season. A female can lay one to two hundred eggs just beneath the soil surface and eggs hatch within a couple of weeks.

If you look up blister beetles most of the literature deals with the beetles as a threat to horses and livestock. The beetles secrete and contain within them a blistering agent called cantharidin. Cantharidin is toxic if ingested and it persists in beetles long after they are dead. Humans who ingest the beetle can suffer severe damage to the urinary tract and gastrointestinal lining.

Blister beetles begin feeding on the edges of leaves eventually leaving only stems (Fig. 2). Blister beetles will feed on just about any leaf that grows in a vegetable field such as tomato and other solanaceous vegetables as well as leafy greens, crucifers, spinach and others.

Pyrethroids can be used to control blister beetles on most vegetable crops. Pyrethroids will reduce the damage, but there is often a 7-day pre-harvest interval (phi) with some of the chemicals depending on what the crop is. So be sure to check the label to find the correct phi for the particular product you are using on the particular crop you are using it on. It should be noted that once established, beetles are difficult to eliminate completely. Organic growers have an even more arduous task of managing them. Row covers will keep this pest as well as harlequin bugs off your plants. However, if row covers are not used then I often see diatomaceous earth (DE) recommended for beetle control. If it rains DE does not work very

well and overall, I have not had much luck with it controlling the beetles. Spinosad alone or mixed with other products such as neem or kaolin clay have been found to reduce feeding damage in 24-48 hours. Having large numbers of grasshoppers near your vegetable fields over the years can increase blister beetle numbers greatly in the general area.



Figure 1. Margined (A) and Striped (B) blister beetles



Figure 2. Blister beetle feeding resulting in defoliated leaves

Agronomic Crops

Soybean Insect Scouting Update - David Owens, Extension Entomologist, owensd@udel.edu and Bill Cissel, Extension Agent - Integrated Pest Management; bcissel@udel.edu

Insect populations are generally lower this week. Loopers can still be found in some fields, as can stink bugs and bean leaf beetle. Defoliation thresholds for R6 beans are considerably higher than earlier R-stage beans. Now that our earlier planted fields are starting to senesce or have dropped leaves completely, this is a good time to take stem samples for *Dectes* stem borer, especially in fields that had large numbers earlier or have a history of *Dectes* problems. If your field has a large stem infestation, prioritize that field for as timely a harvest as possible. Lodging loss potential increases with the percent of infested stems and late harvest.

General

Guess the Pest! Week #25 Answer: Brown Stem Rot of Soybean - *Bill Cissel, Extension Agent - Integrated Pest Management;* bcissel@udel.edu

Congratulations to Jacob Urian for correctly identifying the disease as brown stem rot and for being selected to be entered into the end of season raffle for \$100 not once but five times. Everyone else who guessed correctly will also have their name entered into the raffle.

Guess the Pest Week #25 Answer: Brown Stem Rot of Soybean *By Nancy Gregory, Plant Diagnostician;* ngregory@udel.edu



N Gregory

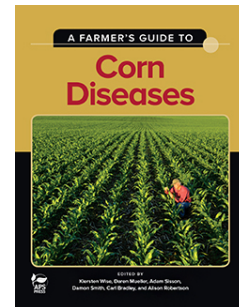
Brown stem rot of soybean is caused by the fungus *Cadophora*. Brown stem rot symptoms on stems include a general browning that extends from the soil line up the stem, or starts at a node. Symptoms usually show up in mid-summer/pod fill. When affected stems are split lengthwise, there is a brown discoloration of the vascular tissue. Remnants of the pith made be observed in a ladder like pattern. Foliar symptoms look like sudden death syndrome but *Fusarium* would be found on basal stems with SDS. Symptoms for both diseases tend to be more severe in fields with soybean cyst nematode.

The BSR fungus survives in soybean residue in the soil, but not on seed, and infects roots early in the season during wet, cool conditions. Univ

of Wisconsin researchers have shown that a pH lower than 6.5 favors the development of BSR. Management of brown stem rot includes crop rotation, good residue decomposition and selection of resistant varieties. Some resistance is available to BSR and to SCN. Seed treatments and fungicides do not control brown stem rot.

This was the last Guess the Pest challenge for the 2018 growing season.

Thanks to all that followed along each week and submitted answers. Next week, we will hold the "end of season" raffle for the \$100 gift card. Everyone that submitted a correct answer will automatically be entered into the raffle for each correct answer that was submitted. If you were a weekly winner, you will have your name entered not once but five times into the end of season raffle. I will also be contacting you soon to make arrangements to get you a copy of *A Farmer's Guide to Corn Diseases*.



Extension Disaster Education Network - *Nancy Gregory, Plant Diagnostician;* ngregory@udel.edu

The Extension Disaster Education Network (EDEN) is a resource for all farmers, Extension personnel, landscapers, landowners, families, and citizens for information regarding disaster preparedness and recovery. The national website provides tips and resources for families in preparation of natural disasters. Delaware has a web page under UD Cooperative Extension with links to resources, reports, opportunities and more:

<http://extension.udel.edu/ag/agribusiness/eden/>

University of Maryland Extension Releases Farm Stress Management Online Resources

The University of Maryland Extension (UME) announces the release of a new web page devoted to assisting farm families in dealing with stress management through difficult economic times. "Farm Stress Management," released in conjunction with National Suicide Prevention week Sept. 9-15, is a set interdisciplinary resources to help farmers navigate the numerous publications online and provide timely, science-based education and information to support prosperous farms and healthy farm families. Farm families are feeling the stress of an inconsistent and unreliable economy; declining incomes, several years of low commodity prices, and increasing costs have all led to worsening debt issues. Farmers have been forced to parcel off their land, file for bankruptcy, and take secondary jobs off the farm to provide supplemental income.

Access to affordable and effective health insurance and care is one of the top concerns among farmers who are often self-employed. Providing health insurance, disability coverage, and planning for retirement and long-term future care have also proven problematic. In fact, in a USDA-funded study, 45 percent of farmers were concerned that they would have to sell some or all of their farm to address health-related costs.

The new web pages offer resources to manage farm stress through a variety of subject areas including financial management, legal aid, mediation, stress and health management, and crisis resources for families dealing with depression substance abuse, mental health concerns. Farms have a special role in American society and are critical to our national and local economies. With world populations expected to increase to a predicted 9 billion by 2050, farmers become even more crucial for feeding our communities. Healthy farms and healthy farm families promote rural community growth, environmental stewardship and cultural legacies.

The new UME online resources can be found at <https://extension.umd.edu/FarmStressManagement>. For more information, please contact Laura

Wormuth, UME Communications Coordinator, at 301-405-6869 or lwormuth@umd.edu.

Announcements

Sussex Master Gardeners Summer & Fall Workshops

The Master Gardeners are planning an interesting array of workshops for the summer and fall. The classes are free, unless otherwise specified, and held at the Elbert N. and Ann V. Carvel Research and Education Center, 16483 County Seat Highway, Georgetown, DE 19947.

Pre-register for workshops by contacting Tammy Schirmer at (302) 856-2585, ext. 544 or by email at tammys@udel.edu. You can also register online at <http://extension.udel.edu/lawnngarden/mg/sussex-county/workshops/>.

Tuesday, September 25, 1:00 p.m. Master Gardener Judy Pfister will lead a program on common **Native Plant Seed Harvesting**. Workshop will also include propagation including when to harvest, how to dry and store them. We will also discuss testing seeds for viability before planting. Weather permitting, we will go into the demo garden to identify seed heads of fall bloomers and select some seeds for harvesting back in the classroom. Please bring a pair of tweezers and a magnifying glass if you have them.

Tuesday, October 2, 6:30 p.m. Master Gardener Terry Plummer will present a workshop on **Landscaping with Native Plants**. Make your garden life easier with less watering and less fuss. Plant native trees, shrubs, and perennials for a delightful landscape. Terry will introduce you to a wide variety of native plant materials, that will draw insects and the birds that love to eat them to your garden.

Tuesday, October 16, 1:00 p.m., Woodland Trail
Master Gardeners will lead the group along a trail through the woods. The trail invites attendees to enjoy the woods and learn interesting things about trees, soil, and the residents of the woods. The trail is about a 40-minute walk. Wear closed-toe shoes and long-sleeved shirts or jackets.

Tuesday, October 23, 1:00 p.m., Woodland Trail
Master Gardeners will lead the group along a trail through the woods. The trail invites school-aged children to enjoy the woods and learn interesting things about trees, soil, and the residents of the woods. The trail is about a 40-minute walk. Children must

wear closed-toe shoes and long-sleeved shirts or jackets.

Tuesday, October 30, 6:30 p.m. Master Garden Joe Parish will discuss **Bats**, an organic choice for insect control. Bats are not just a cute Halloween creature but should become a part of your garden planning. Why not invite some in today.

Master Gardeners are working volunteers and are supported by Delaware Cooperative Extension through the University of Delaware and Delaware State University Extension offices. Delaware Cooperative Extension's policy that no person shall be subjected to discrimination on the grounds of race, creed, color, sex, age, religion, national origin, sexual orientation, veteran or handicap status. If you have special needs that need to be accommodated, please contact the office two weeks prior to the event.

Growing Farmers Workshops

Coverdale Farm Preserve
543 Way Road, Greenville, DE 19807

Coverdale Farm Preserve is a 377-acre farm and nature preserve located in Greenville, DE. We are pleased to offer a series of free hands-on workshops for farmers of all levels of experience and scale of operation.

Registration is required. To Register please contact Melinda Hardie: melinda@delnature.org

Fall 2018 Series

Techniques for Successful Lettuce Production

Wednesday, October 10, 10:00am – 12:00pm

Rain Date: Friday, October 12, 10:00am – 12:00pm

Lettuce is a fast growing and profitable 4-season crop. Explore our production fields to learn the methods we have refined over the years, the varieties that do best in both cool and hot seasons, as well as harvesting, cleaning, and storage tips.

Season Extension of Specialty Crops

Wednesday, October 17, 10:00am – 12:00pm

Rain Date: Friday, 19, 10:00am – 12:00pm

Vegetables are the focus of this workshop with particular attention to selected varieties trialed for season extension. Learn how to maximize yields in shoulder season in both protected culture and field grown situations.

2018 Mid-Atlantic Crop Management School

November 13-15, 2018
Princess Royale in Ocean City, MD

The Mid-Atlantic Crop Management School is held every November the week before Thanksgiving. This 2.5 day workshop has five classrooms supporting continuing education for certified crop advisors and other ag professionals in Crop, Pest and Nutrient Management as well as Soil & Water. This school is organized by Cooperative Extension from the University of Delaware, University of Maryland, Virginia Tech and West Virginia University. Other support comes from Mid-Atlantic State Agricultural Departments and the Natural Resources Conservation Service.

To see the program or register please visit: [Crop 18 Registration](#)

If you have any issues with registration, please contact UMD Conference services: cropregistration@umd.edu

Small Ruminant Field Day

Saturday, October 20, 2018

DSU Hickory Hill Farm
2065 Seven Hickories Rd.
Dover, DE 19904

Prevention, Detection and Treatment of Infectious Disease in Sheep and Goats

- Biosecurity
- Vaccinations
- Zoonotic Diseases
- Infectious Diseases

Presented jointly by Delaware State University and University of Delaware

Registration: 9:00 – 9:30 a.m.
Program: 9:30 a.m. – 2:30 p.m.

\$15 per person / Lunch included

Register using the link below by October 15, 2018:

[REGISTER HERE](#)

or

For more information, to register, or for assistance due to disabilities, contact:

Kwame Matthews, Ph.D.
Small Ruminant Program
Cooperative Extension
Delaware State University
1200 N. DuPont Hwy
Dover, DE 19901
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truehart@udel.edu
302.730.4000

Women In Ag Equine Series

November 8, 13 & 15 6:00-9:00 pm
UD Paradee Center
69 Transportation Circle, Dover, DE

Calling all women involved in equine businesses! The University of Delaware Cooperative Extension, in conjunction with the University of Maryland Cooperative Extension, is hosting a Women In Ag Equine Business focused series of programs in November 2018. The supper series is open to both women and men but the primary target is female equine business operators.

The program series blends friendly discussion and the opportunity for networking over dinner with presentations by guest speakers. The information presented is designed to help equine operators to strengthen their skills to manage risk and promote farm and business growth. Topics covered will include:

- Who is in Business with You? Understanding Business Structures
- What Color Are You? Learn How Different Color Personalities Can Work Well Together

- An Introduction to Business Plans
- What is a Lender Looking for?
- Understanding Credit and Credit Reports
- Farm and Equine Insurance
- The Value of Social Media for an Equine Business
- Building Your Social Media Presence
- Opportunity for an additional Hands-on Computer Session on Quick Books – date and location to be determined based on interest.

Past program participants said that as a result of their participation, 80% would implement change to their current business structure, 70% would change their insurance policy, 100% would use the resource materials from the program and 90% showed interest in follow up or advanced business management training.

The cost for the 3-evening series is \$60.00 and includes meals and all resource materials. Pre-registration is required for materials and meal planning purposes. Register online at <http://www.udel.edu/005163>

Please contact Susan Garey truehart@udel.edu (302)730-4000 or Tracy Wootten wootten@udel.edu or (302) 236-0298 for questions or if you have special needs in accessing this program. We hope you can join us!

Delmarva Soil Summit

Thursday November 1, 2018
UMES, Princess Anne, MD

For Farmers, Service Providers, And Soil Health Enthusiasts: A full day of learning from farmers and other experts about latest innovations in soil health and fertility

Expert Speakers

- Soil Health guru Ellen Polishuk, Plant to Profit
- Delmarva Soils, James Brewer, Natural Resources Conservation Service
- Carbon Sequestration Research with Dr. Emmanuel Omondi, Rodale Institute
- Delmarva Farmer Panel: Implementing Best Soil Health Practices

- Dr. Arthur Allen, UMES Soil Science Research and Programs

In-Depth Afternoon Breakouts

- In-Depth Soil Test Analysis with Bill McKibben, Head Agronomist at Logan Labs
- Planting Green with Adam Snyder of Harborview Farms
- Air-Seeder Presentation with Sussex Conservation District
- Soil Health Tools with University of Maryland Extension Specialists Nevin Dawson and Dr. Sara Via
- Mushrooms and Microbes with Mark Jones, Sharondale Farm

Networking Specials:

- Open Farmer-to-Farmer Notice Board ● Nutrient Management Credits ● Soil & Ag Service Tradeshow
- Extended Speaker Q&A ● Networking Opportunities

Learn More and Sign Up:

<http://bit.ly/DelmarvaSoilSummit111>

Sponsorship & Exhibit Opportunities:

Niamh Shortt, niamh@futureharvestcasa.org

Future Harvest CASA's Growing our Future Harvest: 20th Anniversary Conference

January 17-19, 2019
College Park Marriott
College Park, Maryland!

Join us for an extra-special three days of deep-dive workshops, farm fresh meals, inspiring speakers, and farmer and foodpreneur learning and networking! Further highlights include:

- Farming luminaries Karen Washington of Rise and Root Farm; Forrest Pritchard and Ellen Polishuk, authors of Start Your Farm; and Dr. Ray Weil, Soil Health Expert and UMD Professor of Soil Science
- A full day of how-to farming and food pre-conference intensives, redesigned this year for more in-depth, hands-on learning, including from Meredith Leigh, charcuterie expert!
- Two conference days for advanced and beginning farmers, foodpreneurs, and educators

- Delicious farm-to-table meals

- This once-a-year networking opportunity for Farmer-to-Farmer Chats, Seed Swap, Tradeshow, the Foodshed Photo Contest, Taste of the Chesapeake local food fair, and the Farmer of the Foodshed Awards!

Additional information at:

<https://futureharvestcasa.org/conference>

Interested in sponsoring the conference or becoming an exhibitor? Learn more about sponsorship, exhibitor, and advertising opportunities here or contact Agatha Grimsley, Conference Manager, at agatha@futureharvestcasa.org.

Fall Farm Tour

Friday, October 12, 2018
Dorchester County, MD

Annie's Project enthusiasts and women in agriculture you are invited to tour the Lower Eastern Shore in Dorchester County.

Cost: \$20.00 per person. Lunch at Emily's Produce, and tour of brewery and beer tasting included in cost. Lunch includes a choice of homemade sandwich, chips, fresh fruit, cookie, bottled water/soda, and utensils.

Register at: <https://www.eventbrite.com/e/annies-project-fall-tour-tickets-49948099109>

SCHEDULE

10:30 a.m. – 11:30 a.m.

Pop's Old Place

4657 Skinners Run Rd., Hurlock, MD 21643

Tour

12:00 p.m. – 2:00 p.m.

Emily's Produce

2206 Church Creek Rd., Cambridge, MD 21613

Lunch, Farm Tour, Pumpkin picking

2:30 p.m. – 4:00 p.m.

RAR Brewing

504 Poplar St., Cambridge, MD 21613

Tour of brewery, tasting

Annie's Project: Women Managing Commercial Poultry

October 16, 23, 30, and November 5, 13, 27
5:00pm to 8:00pm
Carvel Research and Education Center
16483 County Seat Highway
Georgetown, DE 19947

REGISTER BY OCTOBER 3RD AT

<https://commercial-poultry.eventbrite.com>

Course Fee: \$75.00 per person which includes dinner and all course materials.

There is an additional \$100.00 fee for FSA Borrower Training attendees.

Annie's project is designed to empower women in agriculture to manage information and learn about agriculture in a relaxed local network. The target audience is women with a passion for agriculture.

Project Topics cover the five areas of Risk Management: Production, Market, Financial, Legal Risk, and Human Resources. This workshop will incorporate the values of Annie's Project and focus them to those who are interested in expanding their knowledge of managing commercial poultry production.

Delaware Nutrient Management Continuing Educational Credits offered for some sessions.

For registration information contact Jenny Rhodes jrhodes@umd.edu 410-758-0166 or Tracy Wootten 302.856.7303 ext. 538, wootten@udel.edu or go to <https://commercial-poultry.eventbrite.com>

18th Annual MidAtlantic Women in Ag Conference

Wednesday, February 13, 2019
Dover Downs Hotel & Casino
Dover, Delaware

Women across the region coming together to EDUCATE, ENGAGE, EMPOWER.

The conference goals are to provide women involved in agriculture an opportunity to come together to learn about current issues and topics so they can make informed decisions concerning their agribusinesses and

family lives. Sessions will cover topics in marketing, financial, production and legal.

Back by popular demand we will offer a preconference, February 12, 2019 with the option of two topics TBA soon.

Location: Dover Downs Hotel & Casino Dover, Delaware (room rates available). Details will be added soon at www.extension.umd.edu/womeninag

For further information, contact: Shannon Dill at sdill@umd.edu or (410) 822-1244

Turf Expo

Wednesday, November 14, 2018
Hockessin Fire Hall, Hockessin, DE

Delaware Horticulture Industry Expo

January 16 & 17, 2019
Modern Maturity Center, Dover, DE

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of September 13 to September 19, 2018

Readings Taken from Midnight to Midnight

Rainfall:

0.04 inch: September 13
0.62 inch: September 14
0.04 inch: September 15
0.01 inch: September 17
1.26 inch: September 18

Air Temperature:

Highs ranged from 87°F on September 18 to 79°F on September 14 and September 15.

Lows ranged from 72°F on September 13, September 14 and September 17 to 67°F on September 19.

Soil Temperature:

75.5°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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