WEEKLY CROP UPDATE
UNIVERSITY OF DELAWARE COOPERATIVE EXTENSION

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Vegetable Crops

Worker Protection Standard – Make Sure to Implement Changes Required in 2017

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

Recently, growers in the region have been inspected by the EPA for compliance with the Worker Protection Standard (WPS) and significant fines have been imposed for non-compliance. The WPS was changed in 2017 and those changes are now in effect.

One most notable change has been in the training requirement. The following is a summary from the University of Florida Extension: *It is required that the full safety training for workers and handlers be conducted annually. Previously, the training was necessary only once every five years. There is no grace period for when workers may be trained; they must be trained prior to working in an area where a pesticide has been used or a restricted-entry interval (REI) has been in effect in the past 30 days. Formerly, there was a five-day grace period for the required training. For handlers, as previously required, training must be conducted prior to performing any handling activity. Only those who are certified applicators, state/tribal/federal-approved trainers, and persons who have completed an EPA-approved train-the-trainer course are qualified to administer training. The training content for both workers and handlers has been expanded to include more items. Formerly, there was no requirement for keeping records of the training. The revised standard dictates that records be kept for 2 years, and a copy of the training record must be provided to workers and handlers upon their request.*

When working with labor contractors it cannot be assumed that workers have been trained. Each farm operator should take it upon themselves to make sure all workers are trained each yearly harvest season, all new workers are trained before entering fields, and that records of those trainings are kept.

A second area is regarding notification of treated area. It is required that warning signs be posted if Re-entry Interval (REI) is greater than 48 hours (outdoor applications) or 4 hours (enclosed space applications such as greenhouses). Pesticides with lower REI's allow for posting **or** oral notification unless the label requires both. Oral notification can be difficult to reach all employees and hard to document. For most farms, posting would be the most efficient way to comply with the WPS and to keep workers out of treated areas until the REI is past. Posting should be at common entry points into each field. Specific no-entry signs must be used.

A third area within the WPS that has changed is regarding Hazard Communication. *Employers must display application information and safety data sheets (SDSs) at a central location within 24 hours of the end of a pesticide application and before workers enter the treated area. The application information and SDSs must be displayed for 30 days after the REI expires, must be kept for 2 years from the end of the REI, and must be made available to workers, handlers, designated representatives (identified as such in writing), or treating medical personnel upon request. Previously, the posting and recordkeeping of SDSs was not required.*

In addition changes have also been made in a number of other areas within the WPS:

• Minimum age for handlers and early entry workers (18)

• Entry restrictions during applications for outdoor production (zones around fields where workers cannot be during an application are designated)

• Handler suspends application in certain situations (if there is danger of contacting workers i.e. drift)

• Exemptions and exceptions (mostly regarding crop advisors and commercial applicators)

• Basic pesticide safety information (required at central locations and decontamination areas)

• Personal protective equipment (changes to respirator requirements and need for medical clearance)

• Decontamination supplies (requirements have changed)

• Emergency assistance (must be able to promptly provide the SDS, product information - name, EPA Reg No and active ingredient).

• Definitions of "family" and "employer" (family exemptions have been expanded, employer defined and clarified in regards to contracted labor)

Phytophthora Fruit Rot in Watermelon

– *Kate Everts, Vegetable Pathologist, University of Delaware and University of Maryland*; keverts@umd.edu

Weather conditions continue to be very favorable for the development of Phytophthora fruit rot on watermelons. Conditions that favor Phytophthora fruit rot are rainfall amounts that lead to saturated fields for several hours. When soil is saturated for 5 to 6 hours, the disease progress is greatly increased. Optimum temperature for the disease is 82°F, however higher temperatures won't stop the progress of the disease.

The first step in management of Phytophthora fruit rot is to implement good cultural disease management practices such as removing infected debris and diseased fruit from fields, using raised beds, and improving soil drainage through tillage or creating ditches. Phytopthora blight has a wide host range, so avoid susceptible host plants in the field rotation (snap and lima bean, cucurbits, eggplants and tomatoes).

Several research trials have been conducted on Phytophthora fruit rot by Dr. S. Kousik in South Carolina to evaluate efficacy of fungicides. He found that Orondis, Revus, Presidio and Zampro were the products that were most often included in the best treatment programs. For example, in 2015, foliar sprays of Zampro alternated with Orondis, and Revus alternated with Presidio reduced fruit rot by about 80% compared to non-sprayed plots. Note that although 80% reduction in fruit rot sounds great, 12% of fruit were still diseased. Other trials have only achieved 60 or 75% fruit rot reduction with the best treatments. Therefore, even in treated fields many fruit won't be harvestable.

In an earlier trial conducted before Orondis was available, a good program for Phytophthora fruit rot was Actigard plus Prophtye plus Kocide applied and alternated with an application that includes Zampro, Revus or Presidio. Zampro, Revus and Presidio applied before harvest reduced post-harvest rot.

Watermelon fruit are susceptible to Phytophthora fruit rot at all growth stages. Therefore sprays targeted for Phytophthora fruit

rot should begin when fruit are approximately orange to grapefruit size.

Phytophthora fruit rot on watermelon

"Felt-like" Phytophthora sporulation on cantaloupe fruit.

Agronomic Crops

Scout Soybeans for Stink Bugs – *Bill Cissel, Extension Agent – Integrated Pest Management*; bcissel@udel.edu

Stink bugs are starting to show up in soybeans. We have three stink bug species that are considered a pest of soybeans. They include the green stink bug, brown stink bug, and the invasive brown marmorated stink bug (BMSB). All three species feed on soybean pods and seed using their piercing-sucking mouth parts. Feeding injury to soybeans in the early stages of pod development, R3 to R4 (beginning pod to full pod), can result in aborted pods or underdeveloped flat pods. Feeding injury to larger seed, between R5 and R6 (beginning seed to full seed) results in shriveled, deformed or even aborted pods.

Flat pod

Seed injury

Stink bug feeding injury has also been shown to cause delayed plant development, often referred to as "stay green syndrome". In response to stink bug feeding, soybeans will delay development in an effort to produce more seed to compensate for what has been lost. As a result, the portions of the field with heavy stink bug infestations remain green while the remainder of the field dries down.

Stay green syndrome

Recognizing stink bug adults is fairly easy with just a little practice. The most common mistake is confusing the native brown stink bug with the invasive BMSB. The easiest way to distinguish between these two species is by looking at the antennae. If the antennae are striped black and white, you know that it's a BMSB because that is the only species we have that has banded antennae. The other feature that can be used to distinguish between the two species is the color of the abdomen. Brown stink bugs have a yellow-green colored stomach compared to BMSB which have a cream or tan colored stomach. It's important to be able to distinguish our native stink bug species (green and brown) from the invasive BMSB because they have different infestation habits which can change our management strategy. Research conducted in the Mid-Atlantic States has also determined that BMSB feeding injury on soybeans is slightly more damaging compared to our native species.

Identifying nymphs can be a little more challenging and the most common mistake is to misidentify stink bug nymphs as beetles because of their shape. Stink bugs nymphs also do not necessarily resemble the adults but looking at the mouth parts can be used to distinguish beetles, which have chewing mouth parts, from true bugs with piercing-sucking mouth parts. When scouting, it is important to count nymphs and adults because both life stages attack soybeans.

Green Stink Bug Adult

Green Stink Bug Nymph

Brown Stink Bug Adult

Brown Stink Bug Nymph

Brown Marmorated Stink Bug Adult

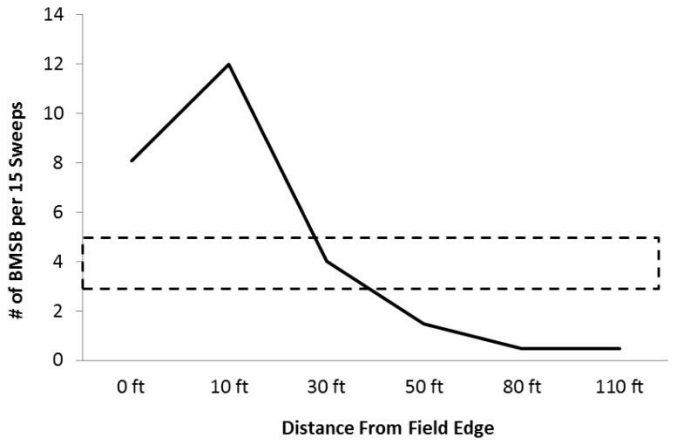
Brown Marmorated Stink Bug Nymph

The threshold for our native stink bug species in soybeans is 5 per 15 sweeps. The threshold for BMSB is 3-5 per 15 sweeps. In many fields, the complex of stink bug species will include a mix of BMSB, green, and brown stink bugs. When a mixture of species is present, the threshold is 5 per 15 sweeps. All thresholds should include the total number of adults and medium to large nymphs.

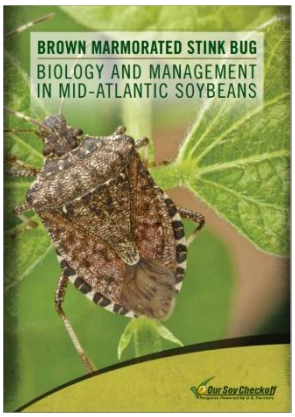
Sampling full season soybeans can be a challenge because the plants are usually tall and difficult to navigate. Stink bugs have a strong startle response and drop from the plant when disturbed. An alternative sampling method to sweep net sampling is performing a timed, 2 minute visual count. This is a preferred method to sweep net sampling because it is not only safer for the sampler (i.e. less likely to become entangled in soybean plants) but is also more accurate. The threshold that has been developed for BMSB in soybeans using the visual 2 minute count is 3-5 medium to large nymphs and adults.

Brown marmorated stink bugs differ from our native species in that they have a behavioral habit of only infesting the outer edges of soybean fields. This habit provides an opportunity to concentrate control efforts on the edges of soybean fields by performing an edge only treatment if BMSB is the only species present. Based on research conducted in the Mid-Atlantic, this approach has been found to be an effective management strategy to control BMSB in soybeans. Below is a graph showing a typical distribution of BMSB in soybeans. Based

on the graph, the highest populations of BMSB are concentrated on the field edge, typically the first 30-50 ft into the field. However, be sure you are also sampling the interior portions of the field because our native stink bug species do not share this same infestation habit and are often distributed throughout the entire field.



Here is a link for more information discussing the Biology and Management of Brown Marmorated Stink Bugs in Mid-Atlantic Soybeans: https://pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/ENTO/ENTO-168/ENTO-168-pdf.pdf



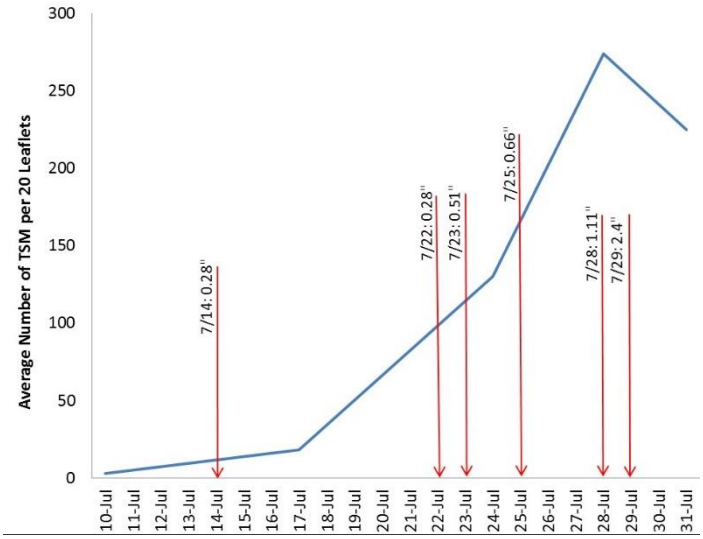
Two-Spotted Spider Mite Populations Seem to be Holding On

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

Despite the recent rains, continue sampling for two-spotted spider mite (TSM) in soybeans. In a previous article, I mentioned that rain doesn't always cause TSM populations to crash. Based on what I have seen in soybean fields in southern DE and in an untreated check in one of my field trials, TSM numbers seem to be holding on.

Below is a graph showing rain events and observed TSM populations in the untreated check from a TSM field trial conducted in Georgetown, DE.

Observed Influence of Precipitation on Two-Spotted Spider Mite Populations



Weather data obtained from the Delaware Environmental Observing System (DEOS): http://www.deos.udel.edu/data/agirrigation_retrieval.php

The good news is that with the recent rains, the plants are not stressed and appear to be putting on new growth. Time will only tell if the TSM populations will increase or crash but as we move into August, the cooler nights and high humidity have historically caused TSM to decrease. This will hopefully be to our advantage. Regardless, make sure you are scouting your fields so that you can closely monitor if populations are increasing or decreasing in your fields.

The threshold for Two-spotted spider mites during bloom to podfill is 20-30 mites per leaflet and 10% of plants with one third or more leaf area damaged. To scout for mites, examine the underside of 5 leaflets in 10 locations, noting the number of mites and eggs and amount of leaf damage.

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

In 2016, two miticides were registered for use on soyeans; Zeal SC and Agri-Mek SC. These are the only labeled formulations of these products on soybean. Based on preliminary results, both of these products appear to be providing excellent control in my research plot. Please consult the label for rates, additional restrictions, and adjuvant requirements.

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

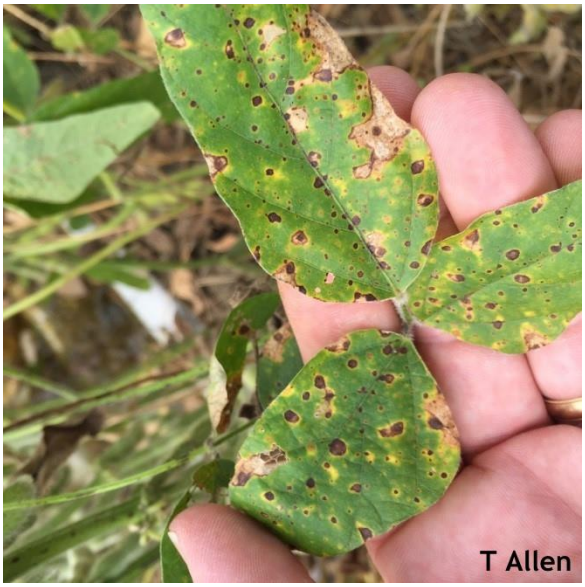
Agri-Mek SC Label: http://www.cdms.net/ldat/ld9NL020.pdf

Target Spot on Soybeans

- *Nathan Kleczewski, Extension Specialist – Plant Pathology*; nkleczew@udel.edu; @Delmarplantdoc

During a recent survey of soybeans in Delaware, we saw a few fields with target spot. This disease occurs at low levels in many fields in Delaware, and only rarely have we observed it at noticeable levels. The disease is caused by the fungus *Corynespora cassicola*, which overwinters in soybean residue and can survive in the absence of a host for roughly two years. Symptoms typically occur in the lower canopy, after canopy closure, due to high humidity requirements by the fungus to infect tissues. Lesions start as small specks that expand to large round or oblong spots with distinctive zonation, hence the creative name. The disease is typically limited to the lower canopy.

Target spot is not considered to be a disease that causes yield impact, and recent research from Southern soybean production areas, where disease incidence and severity is far greater than we have in Delaware, supports this fact. See this link for a detailed report from my colleague Tom Allen at Mississippi: http://www.mississippi-crops.com/2017/04/01/managing-target-spot-of-soybean-2016-fungicide-trial-efficacy-results/. If you are noticing target spot increasing in incidence or severity in your fields, the best thing you can do is manage residue and rotate away from soybeans for a year or two. Many soybean varieties are very tolerant to this disease.



2017 Fusarium Head Blight Screening Nursery Results

- *Nathan Kleczewski, Extension Specialist – Plant Pathology*; nkleczew@udel.edu; @Delmarplantdoc and *Jason Wight, Agronomy Field Trials Coordinator, University of Maryland*

Overview

The misted nursery is a tool used to assess variety response to Fusarium head blight (FHB). The most significant losses due to FHB occur when flowering heads are infected with spores of the FHB pathogen, resulting in yield loss and probable elevation in vomitoxin (DON). Flowering occurs at different times in different varieties. Consequently, varieties may not be at a highly susceptible stage in development when environmental conditions favoring FHB infections occur (Figure 1). In addition, some seasons, conditions for FHB may not be favorable, resulting in little FHB and DON. The misted nursery helps to avoid these issues by prolonging the conditions that may be favorable for FHB infection, reducing the chance that varieties will escape infection due to sub-optimal environmental conditions and promoting disease development. In addition, because many companies provide ratings based only on their own standards, the misted nursery allows for head to head comparison of FHB responses across seed sources. The misted nursery data presented here should be used, in combination with data from the Virginia Tech Misted Wheat

Nursery, to help guide growers in selecting high-yielding wheat varieties with moderate resistance to FHB and in particular, DON. In the table below, varieties in with a green coloration reduced DON >40% relative to the MS control Shirley and P25R40. As DON levels and resistance can vary slightly due to environmental conditions, use these data in addition to the 2016 misted nursery data from MD, as well as other regional misted nursery data from Virginia Tech, to reduce DON and FHB related issues by selecting high yielding, moderately resistant wheat varieties.

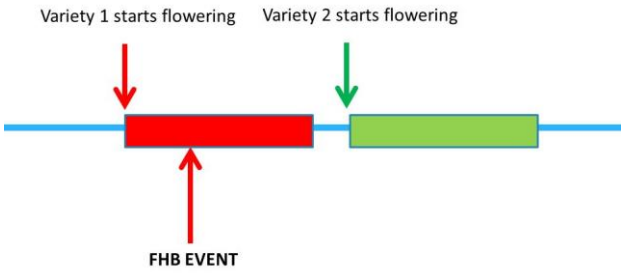


Figure 1. Varieties of wheat can vary significantly in maturity and flowering date. If natural conditions were used to assess FHB response, some varieties may escape disease, appearing to be moderately resistant, because they were not at the appropriate developmental stage when the FHB outbreak occurred. In addition, if conditions were not favorable for FHB during the growing season, little to no FHB may be observed.

Table 1. DON,and index (overall amount of plot with symptoms) for the 2016 wheat misted nursery trial located in Beltsville, MD. *Green = reduced DON by >40% compared to MS/S standard, Shirley and P25R40. Yellow = 40-39% reduction compared to Shirley. Red = similar to Shirley.*

Variety	Index	DON (ppm)
MAS816	15.39	0.77
15MDX6	9.14	1.00
MAS#61	2.22	2.43
MDX17	8.95	2.84
MAS#67	4.14	3.01
VA11W-108PA	7.12	3.58
LCS3204	2.60	3.60
9750	3.37	3.64
OAKES	3.44	3.76
14MW117	1.10	3.84
MBX14-S-210	1.75	3.91
VA13W-38	2.75	4.15
MBX17-P-275	2.44	4.34
USG3197	3.62	4.35
FSX871	3.50	4.38
LCS4601	5.64	4.45
USG3228	2.56	4.47
9772	2.77	4.51
FS860	2.93	4.53
SY007	4.90	4.71
MAS#65	6.68	5.14
MDX1	3.80	5.16
15MDX5	3.88	5.20
SYVIPER	5.30	5.21
WX17782	2.27	5.27
USG3549	2.12	5.44
SY547	3.65	5.59
ARW1611	1.97	5.87
MBX17-M-245	6.20	6.03
ARW1514	4.93	6.04
MBX16-B-203	4.50	6.16
FSX872	9.65	6.17
MAS#6	2.60	6.23
ARW1575	10.83	6.30
USG3404	4.71	6.54
MAS716	0.89	6.73
USG3458	21.19	6.83
VA11W-279	8.11	6.97
WX16722	4.68	7.06
USG3536	1.65	7.31
MAYHEM	7.75	7.32
9701	3.36	7.34
MAS316	1.48	7.40
USG3201	2.69	7.43
MAS#35	8.56	7.52
MAS#69	3.82	7.95
ARW1610	4.17	8.19
HILLARD	4.67	8.21
MAS#42	2.70	8.36
MDX2	0.87	8.55
L11550	2.94	8.55
SY100	2.12	8.60
MAS116	1.48	9.65
MAS#7	13.65	10.81

FILL P25R25	1.11	10.84
USG3895	3.22	10.92
SRW9415	6.79	10.98
25R25	0.68	11.11
VA12W-72	4.97	11.83
15MDX11	3.19	12.02
SRW9606	2.70	12.65
VA12W-68	7.96	13.28
MW133	8.39	14.33
USG3316	5.21	15.07
SHIRLEY	10.27	16.01
MDX18	5.79	16.40
25R40	10.37	18.91
SS8415	27.61	25.89
MDX4	5.11	26.61

Discussion
Growers should use this misted nursery data as a tool for selecting wheat varieties, but should understand that multiple sources of misted nursery results will provide more confidence in variety response. Growers should compare these responses with those available from other misted nurseries, which can be located at the scabsmart variety webpage: http://scabsmart.org/soft_red_winter_wheat_southern_region. Ultimately, continued use of a misted nursery in our region will allow for multi-year assessment of varieties.

Funded by the United States Wheat and Barley Scab Initiative, the Maryland Commodity Board, the Maryland Commodity Board, and the Maryland Small Grains Utilization Board.

Special thanks to Colin Scanlan, Louis Thorne, and Alyssa Mills, for assistance with this project.

2017 University of Delaware Small Grains Variety Trial Results - *Victor Green; vmgreen@udel.edu*
Results from the 2017 Delaware Small Grains Variety Trials have just been posted online:

2017 University of Delaware Small Grains Variety Trials Summary

Delaware Wheat Trials 2017 Variety Table

Delaware Barley Trials 2017 Variety Table

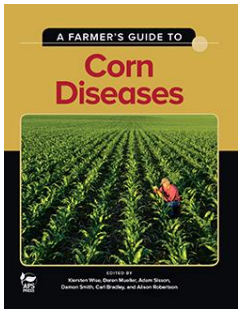
Thank you to all of the companies who have generously supported and participated in the 2017 University of Delaware small grains trials. Appreciation and gratitude is extended to the following cooperators who generously provided land and support for our off-site locations; Craig Murray (Murray Bros. Farm) of Selbyville; John Thomas of Thomas Family Farm in Marydel; and Rob Emerson of Emerson Farms in Middletown. Thank you to the farm staff at the UD Thurman Adams Research Farm; Brian Hearn (Farm Manager), Ward Harris, William Hawkins, Kyle Mitchell, George Willey, and Gunnar Isaacs for their help in maintaining equipment and plots. The variety trial program could not be done without any of them.

General

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

Week #17 Guess the Pest proved to be a challenge and no one correctly identified the disease. The correct answer is tar spot. Thank you to everyone that participated in Week #17 Guess the Pest.

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 # 18, 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 #17 Answer:

Tar Spot on Corn
Tar spot is a relatively new disease to the United States. The disease originates from humid, mountainous regions of Central/South America and was first identified in the United States in 2015. Currently the disease has not been detected East of Indiana. Tar spot is caused by the fungus *Phyllachora maydis*. Symptoms start as oval to irregular brown lesions. Over time the lesions become black spots, which cannot be rubbed off like rust pustules. Lesions can expand and coalesce to form large, blighted areas of tissue. The fungus is not known to cause yield loss except when a second fungus, *Monographella maydis*, co-infects tissues. Luckily we have not yet observed this second fungus in the United States.

Dr. Nathan Kleczewski, Extension Plant Pathologist

Guess the Pest Week # 18

What caused this damage?

To submit your guess click the Guess the Pest logo below or go to: https://docs.google.com/forms/d/e/1FAIpQLSfUPYLZnTRsol46hXmgqj8fvt5f8-JI0eEUHb3QJaNDLG_4kg/viewform?c=0&w=1

Recall of Organic Insecticide Azatrol - *Kerry Richards; University of Delaware Pesticide Safety Education Program;* pesticidesafety@udel.edu

On July 27, 2017 PBI-Gordon Corporation announced a nationwide recall of all Azatrol products, specifically **Gordon's Azatrol EC** insecticide and **Azatrol Hydro Botanical Insecticide.** Both of these products can be identified by the EPA Registration Number 2217-836.

PBI Gordon initiated this national recall in part due to the result of a June 2017 decision by Oregon Department of Agriculture to issue a Stop Sale, Use, or Removal (SSUR) of these products after discovering the presence of five synthetic pesticide active ingredients which were not listed on the labels of these two registered organic pesticide products.

While the five conventional active ingredients found in these two products can be used on a variety of ornamental, food, and feed crops safely, because they were not identified on the labels of the Azatrol products this constitutes misbranded and adulterated product. The non-declared conventional pesticide active ingredients found in the two organic pesticide products are: quantifiable levels of permethrin, bifenthrin, cypermethrin, cyfluthrin, and chlorpyrifos. Malathion was not detected at a quantifiable level.

PBI-Gordon is asking distributors to return any unused Azatrol in their inventories, as well as any unused Azatrol returned to distributors by their customers.

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.

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

Soil Health Field Day AND On-Farm Research Workshop

Thursday, August 10 (rain date August 17)
University of Delaware
Carvel Research and Education Center
16483 County Seat Hwy, Georgetown, DE

The Soil Health Field Day will begin at 8:30 a.m. There will also be a demonstration of the Conservation District's Air Seeder and the University's equipment for planting into cover crops. In the afternoon, there will be a workshop to learn how to conduct On-Farm Research on your farm from 1:30 p.m. - 4:00 p.m.

These workshops are separate and you will need to register for both events. Lunch will be provided for those attending one or both field day/workshops. DE

and MD Nutrient Management Credits and Certified Crop Advisor (CCA) Credits will be available.

You can register two ways, call the Sussex Soil Conservation District Office at (302) 856-3990 ext. 3, or go to https://tinyurl.com/8-10-Registration.

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

Video: DDA Deputy Sec. Kenny Bounds on the Importance of Crop Insurance

An emerging insurance product, Whole Farm Revenue Protection (WRFP), 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.

Fall Pasture Walk

Thursday, September 7, 2017 6:00 - 8:00 p.m.
Woodside Creamery
378 North Star Rd, Newark, DE 19711

Come and see how Woodside Creamery uses pasture to effectively feed the dairy herd. Learn how to identify weeds and how to control them in a pasture setting. In addition, the topic of integrated pest management on forage fields will be discussed. Hear how to take a proper soil sample and how to pick out the right fence charger for your operation. NRCS will give an update on the programs available for pasture planting. Experts will be on hand to answer specific questions.

The meeting is free and everyone interested in attending is welcome. If you have special needs in accessing this program, please call the office two weeks in advance.

Credits: Nutrient Management (1) Pesticide credit(1)

6:00-6:05
Welcome and Introductions
Dan Severson, University of Delaware Cooperative Extension

6:05-6:20
Tour of Pastures and Pasture Management
Jim Mitchell, Woodside Farm Creamery

6:20-6:35
Soil Sampling Techniques and How to Properly Submit Your Sample
Karen Gartley, University of Delaware Plant and Soil Science Research Manager

6:35-7:00
Weed Identification and Control in Pastures
Quintin Johnson, University of Delaware Cooperative Extension

7:00-7:15
Update on Natural Resource Conservation District Programs
Brooke Jones, NRCS District Conservationist

7:15-7:35
Integrated Pest Management in a Pasture Setting
Bill Cissell, University of Delaware Cooperative Extension

7:35-7:50
Choosing the Right Fence Charger for your Operation
Dan Severson, University of Delaware Cooperative Extension

7:50-8:00
Wrap up and Evaluations
Dan Severson, University of Delaware Cooperative Extension

To register or request more information, please call our office at (302)831-2506. Mark your Calendar and call to register by Friday, September 1!

Thank you and see you there. Dan Severson, Susan Garey

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.

Delaware Beekeepers Association's Open Hive Event

Saturday, September 16, 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 17, 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.

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.

Tree Identification Walk and Talk
Thursday, August 24th 5:00 p.m.
Delaware State University
1200 North Dupont Highway Dover, DE 19901

Come join us at Delaware State University. We will walk and talk about some of the native and nonnative tree species we have located on our Tree Campus USA. A tour will be provided by Dr. Cynthia Hong-Wa our herbarium curator.

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.

Weather Summary

Carvel Research and Education Center Georgetown, DE

Week of July 20 to July 26, 2017

Readings Taken from Midnight to Midnight

Rainfall:

1.11 inch: July 28
2.40 inch: July 29

Air Temperature:

Highs ranged from 90°F on August 1 to 73˚F on July 29.

Lows ranged from 70˚F on July 28 to 56˚F on July 31.

Soil Temperature:

77.8˚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.