



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

Volume 25, Issue 25

September 15, 2017

Vegetable Crops

Managing Brussels Sprouts for Fall Harvest

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

Brussels sprouts have gained popularity as a vegetable with consumers and growers on Delmarva have started producing the crop again for local sales. Larger acreages of Brussels sprouts were grown in the past on Delmarva and the area is well adapted for the crop in the fall.

Topping and lower leaf removal (kiting) will increase uniformity and yields in Brussels sprouts. Cut off the terminal (top) of plants when sprouts begin to form in mid-September. It will then take about 30 days for sprouts to fully develop. At the same time, remove the bottom leaves progressively as the sprouts develop to produce firmer sprouts.

Sprouts can be harvested from mid-October onward. Snap or cut sprouts from the stem successively from the bottom. Commonly, flavor is improved after a frost (sprouts are less bitter). Brussels sprouts will tolerate heavy frosts but will freeze once temperatures drop below 20°F.

Whole stalk harvest (once over) is also practiced. Cut the whole stalk when the majority of sprouts are at least 1.5 inches in diameter and remove any leaves.



Plants of the 'Hestia' Brussels sprout variety topped and/or with lower leaves removed (kiting) had much higher yields than untreated plants.

Agronomic Crops

Agronomic Research Updates: Fertilizer Additives to Decrease Nitrogen Loss - Jarrod O. Miller, Extension Agronomist, jarrod@udel.edu

Amendments to prevent the loss of nitrogen (N) were studied in a recent *Agronomy Journal* article: "Evaluation of Nitrogen-Loss Prevention Amendments in Maize and Wheat in North Carolina" (Vol 109, Issue 5, pp 1811-1824). Of all of the soil nutrients, the N cycle is the most complex, with potential losses coming from leaching or volatilization as a gas.

Products meant to prevent N transformation into easily leached nitrate (NO₃) or gasses like ammonia (NH₃) have been used for years, with updated formulas and new products coming onto the market. This study observed three products:

- 1) NBPT-DCD (Agrotain-Plus, Koch Agronomic Services LLC, Wichita, KS),
- 2) nitrapyrin (e.g. Instinct II, Dow Agrosciences LLC, Indianapolis, IN), and
- 3) an organic glycol combined with Calcium (organo-Ca).

NBPT-DCD has both urease (converts urea N to ammonium) and nitrification inhibitors. Nitrapyrin only inhibits nitrification, which is the conversion of ammonium to nitrate, a form which is easily leached out of the crop root zone. The final product, organo-Ca, was suggested to act like a surfactant, while manufacturers also claimed that a pH change prevented the conversion of ammonium to the gas ammonia. The authors listed Nzone (AgExplore International, Parma, MO) as an example of an organo-Ca products.

For this study, all three products were mixed with UAN and added to soil types from North Carolina (Coastal Plain, Piedmont and Mountains) and incubated in the lab. Most of Delaware is Coastal Plain, but we do have some piedmont soils in the north-western part of the state. For both the coastal and mountain soils, nitrapyrin performed well at reducing nitrification (ammonium to nitrate), still working 84 days later. NBPT-DCD performed better than the organo-Ca and UAN alone in the coastal and mountain soils, which both reached zero ammonium at 28 and 56 days, respectively. Essentially, adding the organo-Ca was similar to applying UAN by itself.

The piedmont soils observed losses of nitrogen immediately, likely due to the finer texture and moisture content of the soils. In those saturated conditions, nitrate can rapidly convert to nitrogen gas and volatilize from soils. The remaining ammonium was protected by both NBPT-DCD and nitrapyrin.

Besides incubations with soils in the lab, the authors also tested the products in the field. Results from trials on corn and wheat revealed that weather and N-rate (increasing rates of N) were more significant factors in yield than any of the products. The plots treated with all three products did not provide yield advantages, or increased N use efficiency or uptake. High rainfall in wheat, which should leach out any

nitrate, showed no observable differences either. So while the incubation studies did reveal that nitrapyrin and NBPT-DCD could prevent conversion to nitrate, it did not correlate to greater yields in the field.

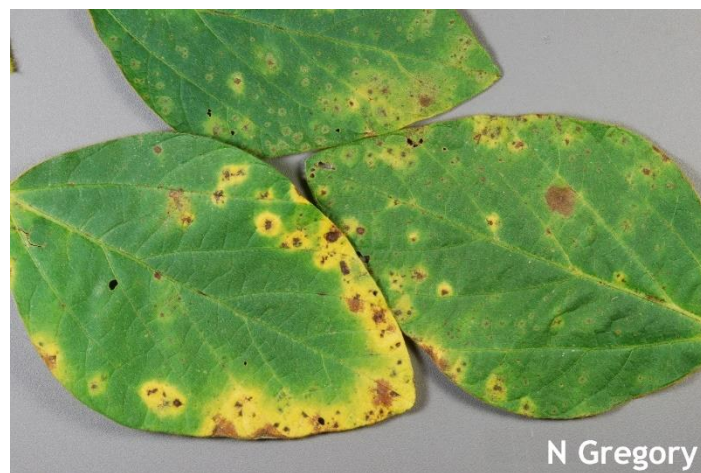
General

Guess the Pest! - Bill Cissel, Extension Agent - Integrated Pest Management; bcissel@udel.edu

Congratulations to William Rankin for accurately identifying the insect in Guess the Pest Week #23 as soybean thrips. William will not only have his name entered into the end of season raffle for \$100 gift card not once but five times, he will also receive a FREE copy of A Farmer's Guide to Corn Diseases. Click on the Guess the Pest logo below to participate in this week's Guess the Pest! Guessing correctly will automatically enter you into a raffle for \$100 gift card at the end of the season and one lucky winner will also be selected to have their name entered into the raffle five times. For Guess the Pest # 24, we will also be giving away A Farmer's Guide To Corn Diseases (\$29.95 value) to one lucky participant.

<http://www.plantmanagementnetwork.org/book/cornfarmersguide/>

Guess the Pest Week #23: Answer is Bacterial Blight on Soybean - Nancy Gregory, Plant Diagnostician; ngregory@udel.edu



The picture shows bacterial blight on soybean, caused by *Pseudomonas*. Bacteria need a wound or opening to enter leaves, which often happens

during rain and wind events, mechanical injury, or insect feeding. Bacteria in a film of water can also be splashed around and enter through natural openings such as stomates and hydathodes on the edges of leaves. The picture shows leaf spots that started in hydathodes on edges of leaves. Insects can carry bacteria and the bacteria can also persist on or in some seed. Bacterial diseases are favored by high temperatures and high humidity. Use of resistant cultivars and pathogen-free seed is a part of management. Diagnostic tests are recommended if unusual foliar symptoms are observed. Spots on leaves caused by bacterial pathogens often have a water-soaked appearance and sometimes have a yellow edge or halo. Microscopic examination may reveal the presence of bacteria. Bacterial blight caused by *Pseudomonas* is favored by cool and wet conditions and appears primarily on young foliage. Resistance is available in some cultivars. Bacterial pustule caused by *Xanthomonas* is usually seed-borne and is not commonly seen in the Mid-Atlantic States. Small brown raised spots of bacterial pustule may be confused with soybean brown spot (*Septoria*) or mistaken for soybean rust.

Guess the Pest Week #24



N Kleczewski



What is this insect?

To submit your guess click the Guess the Pest logo below or go to:

https://docs.google.com/forms/d/e/1FAIpQLSfUPLYZnTRsol46hXmgqj8fvt5f8-JI0eEUHb3QJaNDLG_4kg/viewform?c=0&w=1



Delaware Fall Agriculture Weather Report -

Scott A. Minnick, NOAA-National Weather Service, Wakefield, VA;

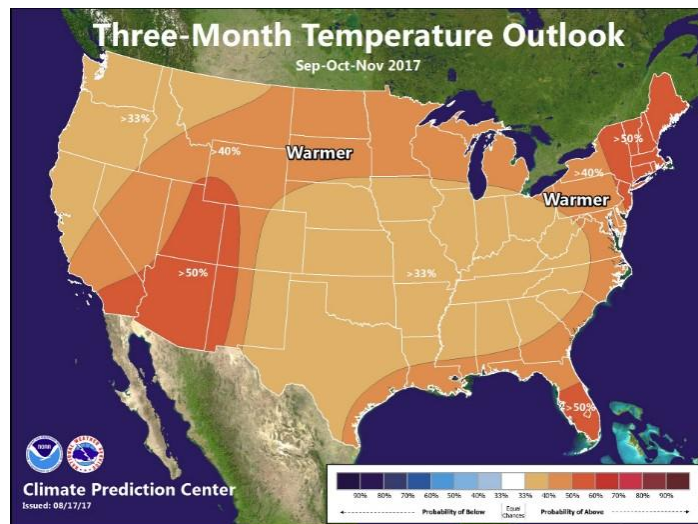
scott.minnick@noaa.gov, www.weather.gov

September is off to one of the coldest starts on record. Average temperatures across the state are around 4 degrees below normal through September 12. Rainfall has been slightly below normal to begin the month, but wet conditions

in August have prevented any drought concerns. Guidance indicates a warming trend through late September as the ridge over the western U.S. builds eastward. This also means that overall dry conditions are anticipated as well. The Climate Prediction Center depicts above normal temperatures through late September, with below normal precipitation. That pattern could change back to cool and wet toward the end of September into October as long term guidance indicates a return to an active pattern.

Looking at the overall fall outlook for harvest planning, the Climate Prediction Center has increased probabilities for overall above normal temperatures. Less certainty expected with precipitation due to the lack of El Niño or La Niña conditions. The forecast calls for equal chances for above, below, or near normal temperatures.

September 1 marked the beginning of meteorological fall. Calendar fall begins on September 22. September is also the peak of the Atlantic hurricane season. With Hurricane Irma fresh on everyone's mind, if you haven't already, now would be a great time to come up with a plan and be prepared for any tropical system that impacts the Mid-Atlantic.

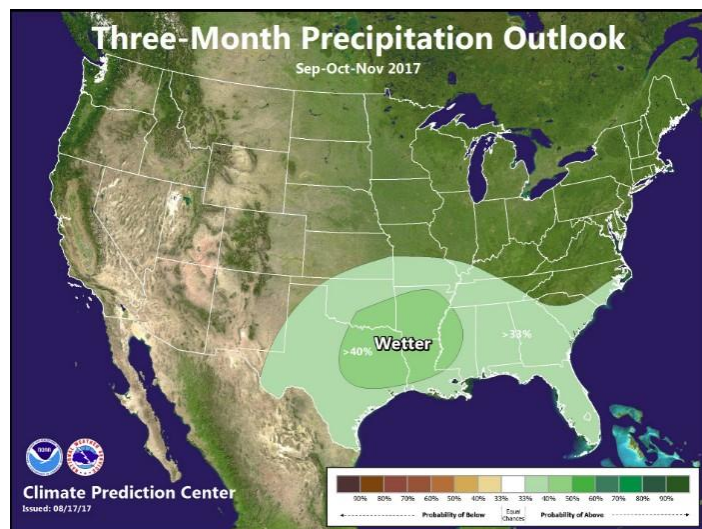


Small Grains Crop Insurance Deadline September 30 - Laurie Wolinski, Extension Agent; lgw@udel.edu

The USDA's Risk Management Agency (RMA) reminds Delaware small grains producers that the final date to apply for crop insurance coverage for the 2018 crop year is September 30. Current policyholders who wish to make changes to their existing policies also have until September 30 to do so. Prices for small grains for the 2018 crop year are explained in the Commodity Exchange Price Provisions. Projected prices are searchable on the RMA Price Discovery site at:

<https://prodwebnlb.rma.usda.gov/apps/PriceDiscovery/>

Producers are encouraged to visit their crop insurance agent soon to learn specific details for the 2018 crop year. Crop insurance coverage decisions must be made on or before the sales closing date.



Recruiting for Class V of LEADelaware! - Jennifer Volk, Extension Environmental Quality and Management Specialist; jennvolk@udel.edu

Because there are many issues - economic, social, and environmental - facing agriculture related industries, there is a need for experienced and trained advocates that can provide a voice and direction for the future. LEADelaware provides that training.

LEADelaware is an agriculture and natural resources leadership program designed to help build the next generation of leaders within the food and fiber industries, which influence our food system, our economy, and our environment. The program takes a group of emerging leaders through a series of sessions offered over a two-year period to provide participants with the knowledge, skills, and opportunities to lead. These leadership sessions are placed in context of current issues and problems facing the state with regards to agriculture and natural resources.

We are currently seeking applicants for Class V, which will begin in January 2018. Applicants should have a demonstrated interest in developing their leadership abilities and a commitment to agriculture and/or natural resource based industries in Delaware. Visit the [LEADelaware website](https://sites.udel.edu/leadelaware/) (<https://sites.udel.edu/leadelaware/>) to learn more about the program and Class V schedule, review the complete list of eligibility and selection requirements, and download application materials, which are due October 27, 2017.

Announcements

New Castle County Fall Equine Program

October 10, 2017

New Castle County Extension Office
461 Wyoming Road
Newark, DE 19716

6: 00 p.m. Global Worming: How to Prevent De-wormer Meltdown in the 21st Century

Dr. Rose D. Nolen-Walston, University of Pennsylvania School of Veterinary Medicine

6:40 p.m. New Castle County Conservation District Programs for Equine Operations

Mr. Kevin Donnelly, New Castle Conservation District Coordinator

6:55 p.m. Break

7:05 p.m. Preparing Your Pasture for Winter: Fall Fertilization and Weed Control

Ms. Susan Garey, University of Delaware Cooperative Extension

7:30 p.m. Preparing an Animal Waste Management Plan for Your Farm

Ms. Sydney Riggi, University of Delaware Cooperative Extension

7:55 p.m. Paperwork

8:00 p.m. Adjourn

Nutrient Management CEUs are pending

DSU Woodland Workshop Series

Please register for any or all of these workshops by contacting Megan (302) 857-6438 or emailing mpleasanton@desu.edu. (Please note that these workshops are not all at the same location.) You must register to attend these free workshops.

Chainsaw 101

Saturday, September 23 10:00 a.m. – noon
915 Kenton Rd. Dover DE 19904

This workshop will show you the do's and don'ts when it comes to chainsaw operations. You will learn safety tips as well as general chainsaw maintenance techniques. The class will be taught by Sam Topper from the Delaware Department of Agriculture's Forest Service.

Selecting and Harvesting Firewood

Thursday, October 26 3:00 – 5:00 p.m.
142 Simmental Meadows Ln, Marydel, DE

During this workshop, you will learn what trees to choose for harvest and which to let grow. You will also learn techniques for harvesting and selecting firewood for sale. This class will be taught by a Delaware Department of Agriculture Forest Service Representative.

Tree Trimming

Thursday, November 9 10:00 – noon
884 Smyrna Leipsic Rd, Smyrna DE 19977

This workshop will teach you the importance of proper tree trimming. The first half of the class will be instructions on how to make a proper cut and the second part will be a demonstration outside.

Building Wood Duck Boxes

Thursday, December 14 6:00 -8:00 p.m.
884 Smyrna Leipsic Rd Smyrna DE 19977

Build them and they will come. During this session you will learn the importance of wood ducks and why

we should promote the species. You will be able to build and prepare a wood duck box and take it home with you free of charge.

Small Ruminant Field Day: Reproduction

Saturday, September 16, 2017

9:00 a.m. – 3:00 p.m.

DSU Hickory Hill Farm

2065 Seven Hickories Rd, Dover, DE 19904

Registration: 9:00 - 10:00am

Program: 10:00am - 3:00pm

Cost: \$15 (Lunch included)

AGENDA

Morning Session

Basic Small Animal Reproduction

Reproduction: Pros and Cons of AI

Nutrition: Basics for Small Ruminants

Buck and Ram Selection & Management

Afternoon Session (1 hour each, pick 2)

Pasture Walk

Mobile Meat Processing Lab

Hoof Trimming

Register using the link below by September 2, 2017

<https://www.surveymonkey.com/r/HZPQW3K>

To request more information or for assistance due to disabilities, contact:

Kwame Matthews, Ph.D. - 302-857-6540,

kmatthews@udel.edu

Susan Garey - 302-730-4000, truehart@udel.edu

Dan Severson - 302-831-8860, severson@udel.edu

Large Animal Emergency Rescue Training

October 7 or 8, 2017 8:00 a.m. – 4:00 p.m.

University of Delaware Equine Science Program

UD Webb Farm, Farm Road, Newark

Do you know what to do in a large animal emergency? Are you prepared with equipment, know who to call, what to do? Whether you are a public safety official, a first responder, a veterinary professional, or an equestrian, this course is essential to prepare you for an emergency. You will learn how to move large animals safely and quickly in cases of disaster or injury, while preventing potential injuries to the humans involved. The course offers classroom instruction and hands-on

scenarios using our specialized equipment and equipment that may be readily available to first responder departments.

A one-day clinic is being offered to educate first responders, horse owners or anyone interested in learning basic large animal rescue techniques instructed by Roger Lauze, the Equine Rescue and Training Coordinator for MSPCA. Fair Hill NRMA's new rescue trailer, donated by the Volunteer Mounted Patrol, will be utilized for the training. The cost for the full day of training is \$10 per person. Please bring your own lunch and drinks.

Registration is limited to 40 participants per day so please register early. Dress appropriately for the weather as you will be hands on after classroom work. Please bring leather gloves and safety helmet.

For more information, contact Amy Biddle, Department of Animal and Food Sciences, asbiddle@udel.edu or (302) 831-2642.

To register mail or email **registration form** to Amy Biddle. Pre-registration must be received by September 30, 2017 <https://cdn.extension.udel.edu/wp-content/uploads/sites/12/2017/08/25133805/LAERTform2017.pdf>

Delaware Beekeepers Association's Open Hive Event

Saturday, September 23, 2017

8:30 a.m. – 12:00 p.m.

Delaware State University

Outreach and Research Center

884 Smyrna-Leipsic Road Smyrna, DE 19977

Please join us for educational lectures, demonstrations and a first-hand look inside a real honeybee hive. Get your first exposure to these important and fascinating insects!

(Rain Date September 24, 2017)

RSVP: Kathy Hossler, DBA President, dbapresidenthossler@gmail.com

Or for more information about DSU's beekeeping program, contact Jason Challandes, jchallandes@desu.edu or 302-388-2241

Cooperative Extension Education in Agriculture, 4-H and Home Economics, Delaware State University, University of Delaware and United States Department of Agriculture cooperating, Dr. Dyremple B. Marsh,

Dean and Administrator. It is the policy of Delaware Cooperative Extension that no person shall be subjected to discrimination on the grounds of race, color, sex, disability, age, or national origin.

2017 Dickeya and Pectobacterium Summit

November 9, 2017

The Potato Association of America meetings were held last week in Fargo, ND. Interesting items of note were:

- Scottish scientists (including Ian Toth and Gerry Saddler) recommend regulating *Dickeya dianthicola* as A2 quarantine pest. They also recommend a zero tolerance for all *Dickeya* spp. on potatoes in Scotland.
- Work from North Dakota and Maine presented changes in dormant tuber tests that increased *Dickeya* recovery (reduced the false negatives) by as much as 30 percent.
- There is a new *Pectobacterium* species reported from Maine that affects plants in the field and tubers in storage.
- There may be some progress in chemical control of the pathogens (and NO, it is not phosphorous acid, Tanos, or anything else applied to the foliage!!!)

Sound interesting? Valuable? These, and other speakers will all be presenting on these and other topics at the *Dickeya* and *Pectobacterium* summit in Bangor on November 9, 2017.

This is an opportunity to hear the latest information that you, as a grower, need to know about these pathogens and diseases.

There is still room at the upcoming *Dickeya* and *Pectobacterium* Summit:

<https://extension.umaine.edu/agriculture/programs/dickeya-and-pectobacterium-summit/>

Day in the Garden Open House with

Sussex County Master Gardeners

Saturday, September 16 10:00 a.m.-2:00 p.m.

Free!

Sussex County Master Gardeners are Thinking Pink!

The public is welcomed to attend their 2017 Open House "A Day in the Garden" which this year has a special focus on promoting healthy lifestyles and their

patio area will highlight pink plants to promote breast cancer awareness.

Join us for this fun, family event. There's something for the whole family! Come and see how the garden has changed and grown since your last visit! Stroll through our new ADA garden path. Join us in thinking pink as our patio will feature shades of pinks for breast cancer awareness. Learn how to extend your garden into the beautiful fall season! Learn about bees and butterflies and learn how to attract them to your garden. Shop the plant sale! Attend our free mini-workshops. Play hopscotch in the Children's Garden. Enjoy ice cream from the University of Delaware UDCreamery's Moo Mobile (free to children under 16 with a coupon from Farmer McGregor). Bring your camera! Registration to attend is not necessary! This event is Rain or Shine!

Four Free Mini Workshops All in One Day!

Events this year include:

Check out the bee hotels around our garden

Plant Sale

Pink container garden in honor of breast cancer awareness

Dry Shade Garden

Vertical Garden Display

UDairy Creamery Ice Cream available for sale from the MooMobile!

Ask an Expert – Sick Plant Clinic

Special Children Events

The international award winning "The Misadventures of Peter Rabbit in Farmer McGregor's Garden" will show at 10:30 a.m. and 1 p.m. Kids, ask Farmer McGregor for a coupon for free ice cream!

Come see what we've designed, planted and cultivated. There is a lot new this year! Do you have a plant that's under the weather, or not cooperating with the weather? Bring it to our Sick Plant Clinic. Visit our plant sale and take home a new plant to enjoy in your garden!

Mid Atlantic Crop Management School

November 14-16, 2017

Ocean City, MD

Registration is now live

<https://app.certain.com/profile/form/index.cfm?PKfor mID=0x26558978c60>

You may now register for the 2017 Crop School by following the link above. We also have a shortened link you may share by email (<https://go.umd.edu/crop17registration>). The early bird fee is \$275 prior to September 15th; \$285 prior to October 30th; and \$325 if received by November 6th.

The school offers a 2 ½-day format with a variety of breakout sessions. Individuals needing training in soil and water, nutrient management, crop management and pest management can create their own schedule by choosing from 5 program options offered each hour. Emphasis is placed on new and advanced information with group discussion and interaction encouraged.

The full program for the 2017 Mid-Atlantic Crop Management School can be downloaded here: https://app.certain.com/accounts/register123/umd/evens/crop-17/2017_CMS_Program_FINAL_2017-09-05.pdf

Annie's Project: Women Managing Commercial Poultry

six classroom sessions starting on

Thursday, October 12, 2017

5:30 – 8:30pm

Two locations:

UD Carvel Research & Education Center,
Georgetown, DE

and

UD Paradee Center, Dover, DE

Annie's Project focuses on the many aspects of farm management and is designed to empower women in overall farm decision making and to build local networks throughout the state. The target audience is farmwomen and women involved in agriculture with a passion for business, agriculture and involvement in the farm operation. Topics for the sessions cover the five areas of Risk Management – Production, Marketing, Financial, Legal Risk, and Human Resources. This course is open to anyone interested in farm management practices.

The University of Maryland and Delaware Cooperative Extension will conduct the program at two sites. The classes will be offered at the same time. Zoom Web Conferencing will be used to bring the two locations together.

The cost of the entire course including meals and materials is \$75. There is an additional \$100.00 fee for FSA Borrower Training attendees. Please register by October 6th- space is limited.

For more information and to register visit the website <http://extension.umd.edu/annies-project/class-information> or call (410) 758-0166 or email jrhodes@umd.edu. If you require special assistance to attend the classes, please contact the site at least two weeks prior.

Upcoming Women in Ag Webinars

Noon – EST

Register

<http://extension.umd.edu/womeninag/webinars>

9/27/17: The Produce Safety Rule of the Food Safety and Modernization Act & the Records You Need to Keep

If you grow produce you need to keep records in order to comply with the Produce Safety Rule of the Food Safety Modernization Act (FSMA). If your operation is not subject to the law you need to keep certain records to prove your exemption. If your operation is subject to the law you need to keep certain records to be in full compliance with the law. Join the webinar to learn which records your operation needs to keep to stay compliant with FSMA.

10/11/17: Urban Soil Quality

What are the contamination risks to be aware of when growing in urban soil? How should you test for soil contaminants? How do you interpret the test results? What treatment and management options exist? Which of those are practical? If you're interested in the answers to any of these questions, tune in to this webinar.

2018 MidAtlantic Women in Ag Conference

February 8 & 9, 2018

Dover Downs, Dover, Delaware

February 8 is the preconference (social media or specialty crop production topics) and February 9 is the conference.

Details of the conference and registration will be available soon at: <http://extension.umd.edu/womeninag>

Webinar: Connecting Health Insurance and Agricultural Viability—Helping Farmers and Ranchers Address Health-Related Risks

Tuesday, October 10, 2017 1:30-3:30 p.m

Health, access to care and health insurance affect the vitality of agricultural enterprises and farm and ranch families, according to results from a national research project funded by the USDA. Designed for Extension, tax, loan, health and other agricultural advisors, this webinar will provide an overview of the research findings and introduce some practical tools that educators and advisors can use to help farmers and ranchers make informed decisions for their businesses and households.

Participants will leave the webinar with:

- An understanding of the intersection of health and agricultural business viability, grounded in 2016-2017 national research findings;
- Tools they can use in their work farmers, including worksheets, videos and other informational resources.
- Questions to ask farmers and ranchers to help incorporate health costs into farm enterprise and risk management planning.

Host:

Scott Loveridge, *North Central Regional Center for Rural Development*

Presenters:

Shoshanah Inwood, *The Ohio State University*
Bonnie Braun, *University of Maryland Extension*
Bob Parsons, *University of Vermont Extension*
Jake Jacobs, *University of Vermont Extension*
Maria Pippidis, *University of Delaware Cooperative Extension*

This webinar is FREE. Register online:

<https://www.hirednag.net/webinars>

For more information, please email Katlyn.Morris@uvm.edu. To request a disability-

related accommodation to participate in this program, please email by September 19, so we may assist you.

The project was supported by the Agricultural and Food Research Initiative Competitive Program of the USDA National Institute of Food and Agriculture (NIFA), grant number 2015-2014-05623.

Weather Summary	
Carvel Research and Education Center Georgetown, DE	
Week of September 7 to September 13, 2017	
Readings Taken from Midnight to Midnight	
Rainfall:	0.02 inch: September 7 0.04 inch: September 13
Air Temperature:	Highs ranged from 84°F on September 13 to 72°F on September 9 and September 10. Lows ranged from 62°F on September 13 to 49°F on September 10.
Soil Temperature:	71.1°F average
Additional Delaware weather data is available at http://deos.udel.edu/	

Weekly Crop Update is compiled and edited by Emmalea Ernest, Associate Scientist - Vegetable Crops with assistance from Don Seifrit.

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