

The University of Maryland Extension Agriculture and Food Systems and Environment and Natural Resources Focus Teams proudly present this publication for commercial agronomic field crops and livestock industries.

Volume 6 Issue 4

July 9, 2015

Agronomic Crop Insect Update

By Joanne Whalen
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Alfalfa

Continue to sample for potato leafhoppers on a weekly basis. We continue to see a few fields with yellowing. Once plants are yellow, yield loss has already occurred. The treatment thresholds are 20 per 100 sweeps on alfalfa 3 inches or less in height, 50 per 100 sweeps in 4-6 inch tall alfalfa and 100 per 100 sweeps in 7-11 inch tall alfalfa.

Field Corn

As indicated in last week's newsletter, the two most common insects being found in silk stage corn are Japanese beetles and brown stink bugs. The following are general guidelines for management of these two insect pests in silk stage field corn:

(a) Japanese Beetle – Treatment may be needed if silks are clipped back to less than half an inch before 50% pollination and beetles are present and actively feeding. Pollen shed for an individual tassel generally takes 2-7 days to complete and 1-2 weeks for an entire field (information from Bob Nielson, Purdue University).

(b) Stink Bugs – During the pollination to blister stages, stink bugs can feed through the husk and damage individual kernels. Although we do not have thresholds for our area, information developed in states to our south can be used to make a treatment decision. From the end of pollen shed to blister/milk stage, the threshold used in the South is one stink bug for every two plants (50% infested plants). Please refer to the following link for more information on stink bug management in field corn

<http://entomology.ces.ncsu.edu/2014/07/stink-bugs-in-corn/>.

Soybeans

Continue to watch for spider mites, thrips, potato leafhoppers, and defoliators (green cloverworm, bean leaf beetles, grass hoppers, etc.). Another group of defoliators, the Japanese beetle and other look-a-like beetles all in the same insect family, are also starting to

show up in soybeans. One defoliator that has been present in more fields over the past two seasons is the silver spotted skipper. This insect caused significant losses in the 1980s when its host range shifted from leguminous shrubs and trees to soybeans. We have seen an occasional field with economic levels of defoliation from this insect in recent years so it should also be considered when sampling for defoliators. For more information and pictures of the silver spotted skipper please visit the following link:

http://cropwatch.unl.edu/archive/-/asset_publisher/VHeSpfv0Agiu/content/silver-spotted-skipper-on-soybeans

Regardless of which defoliator is present, the treatment decision for defoliators is based on the amount of defoliation. Before bloom in full season soybeans, the threshold is 30% defoliation. Once fields reach the bloom stage, this threshold decreases to 15% defoliation.

IPM Threshold Guide Agronomic Field Crops

ECONOMIC THRESHOLD –

Level of pest activity when control action is suggested to prevent economic injury

Available at:

<https://extension.umd.edu/sites/default/files/docs/IPMAgronomicCropsGuide2009.pdf>



Rainy Harvest Weather and Wheat Quality: Poor Combination

By Robert Kratochvil
MD Extension Specialist
Agronomic Crop Production

Maryland's 2015 wheat harvest has coincided with numerous and widespread rain events that have delayed harvest after the grain has reached maturity. This is good weather for a promising corn crop; but poor weather for the fields of wheat not yet harvested. What impact does rainy weather have on wheat quality?

The first noticeable change that results from an at-harvest rain event is a reduction in test weight. Why? As wheat kernels mature, the sugars that the plant is producing via photosynthesis are sent to the spikes (kernels) where they form starch molecules (the flour). These sugars are moved through the plant with water. As the wheat kernels age and mature, they go through various stages (milk, soft dough, hard dough) toward maturity, all of which coincide with kernel starch increasing and kernel moisture decreasing. Maximizing yield requires an adequate supply of water to the plant for this to occur. However, what happens when this supply of water (rain) continues after the wheat kernels have reached harvestable moisture content (~13-15%)? At that time the kernels have maximized their starch (flour) content and via evaporation have expelled unnecessary water. It is also at this point when test weight is at its maximum. By definition, test weight is the weight of wheat within a defined volume. In the U.S., the measure is a bushel (32 quarts). Test weight has two components that comprise its packing efficiency (kernel shape and kernel weight). Variety differences in test weight are primarily the result of kernel shape differences. When wheat first reaches harvest moisture content, the test weight is at its maximum because it is that time when the most kernels for a variety can be placed into the test weight container. With a rain event, the wheat spikes (glumes and kernels) soak up the moisture. If the conditions following a rain event are wet and humid, this soaking of moisture continues causing the wheat kernels to begin to swell due to the imbibition of water. If good drying weather occurs, the swelling stops and the moisture is again expelled via evaporation but the kernels do not return to their original size. When test weight is measured for this rained-on wheat, fewer kernels can be placed into the

test weight container resulting in lower test weight. The severity of the test weight decline is dependent upon how long the rain event lasts, how good drying weather is after the event, and the time that elapses before the next rain event. Test weight reductions can be as little as 1 pound or as much as 5-7 pounds per bushel.

Does reduction in test weight result in wheat quality decline? No, if the wheat kernel swelling (reduced test weight) was the only outcome for the kernels that imbibed the rain water. However, that is not the only thing that occurs when a wheat kernel imbibes water. Call it the cycle of life. A wheat kernel is pre-programmed to reproduce itself. Thus, once it reaches harvest maturity, its goal is to germinate and produce another plant. If this occurs while it is still in the field, it is described as pre-harvest sprouting. Kernel imbibition of water causes a sequence of events that results in the release of an enzyme, alpha-amylase, within the seed. Alpha-amylase rapidly cuts the starch (a long chain of sugar molecules) into simple sugars and changes the functionality of the starch (flour) for many products that are to be made from it. The value of the grain declines as the level of alpha amylase increases. Grain elevators pay lower prices to growers who deliver sprouted wheat because they have very limited options for its resale. In case of severe sprouting, the only use is for animal feed.

Varieties of soft red wheat differ greatly in their tolerance to rain at maturity. The red pigmentation of the seed coat provides some protection from sprouting, by delaying the on-set of germination. Varieties also differ in their level of embryo dormancy. Some varieties remain dormant and unable to germinate for many days and, in some cases, weeks after the grain reaches maturity while others have little dormancy and are capable of germinating soon after maturity is reached. Determining which varieties minimize the risk of grower crop loss requires testing for the level of dormancy, a characteristic that is admittedly placed below such characteristics as yield potential, disease resistance, earliness, lodging tolerance, etc., on a plant breeder's must-have list of important traits. Temperature differences during grain-fill also influence the level of dormancy, with warm temperatures inducing dormancy and masking a variety's genetic effects.

For the fields of wheat not yet harvested, there is nothing that can be done other than harvest as soon as possible. To avoid this problem in future years, farmers with grain dryers may want to harvest the crop before it reaches harvest maturity (~18-20% moisture content) and dry it to the 12-13% moisture content considered safe for storage. One additional advantage to this early wheat harvest approach is earlier planting of double crop wheat beans.

Corn Disease Update

By Nathan Kleczewski
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July 2, 2015

Corn in many parts of the state is growing rapidly and tasseling or approaching tassel. Now is a good time to scout fields to see if there are any disease issues that may need attention. With recent wet weather diseases such as Gray leaf spot (GLS) and Northern corn leaf blight (NCLB) may flare up, particularly if you have a highly susceptible hybrid in your field. We have had reports of both diseases over the past week in grower fields. It is a little early for NCLB, but this year the disease has appeared earlier throughout many growing regions.

GLS and NCLB are similar in many aspects but can be distinguished in the field fairly easily (Figure 1; Table 1). Symptoms may be more pronounced in areas such as tree lines or bottomlands, where humidity levels may persist for longer periods of time. Hybrid selection plays a key role in management of these diseases (Figure 2) as does residue management and crop rotation. In some situations a fungicide application between VT and R3 may be profitable in high risk fields where these diseases are detected on the 2nd or 3rd leaf below the ear leaf at VT. Losses can occur when these diseases reach the ear leaf prior to grain fill and tend to be more problematic in late planted fields. If the diseases are restricted to the upper canopy or do not reach the ear leaf until 5-6 weeks post tassel, one can expect negligible yield loss.

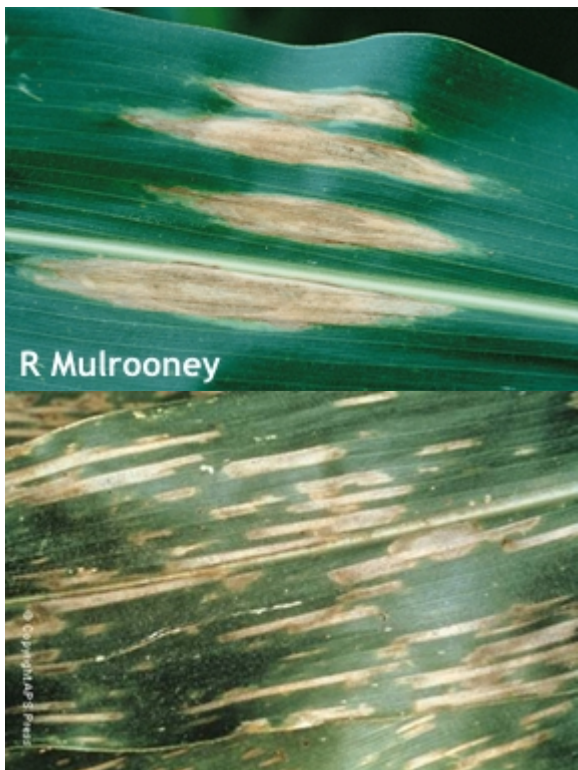


Figure 1. Symptoms of Northern corn leaf blight (top) vs Gray leaf spot (bottom) on corn. Northern corn leaf blight lesions are grayish to olive in color and often pointed at the ends, giving the lesion a cigar or football shape. Lesions can range in size from 1-7 inches in length. Gray leaf spot lesions are rectangular and limited by the leaf veins. Old lesions turn gray over time.

Table 1. Similarities and differences between Gray leaf spot and Northern corn leaf blight.

	Gray Leaf Spot	Northern Corn Leaf Blight
Source of disease	Corn residue	
Optimal temperature	75-85°F	64-80°F
Favorable environment	Prolonged wet weather, heavy morning dew, overcast	
Infection to symptom	≈14 days+	7-10 days
Lesion shape	Rectangular	Oblong
Lesion length	1-3 inches	1-7 inches



Figure 2. A side by side comparison of a hybrid with good resistance to Northern corn leaf blight (right) vs a susceptible hybrid (left). Selecting a hybrid with good resistance to Northern corn leaf blight and Gray leaf spot are essential, particularly in fields with high amounts of corn residue and a history of these diseases.

Soybean Disease Update

By Nathan Kleczewski
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July 2, 2015

This week fields were scouted throughout Delaware. Overall, we encountered few issues. The most common disease was Septoria brown spot, a disease that is not typically a yield limiting issue in soybean production. Infection of leaves by *Septoria glycines* results in the production of small irregular black/purple spots on the lower foliage, giving the leaf the appearance of being splashed with paint (Figure 1). Spots can grow over time eventually resulting in yellow or brown leaves that drop prematurely. Septoria brown spot builds up over time in soybean stubble or residue. Spores produced on residue are spread short distances up the plant by rain splash.

The pathogen requires high levels of humidity to produce spores, thus it is often limited to the lower parts of the canopy. Symptoms may occur earlier or be more severe on some varieties. Other factors that may contribute to disease development include minimum-tillage and continuous soybean production. Septoria brown spot can be easily mistaken for bacterial diseases on soybean such as bacterial blight. To distinguish the two, look at the affected foliage. Septoria brown spot affects old leaved lower in the canopy, whereas bacterial blight affects young or newly developing foliage.

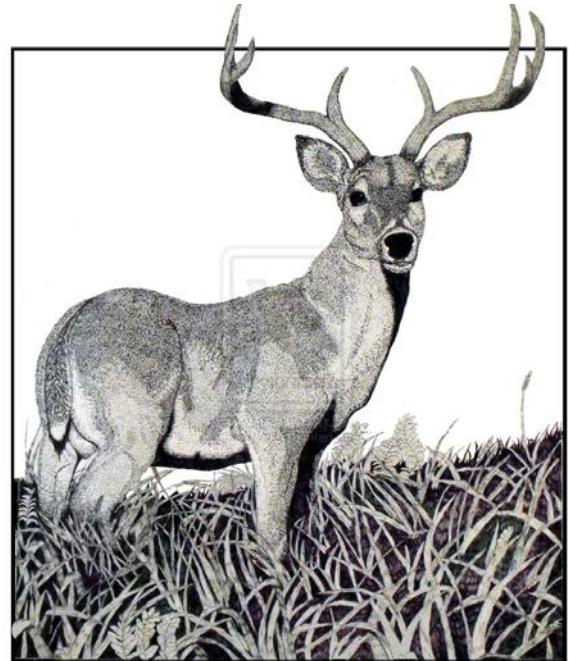


Figure 1. Septoria brown spot on the lower leaves of a soybean plant.

We also saw some fields with symptoms of virus infection and are awaiting confirmation of viral ID. The symptoms we observed included puckered leaves, mosaic, and twisted or distorted growth. We identified Soybean Vein Necrosis Virus (SVNV) again in young soybeans (Figure 2). This virus is spread by thrips and we are still learning about the effects on soybeans. Our current data indicate that it can reduce plant growth and may impact seed quality to some degree. Remember that viruses alter growth regulators in the plant and affect plant physiology in many ways, so leaf drop or degree of foliar necrosis is not necessarily predicative of yield or quality impacts.



Figure 2. Image of early symptoms of Soybean Vein Necrosis Virus.



Preventing and Reducing Deer Damage

By Jarrod Miller
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With all the new growth of soybeans, damage from foraging deer may be at its peak in your area. This is a good time to assess the damage so you can plan better for next year.

While deer will eat just about anything when hungry, they do prefer young, high protein buds and plants. This includes legumes like soybeans and alfalfa. Other preferred meals include fruit trees (stems, leaves, and fruit), vegetables, nuts, and even Christmas tree shoots. Colorado State Extension lists geraniums, strawberries, apples and roses as some other favorite foods. Many of these are important agronomic, horticultural and ornamental crops that support a farmer's bottom line. Preventing, or at least limiting damage from deer

can be as important as scouting for weeds, diseases and pests.

There are many methods used across the country to deal with deer populations including hunting, repellants and exclusion by fencing. As you observe damage this year you may decide to try methods at those sites in the future, or simply not plant there anymore.

Deer management permits are used in many states to allow for the reduction of the deer population outside of the hunting season. By themselves they may be unsuccessful, unless a community efforts across that includes neighboring farms and landowners work together to decrease the doe population. Repelling deer with scents, noises or electric fences will be more effective on smaller acreage and orchards. After deer form the habit of eating your crops, it can be difficult to break them. It is best to prevent habit forming behavior where possible. Repellants can be a) contact, which usually affects the taste of the plant, or b) area, which cause an odor across the field to ward off deer. These can have a range of effectiveness and may need reapplication, which is why they may be better for homeowners versus large acreage. The University of Georgia has tested the application of biosolids with positive results. Biosolids can be applied as a fertilizer, but the odor (possibly because it is associated with humans) did reduce foraging. Besides scents, sound can also be used. Scaring deer with loud noises may be effective initially, but they will eventually adapt to the sounds. Moving noise makers around is recommended.

Small areas may also benefit from one strand of electrified fence, this can train deer to avoid them when foraging. The most thorough method is exclusion through fencing, which can also be more cost effective on smaller plots. Because deer can jump eight feet high, a fence of multiple strands 10-12 feet high may be necessary.

Trap or diversion crops have been tested in Delaware to reduce damage to grain crops. A Farm Progress article (Feb-2015) described planting alfalfa and clover next to heavily browsed fields. They observed an 80% reduction in the loss of field crops with an adjacent 50 foot strip of legumes. Other favorite foods may also be planted along field edges.

Smaller orchards and gardens have more options than larger grain fields. Observing deer behavior this year will be key to prevention next year. Early damage to buds and shoots can be recovered from, but later damage, such as to soybean pods, will irreversibly reduce yield. Therefore, it is important to break habits early.

For more detailed information see:

Reducing Deer Damage at Home and on the Farm.

Clemson Extension. AFW6 – May 1996.

Preventing Deer Damage. Colorado State Extension. Fact Sheet No. 6.520. Oct-2014.

Using Single-Strand Fencing to Manage Deer Damage.

University of Tennessee Extension. SP 598.

Black Flies, or “Gnats” in Nuisance Swarms in Western Maryland

By Rebecca Wilson and Dr. Bill Lamp, Department of Entomology, University of Maryland

Many residents of western Maryland are bothered by persistent swarms of small flies while working outdoors during the summer. These flies are commonly called “gnats,” and form characteristic swarms around the head and face of both humans and livestock. Following inquiries by Washington County residents in 2013, we determined that these gnats of western Maryland were a species of black fly, known as *Simulium jenningsi*. Research is ongoing to determine where in Maryland this species is a nuisance concern, and where its aquatic breeding sites are located.



Female *Simulium jenningsi*. Photo by Jake Bodart.

Biology and Characteristics of *Simulium jenningsi*

Adult *S. jenningsi* are small flies, about 3mm long and dark brown in color. *S. jenningsi* larvae are aquatic and develop in fast-flowing regions of larger streams and rivers. In Maryland, the largest source of *S. jenningsi* appears to be the Potomac River. Although many residents of Western Maryland may feel confident their backyard streams are to blame for their flies, the larvae of this species do not live in any stream less than 20 feet wide. They are truly a large river species. Female adult *S. jenningsi* need blood meals to develop their eggs, and can fly nearly 35 miles away from their breeding source to find a meal. In this way, locations that are not directly

next to the Potomac or its larger tributaries may still have a nuisance problem. Host-seeking *S. jenningsi* females are attracted to the carbon dioxide exhaled by humans and livestock. Unlike the more voracious species of black flies of New England, the primary annoyance of *S. jenningsi* comes from their swarming behavior rather than their bites. They are not vectors of any human diseases, but can transmit the parasitic nematode *Onchocerca lienalis* to cattle. *S. jenningsi* has several generations per year in Maryland and adults have been found in Washington County from April until November.

Distribution of *Simulium jenningsi* in Maryland

S. jenningsi has been found to some extent in Washington, Frederick, Montgomery, and Prince George's counties. However, this is unlikely to be the full extent of the species range in Maryland. Nuisance complaints from residents have primarily originated from Washington and Frederick counties, with complaints from Montgomery County reaching us in 2015. *S. jenningsi* populations in urbanized areas are often too small to create a nuisance concern. Rural communities experience the worst nuisance problems, as the flies appear to prefer vegetated habitats. Historically, *S. jenningsi* swarms were a problem throughout a large portion of central Maryland and D.C. as recently as the 1950's. *S. jenningsi* needs relatively unpolluted water to breed in, and as river conditions improve in Maryland the species may regain its former distribution.



A breeding site of *S. jenningsi* in the Potomac River.
Photo by Claire Weber.

Black Fly Suppression

Black flies are most effectively managed with pesticide during their less-mobile larval stage. The pesticide of choice is *Bacillus thuringiensis israelensis* (Bti), a bacterial based pesticide that targets aquatic fly larvae. In Pennsylvania and West Virginia, Bti is applied to large rivers to target *S. jenningsi*. Because the application of Bti to large bodies of water requires aerial or boat-based spraying over long distances to be effective, residents of these states rely on government programs to manage the fly populations. As of 2015, Maryland does not have any form of organized management against *S. jenningsi*.

Current Research

Our ongoing research involves determining not only where *S. jenningsi* is a nuisance pest, but why it is a pest in some regions but not others. Long term sampling in Washington and Frederick counties will be used to determine the effects of weather and land use patterns on fly populations. Over the course of the next few years our goal is to develop predictive models for the occurrence of both larval and adult *S. jenningsi* in Maryland. Residents of western and Maryland have greatly helped this project through reports of nuisance activity and through the sampling of flies in their backyards. Visit our website at www.mdblackfly.com to learn more about our research or to contact us with questions or reports of *S. jenningsi* nuisance activity. A one-page fact sheet on the black fly is available to download at our website. We appreciate any comments or observations from residents concerned with nuisance gnats!



Sampling for *Simulium jenningsi* using an aerial net and human bait. Photo by Bill Lamp



Maryland Agricultural Highlights

Agricultural Law Education Initiative

<http://umaglaw.org>

The MSBA's Ag Law Section and the Ag Law Education Initiative recently completed an update of the Legal Services Directory to reflect the section's growing membership. A digital copy is available at <http://ter.ps/LegDirect>. Hard copies also available – Email: umaglaw@umd.edu to ask for a hard copy.



July 2015

Cover Crop Sign-up Ends July 15

The Maryland Department of Agriculture (MDA) reminds farmers that sign-up for its 2015-2016 Cover Crop Program runs through Wednesday, July 15, 2015 at soil conservation district offices statewide. Approximately \$22 million in conservation grants is available through the program to help farmers offset the cost of planting cover crops on their fields this fall to conserve nutrients, reduce soil erosion and protect water quality in the Chesapeake Bay and its tributaries. For more information, visit www.mda.maryland.gov and type "cover crops" on the search tab.

Nutrient Management Plan Writing Workshops Offered September 22 and 29, 2015

The Maryland Department of Agriculture and University of Maryland Extension will offer two, one-day workshops titled, How to Write a Nutrient Management Plan on Tuesday, September 22, 2015 at the Montgomery County Extension Office in Derwood and Tuesday, September 29, 2015 at the Wye Research and Education Center in Queenstown. The course is aimed at newly certified consultants and provides six Maryland Nutrient Management continuing education credits. To register, call 410-841-5959 or visit www.mda.maryland.gov. Scroll down the Quick Links to Nutrient Management and click on Nutrient Management Training Classes for a registration form.

Homeowners Urged to Use Lawn Best Management Practices In Summer

The Maryland Department of Agriculture advises homeowners to mow the grass high to shade out weeds and conserve moisture during periods of hot, dry weather. Raise the mower's cutting height by ½ inch to 1 inch and remember to leave grass clippings on the lawn as a source of free fertilizer. For more tips and information on Maryland's Lawn Fertilizer Law, visit www.mda.maryland.gov/fertilizer or www.extension.umd.edu/hgic

Article of Interest

Pursuing a Unifying Message: A University Perspective

Foundation Report Summarizes Discussion Among University Leaders on Common Ground for Developing a Unifying Message

The [Charles Valentine Riley Memorial Foundation \(RMF\)](#) released a new report Tuesday, June 16, 2015, on a university perspective for making the case that agricultural research should be a higher national priority.

The report, "Pursuing a Unifying Message: Elevating Food, Agricultural and Natural Resources Research as a National Priority. A University Perspective," is [available on the RMF website](#).

The report summarizes an April 2015 discussion among 23 leaders of universities, university associations and others on the need for reversing an alarming lack of federal investment in food, agricultural and natural resources research.



June 15, 2015

University of Maryland Extension Focuses on Eastern Shore Agricultural Industry

Farmers along Maryland's Eastern Shore are passionate about promoting the importance of agriculture to legislators and the general public, have concerns about the loss of farmland in their regions due to urban encroachment and want to be more involved in developing regulations that affect farming communities. These are just some of the findings from a recent survey completed by University of Maryland Extension (UME) assessing the needs of farmers in the state's nine

Eastern Shore counties.

Roughly 300 Maryland farmers living and working the land along the Eastern Shore completed the survey on paper or through an online link. The results will be used to help UME better understand issues facing Eastern Shore agriculture, identify agricultural and educational needs and focus UME trainings and resources.

"We felt it was important to take a comprehensive look at farming all along the Eastern Shore of the state to paint a better overall picture of what farmers in the region are going through and how we can serve them best," said Shannon Dill, Principal Agent for agriculture and natural resources in UME's Talbot County office.

"Typically we conduct surveys on a county-by-county basis but in this instance, all nine county agricultural Extension educators located along Maryland's Eastern Shore were involved in making sure this assessment was as thorough as possible."

The survey included four sections: industry priorities, concerns and viability; research and education needs; education and training preferences; and demographic and farm information.

Topics ranking high in importance with responding farmers included increasing legislators' and the general public's understanding of agriculture production and its effect on the economy, farmer involvement in the legislative process and regulation development, maintenance and protection of adequate agricultural land, and environmental stewardship. In terms of research and education input, farmers showed avid interest in environmental law, nutrient management technologies, soil science and increasing soil health, integrated pest management practices and conservation practices.

Information gained from the survey also provides demographic details about farming on Maryland's Eastern Shore:

- One-third of respondents report tilling 101-500 acres, followed by 17% at 0-10 acres and 13% at 501-1,000 acres.
- 61% of respondents farm full-time with 73% farming more than 20 years.
- The majority of responders report farms growing field crops (77%) followed by livestock (26%), fruit and/or vegetables (24%) and poultry (22%).
- Those responding to the survey were male (79%), non-Hispanic (100%) and white (98%).
- More than 87% of farmers were over the age of 45 with the majority being in the range of 55-64 (33%), 65-75 (22%) and 45-54 (21%). *The results for gender, ethnicity, race and age are consistent with data from the 2012 Agriculture Census.

Moving forward, UME will continue to analyze the data and prepare a plan to respond to the requests and meet the needs of farmers and landowners in the nine counties along Maryland's Eastern Shore. Organizers of the survey would like to extend a gracious **"Thank You"** to those farmers who took the time to complete the survey and provide comments.



University of Maryland Turfgrass Research Field Day Wednesday, July 15, 2015 Paint Branch Turfgrass Research 395 Greenmead Drive College Park, MD 20740

If you plan on attending the Turfgrass Research Field Day and Fertilizer Certification Course you must register for both to attend.

Register for Turfgrass Research Field Day at:
[University of Maryland Turfgrass Research Field Day Registration](#)

Register for Fertilizer Certification Course at:
[Fertilizer Certification Course Registration \(Attendance will be capped at 30 participants for Fertilizer Certification Course\)](#)

Full details at:
<https://www.psla.umd.edu/news/events/university-maryland-turfgrass-research-field-day#sthash.bcR096nO.dpuf>



The **Commodity Classic** will be held Thursday, July 23, 2015 at Queen Anne's 4-H Park. The Classic is hosted by the Maryland Grain Producers Association, Maryland Soybean Board, Maryland Grain Producers Utilization Board and the Mid-Atlantic Soybean Association.

The Classic will open at 10:00 a.m. with research project tours at Queen Anne's 4-H Park, along with checkoff-funded and commercial exhibits. The business meeting and program begins at 1:00 p.m., concluding with the famed Chicken & Pork BBQ and Crab Feast. Entry prior to 2:30 p.m. is \$10, and after 2:30 p.m. the entry fee is \$20, with no entry after 3:30 p.m. For ticket information regarding the Commodity Classic, contact the MGPA office at 410-956-5771.

Agronomy News

A timely publication for commercial agronomic field crops and livestock industries available electronically in 2015 from April through October on the following dates: April 16; May 14; June 11; July 9; August 13; September 10; and October 22.

Published by the University of Maryland Extension Focus Teams 1) Agriculture and Food Systems; and 2) Environment and Natural Resources.



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Article submission deadlines for 2015 at 4:30

p.m. on: April 15; May 13; June 10; July 8; August 12; September 9; and October 21.

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2015 Mid-Atlantic Precision Agriculture Equipment Field Day

Register now for the 2015 Precision Ag Day at the Somerset County Civic Center. Come hear and see the latest in a rapidly evolving industry. Talks include:

- Soils for Precision Ag
- Big Data
- Legal Aspects of UAV's (drones)
- How to best utilize your data

Nutrient and pesticide CEU's will be available!

August 5, 2015

Somerset County Civic Center
11828 Crisfield Ln
Princess Anne, MD 21853

10am to 4pm
Check-in Starts at 9!

Lunch will be provided.
Registration is required online:
<http://2015precisionag.eventbrite.com>

Contact below for information about registering or other questions:
Jared Miller - (410) 451-1300 - jmiller@umd.edu
Jenny Rhoades - (410) 759-0146 - jrhoades@umd.edu

Precision Ag Equipment Field Day

August 5, 2015

<https://2015precisionag.eventbrite.com>

Please register early for Precision Ag day so we can plan ahead for seating and space! Vendors are signing up to show their equipment and we are excited about our program this year. Online registration is required, but you can call Somerset or Queen Anne's County Extension if you have any issues.

Flyer for more information available at:
<https://2015precisionag.eventbrite.com>