



WEEKLY CROP UPDATE

UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetable Crops

Fruit Disorders in Watermelon Revisited -
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There are several fruit disorders in watermelons being found across the region currently.

One of the most common is sunscald or sunburn on fruits. This occurs when fruits are exposed to direct sunlight, especially on extremely hot days. Rind surfaces can reach temperatures exceeding 140° F. This kills rind cells and results in sun burnt spots where the cells have died. Fruits with little or no vine cover are at most risk. Also at greater risk are watermelons with dark colored rinds.

Irregular ripening has been a problem in some fields this year. Varieties planted at the same time are not ripening evenly in a field. Fruits that look mature on the outside are not fully ripe inside, often with significant amounts of white flesh.

Watermelons are classified as non-climacteric, that is, they do not continue to ripen significantly after harvest. Other fruits, particularly those that soften, such as peaches, release ethylene gas during the ripening process and will continue to ripen after harvest. It was once thought that ethylene was not involved in watermelon ripening, however, in 2009, USDA researchers found that watermelons released a burst of ethylene at the white fruit stage. Watermelon fruit development and ripening also is dependent on the accumulation of sugars.

Sugars are produced by photosynthesis in the foliage of the watermelon plant and are translocated to the fruit.

So, what is cause of irregular ripening seen this year? One possible explanation is deteriorating vine health. Loss of foliage or stem tissue due to diseases such as gummy stem blight or insect or mite feeding on leaves and stems can reduce the amount of sugars available to translocate into the fruit. In a field, variability in vine health therefore would lead to variability in fruit ripening.

The burst of ethylene that researchers found could also be an issue. In plants where ethylene production is compromised, this could lead to later ripening or incomplete ripening.

Potassium may also be an issue. Potassium is important in fruit ripening and low or variable potassium levels may lead to irregular ripening. In fields with pre-plant potassium applications only, heavy irrigation could leach potassium out of the root zone creating lower than normal levels in the soil and potential deficiencies leading to irregular ripening.

Hot weather (temperatures in the 90s) can also lead to fruit disorders. Watermelons do tolerate high temperatures but some varieties are less tolerant of extended hot weather, leading to irregular ripening.

Another disorder that can be found is water soaking in fruits. This occurs where excess water accumulates at the bottom of the fruit, leaving a water soaked appearance in the flesh when cut open. Water accumulates during cloudy weather

when transpiration from fruits is low. Water soaking in fruits is also found in fields where foliage has deteriorated. In this situation, water is still being translocated in the xylem but there is limited transpiration through the leaves. Watermelon fruits are still transpiring, but due to the nature of the fruit (thick rind, waxy surface); transpiration is lower than in leaf tissue, leading to water buildup in the fruit. A related disorder is watermelon splitting during handling. In fruits with excess water, the high turgor pressure makes the fruit susceptible to splitting as it is handled (i.e. harvested into busses or trucks, grading, and placing in bins). Even small drops can lead to these splits.

Agronomic Crops

Agronomic Crop Insects - *Bill Cissel*,
Extension Agent - Integrated Pest Management;
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Alfalfa

Potato leafhopper populations can still be found at economic threshold throughout the region. Continue to sample alfalfa for potato leafhoppers weekly, starting seven days after cutting until final harvest. Ten sweep net samples should be taken in 10 random locations throughout the field when the alfalfa is dry. The threshold for alfalfa 3" or less is 20 leafhoppers per 100 sweeps, 4-6" tall is 50 per 100 sweeps, 7-10" tall is 100 per 100 sweeps and greater than 11" is 150 per 100 sweeps. If the field is more than 60 percent bud stage or if it has experienced "hopper burn", the alfalfa should be cut instead of sprayed.



For more information on the identification, biology, and management of potato leafhoppers, please review our fact sheet:
<http://extension.udel.edu/factsheets/potato-leafhopper-control-in-alfalfa/>

Here is a link to our Insect Control in Alfalfa Recommendations (pure stands only):
<https://cdn.extension.udel.edu/wp-content/uploads/2012/05/18063238/Insect-Control-in-Alfalfa-final-for-2017.pdf>

Here is a Youtube video discussing how to sample for potato leafhoppers:
<https://youtu.be/7ybclcNu2rA>

Soybeans

Scout for Two-spotted Spider Mites in Soybeans:



The recent rains and cooler temps have reduced plant stress and slowed down Two-spotted spider mite (TSM) reproduction. However, I continue to find mites and eggs in soybean fields. The weather over the next several weeks will ultimately determine if mite populations increase so be sure to scout your fields so that you can determine if populations are increasing or decreasing. Scout for TSM by examining the underside of 5 leaflets in 10 locations for mites, noting the presence of mite eggs and the amount of leaf damage. The threshold for TSM during bloom to podfill is 20-30 mites per leaflet and 10% of plants with one third or more leaf area damaged.

Concentrate scouting efforts on field edges for initial detection, especially edges bordered by grass and road ditches (it's not unusual to also find hot spots in the interior portions of the field). TSM typically develop on grasses and

other plants on field borders before ballooning into fields. Once TSM are detected, scout the interior portions of the field to determine if they have spread throughout the entire field. If only concentrated on field edges, spot treating may be an option. If spot treating on field edges, extend the treated area about 100 ft further into the field from the damaged area.

A hand lens is necessary when scouting for spider mites to see mite eggs and nymphs. Here is a short Youtube video demonstrating how to use a hand lens: <https://youtu.be/IFz004WI28E>

Here is a link to our Soybean Insecticide Recommendations for chemical control options: <https://cdn.extension.udel.edu/wp-content/uploads/2012/05/18063934/Insect-Control-in-Soybeans-2017-final.pdf>

Also note that in 2016, two miticides were registered for use on soybeans; Zeal SC, (Valent U.S.A Corporation) and Agri-Mek SC, (Syngenta Crop Protection, LLC). These are the only labeled formulations of these products. Please consult the label for rates, additional restrictions, and adjuvant requirements.

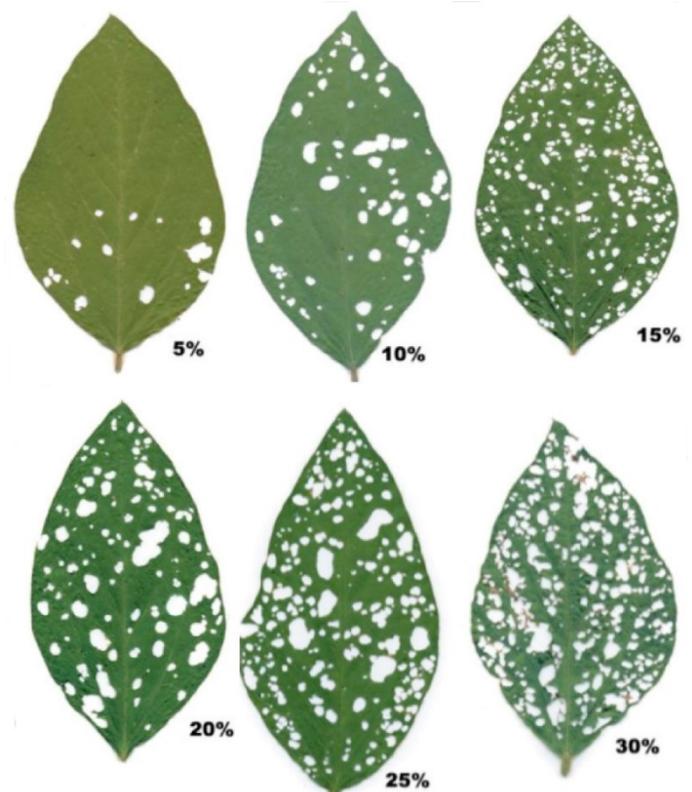
Zeal SC Supplemental Label for use on soybean: <http://www.cdms.net/ldat/ldCCK003.pdf>

Agri-Mek SC Label: <http://www.cdms.net/ldat/ld9NL020.pdf>

Continue to Scout Soybeans for Defoliating Insects: Continue to scout soybeans for defoliators including grasshoppers, bean leaf beetles, Japanese beetles, and green clover worms. This week, bean leaf beetle populations have increased in full season and double crop fields. I also started finding newly hatched grasshopper in many fields.

During reproductive growth stages (Bloom-Podfill), the threshold is 15% defoliation. Prior to blooming, the threshold is 30% defoliation. When estimating defoliation, randomly select leaves from the entire plant, not just the newest growth or leaves with the greatest amount of defoliation.

Here is an image to help in estimating the amount of defoliation:



Iowa State University, Marlin E. Rice
<http://www.ipm.iastate.edu/ipm/icm/2002/7-29-2002/soydefoliation.html>

Are Your Fields at Risk to Lodging from Dectes Stem Borer? Dectes stem borers are present in soybean fields throughout the state and can be seen "hanging out" on leaves and easily captured with a sweep net. Knowing you have an infestation of Dectes stem borers in your soybean field can be used to schedule harvest to minimize lodging losses.

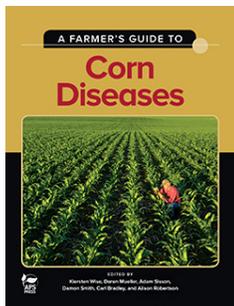
Check out week #16 Guess the Pest for more information on the Dectes stem borer: <http://extension.udel.edu/weeklycropupdate/?p=10833>



General

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

Congratulations to Kathleen Heldreth for accurately identifying the insect in Guess the Pest Week #16 as a lady beetle larva. Kathleen will not only have her name entered into the end of season raffle for \$100 gift card not once but five times, she 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 # 17, 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 #16 Answer:

Lady Beetle Larva

Lady beetles, sometimes referred to as ladybugs or ladybird beetles are ferocious predators and play an important role in reducing pest populations in many crops. Both the adult and larval stage prey on insect pests and are considered one of the "good guys". They are especially fond of aphids and a single beetle has been reported to consume as many as 5,000 aphids during its lifetime. Finding a lot of lady beetles in your crop is a good indication that you have an aphid infestation, but don't be too alarmed. Lady beetles will often keep the population in check. For example, in small grains, one lady beetle (adult or larva) per 50-

100 aphids is often sufficient to achieve biological control.



Guess the Pest Week #17



What is this disease?

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

<https://docs.google.com/forms/d/e/1FAIpQLSfU>



Whole Farm Revenue Protection (WFRP) Workshop August 22 - Laurie Wolinski, Extension Agent; lqw@udel.edu

Whole Farm Revenue Protection (WFRP) is an emerging insurance product now available through all crop insurance agencies on Delmarva and throughout the U.S. WFRP covers revenue from a host of crops and enterprises not otherwise insurable. In addition, for crops currently insurable by the familiar Yield Protection (YP) and Revenue Protection (RP), WFRP may provide more actual income protection at a reduced premium cost.

On August 22, 2017, 9:00-12:00, a workshop will be held at the Carvel Center, Georgetown, DE, which will include an introduction to WFRP. Every farm family should have someone in attendance to get an overview of how the Whole Farm coverage concept works.

WFRP has gained considerable acceptance some areas of the country. Ben Thiel, Director of the RMA Northwest Region, will report on what producers in his area find attractive about WFRP. Delmarva producers can compare the potential opportunities for their own operations.

The agenda features remarks by DDA Secretary Michael Scuse, former USDA undersecretary whose mission area included the Risk Management Agency (RMA) which develops and oversees federal crop insurance. Secretary Scuse will provide his perspective on emerging crop and revenue coverage trends and what Congress might be expected to do in the next Farm Bill.

Deputy Secretary Kenny Bounds will report on his first six months on the job, as well as his experience in his former career in ag lending,

specifically regarding the importance of risk management on the part of a borrower.

Delaware farmer and risk management program facilitator Don Clifton will present a WFRP overview with examples of Delmarva specific applications and case studies.

Dr. Jarrod Miller, University of Maryland Extension Ag Educator will discuss soil health and the nutrient management aspects of cover crops, which is a very timely subject.

Every farm family should have at least one person in attendance for this workshop.

Watch your mail and future Weekly Crop Updates for further details. Contact Laurie Wolinski at 302-831-2538 or LGW@udel.edu to register. You may also call Don Clifton at 302-242-8806 with questions or email questions to decrophelp@gmail.com.

Announcements

2017 Dickeya and Pectobacterium Summit November 9, 2017

University of Maine staff are working to address Dickeya, a recent and potentially “devastating bacterial disease in Maine seed potatoes.” Projects are being conducted in Maine and in collaboration with colleagues in other states. We have been successful in pursuing funding opportunities and hope to have news soon on additional pending grants.

Some of the efforts include:

- Chemical control of Enterobacteria
- Identifying seed lots with Enterobacteria
- Enterobacteria spread and epidemiological studies
- Enterobacteria identification
- Enterobacteria pathogenicity
- Enterobacteria levels in a seed lots related to stand loss
- Movement of Enterobacteria in a seed system
- Postharvest test for the presence of • Enterobacteria

Results from these studies will be presented at the 2017 Dickeya and Pectobacterium Summit November 9, 2017. The summit will be your chance to hear about

improvements in the dormant tuber post-harvest test, among other topics.

For interest, please see a [bulletin #482](#) entitled: “[Factors Affecting Potato Blackleg and Seed Piece Decay.](#)”

The Introduction has this sentence:

“State potato seed certification officials discriminate against the presence of blackleg and many buyers refuse to purchase seed stocks known to have even a small percentage of the disease.”

By the way, the bulletin was from 67 years ago, May 1950.

To register for this meeting and for additional information go to:
<https://extension.umaine.edu/agriculture/programs/dic/keys-and-pectobacterium-summit/>

Cover Crops, Soil Health and On Farm Research

Thursday, August 10

Two Educational Programs are scheduled for August 10. In the morning there will be program on cover crops and soil health sponsored by the Sussex County Conservation District with University of Delaware and Delaware State University. In the afternoon, there will be a session on conducting on-farm research. More details will be provide in future newsletters, but this early notice is provided so you can mark your calendars.

Whole Farm Revenue Protection (WFRP) Workshop

Tuesday, August 22, 2017 9:00 a.m.-12:00 noon
University of Delaware
Carvel Research & Education Center
16483 County Seat Highway, Georgetown, DE

An emerging insurance product, Whole Farm Revenue Protection (WFRP), is now available throughout the U.S. In many cases, **WFRP can provide more actual income protection at a reduced premium cost.**

This workshop will include an introduction to WFRP. Every farm family should have someone in attendance to get an overview of how the Whole Farm coverage concept works.

Details are still being arranged. Save the date and watch future Weekly Crop Updates for further details. In the meantime, contact Laurie Wolinski at 302-831-258 or LGW@udel.edu.

Cut Flower Tour on the Eastern Shore

Tuesday, September 12, 2017

Save the Date! Details coming later this summer.

Organized by University of Maryland

2017 UD/DNLA Summer Hort Expo

Tuesday, August 15

University of Delaware Botanic Gardens
Newark, Delaware

UD/DNLA's 2017 Summer Turf & Nursery Expo will be held Tuesday, August 15, 2017 at the University of Delaware Botanic Gardens Newark, Delaware.

For more information or to register -
<http://www.dnlaonline.org> or contact Valann Budischak at (888) 448-1203 or info@DNLAonline.org

The Delaware Nursery & Landscape Association (DNLA) is a non-profit association of green industry professionals.

Laurel Auction Market Tour

Wednesday, August 2, 2017 8:30 a.m.
10667 Georgetown Road
Laurel, DE 19956

A morning visit to the Laurel Auction Market in Laurel, DE to learn more about the process of selling through the market. Please join us at 8:30 a.m. at 10667 Georgetown Road, Laurel, DE for a tour of the market, to learn how sales take place, see baskets and other items for sale at the market to the public.

If you are interested in join us for this tour, contact Tammy Schirmer, tammys@udel.edu or 302-856-7303.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of July 20 to July 26, 2017

Readings Taken from Midnight to Midnight

Rainfall:

0.01 inch: July 20
0.28 inch: July 22
0.51 inch: July 23
0.66 inch: July 25

Air Temperature:

Highs ranged from 94°F on July 20 to 78°F on July 26.

Lows ranged from 77°F on July 21 to 66°F on July 26.

Soil Temperature:

82.9°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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