2015 Mid-Atlantic Precision Ag Equipment Day

This year’s Precision Ag Day was held at the Somerset County Civic Center and featured talks on data (who owns it and how to use it), soil sampling, and legal issues with unmanned aerial systems (UAS, i.e., drones). Over 180 farmers, vendors and ag service providers attended the event.

Thanks to our sponsors, a free lunch was provided as well as a cool, air conditioned meeting space. The University of Maryland UAS test site also demonstrated two UAS (right photo): a more expensive Phoenix 60 hexacopter ($10,000) and a price friendly model ($3000) that could be operated with an iPad.

We would also like to thank our farmer panel (Tony Pinto, Brian Johnson, Shane King, James Adkins and Daniel Rayne) with a great discussion of the costs and benefits of using precision ag equipment.

National Association of County Agriculture Agents

Last month, Extension educators attended the 100th annual conference of NACAA in Sioux Falls, SD. This conference allows educators from across the United States to present research and programs within their field. Approximately 20 educators and their family members attended from the University of Maryland.

The Eastern Shore was well represented with presentations on Heavy Use Areas, Farming Pencil to Plow, Soybean Maturity and Storm Water Management. We would like to congratulate Worcester County FEA Jessie Flores for receiving this year’s MD Achievement Award and Wicomico County FEA Ginny Rosenkrantz for becoming the 2015-2016 Director of the North East Region!
Do I use grid or zone sampling?

There are two methods used to precision sample soils: grid sampling and management zones (Figure 1). Grid sampling is much more intense, with recommendations ranging from one sample per acre to every 2.5 acres. Consider this example: if you have a 40 acre field and sample on a 2 acre grid, you would collect a total of 20 soil samples. Each of these 20 samples could be a consolidated sample of five or more cores, giving you a total of 100 samples with in that 40 acre field. Just considering the number of samples you have to collect may convince many producers to forget about it.

Research shows that there are benefits to intensive sampling though. Grid sampling can reveal management issues with past manure or lime applications, uncovering hidden variation in the field. When performed at the correct scale, grid sampling will produce maps that can remain accurate for several years. This should alleviate the worry that you must create fresh grids every year. These maps can last 10 to 20 years for slowly changing landscape properties, like organic matter and cation exchange capacity. Nutrient content and pH will have shorter, but still significant life spans at 5 and 10 years, respectively.

Nutrients may also control the scale of grid sampling. While the University of Nebraska recommends 1 sample per acre as optimum (with a maximum of 1 sample per 2.5 acres), a study in Brazil (Nanni et al, 2011) observed that 1 sample per 5 acres was adequate for organic matter and clay. This study also noted that nutrients like P and K need a denser grid of one sample per 2 acres, similar to the University of Nebraska.

What are management zones?

Another soil sampling method, referred to as management zones (Figure 1), was devised to group similar yielding sections of a field together. Instead of intensive grid sampling, soils can be tested as a consolidated sample within each zone (high, medium, and low yield). Similar to using soil maps to group high and low yielding regions of a field, management zones can lower sampling density but may also lose sensitivity in detecting small field variations.

While there may be less physical labor involved, management zones will require increased mental labor. To separate out zones, soil and yield maps, farmer experience and aerial photos can be combined. The methods employed will take knowledge and experience to ensure the maps are accurate. It is recommended that you have at least three years of yield data to cover seasonal variability and producer error. It’s not just enough to have the yield data, you must also decide the best method to average several seasons together. For the highest yielding regions of a field your maximum yield might be 200 bushels of corn in 2013, but only 150 and 180 in 2014 and 2015, respectively. Should you just average those yields together? Whatever choices you (or your consultant) make, they should be revisited and checked again in subsequent years. Whether performing grid or management zone sampling, you should analyze end of season results to be sure the sampling cost is justified. You should also consult with your nutrient management advisor to be sure your plan matches your application rates. Your plan may have to follow your grid or zone sampling methods.

Further Reading:


Figure 1: Examples of a field (a) with grid sampling with alternating points (b) and zone sampling based on known areas of high, medium and low yields (c).
As a licensed business/public agency, you may have received a postcard/renewal notice in the mail from the MDA back in June (private applicator renewal information will be sent out later this year). If you threw it away, you probably also tossed out a code for your renewal. On the new MDA website you can search for your private applicator or business license as well as renew and print your certificates. You may visit the site here: https://www.egov.maryland.gov/mda/pesticides

To renew your license you will need your 1) license number and 2) a code from the MDA.

Your license number will be on your certificate at home, the first number on the postcard mailing label, or you can look it up on the website. By choosing “Pesticide Search” and entering your last name you may find your license number. The first five digits is your license number, while the last five are your certification number.

The code is either the last number on the mailing label of the postcard or the first part of the transaction number on the renewal notice. If you no longer have your postcard you should call the Maryland Department of Agriculture at 410-841-5710.

Once you have your license and code number you can choose “License Lookup and Renewal” on the website and enter your information. You may also need a credit card ready to pay the fee and your insurance information if you are a commercial business license holder.

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Poultry Disease Control Workshop

September 30, 2015

10:00 a.m. – 12:00 noon
Elks Lodge #1624
1944 Worcester Hwy., Pocomoke City, MD

- Avian Influenza Outbreaks in Commercial Poultry in the U.S.
- Practical Biosecurity Best Management Practices for Broiler Growers
- Avian Flu Response and Control Plan on Delmarva

REGISTRATION DEADLINE is September 25, 2015
Please register online by visiting: http://ag.udel.edu/rec/

OTHER LOCATIONS:
2:00 p.m. – 4:00 p.m.
Bridgeville Fire Hall
311 Market St., Bridgeville, DE

6:00 p.m. – 8:00 p.m.
Ruthsburg Community Club
105 Damsontown Rd., Queen Anne, MD

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Insurance Assistance—Kat Gunby

MarylandHealthConnection.gov is a website set up by the state to allow people to compare and sign up for health insurance plans. It is the only place to go to also sign up for financial help paying for the plan. Currently there is a designated time each year that is open for people to sign up for a health plan on Maryland Health Connection.gov. This period is called open enrollment. The next open enrollment is November 1, 2015 – January 31, 2015.

But as we all know, life changes happen unexpectedly. If you or your family experiences marriage, divorce, birth or adoption of a child, loss of a job or other certain events, then you can sign up for a health plan on MarylandHealthConnection.gov outside of the open enrollment dates.

Also, if you make less than $16,104 a year or $1,342 in a month, then you qualify for Medicaid, a free health coverage program for low income people.

For more information about this program, call the local Lower Shore Health Insurance Assistance Program at 855-445-5540. We’re here to connect you to coverage.
Agricultural Research Updates

**Temperature Effects on Palmer Amaranth**

Researchers at Kansas State University discovered that the herbicide resistant weed Palmer amaranth was able to metabolize (break down) the pesticide mesotrione when temperatures were warmer. This may explain why mesotrione was more effective earlier in the season and is something to consider with your IPM plan.

*Source: PLOS One Journal, May 2015.*

**Corn Yield, Nitrate loss and Subsurface Drainage**

Early sidedress rates increase corn yields over pre-plant and fall applied nitrogen. Sidedress and pre-plant also produced lower nitrate concentrations than fall applied N within tile drainage. Over application in the fall could still be measured 4 years later.


**Stover Harvest and Tillage Effects on Nitrogen and Corn Yield**

Corn stover can be harvested for bioenergy production as well as livestock bedding. A potential increase in corn yield was seen with stover removal in no-till systems. No matter what type of tillage, stover harvest also reduced the required N fertilizer rate.


**Nitrogen Rate, Cover Crop, and Tillage Practice Alter Soil Chemical Properties**

Stratification of soil carbon was observed under no-till systems, but no other soil properties varied with depth. Under a no-till, hairy vetch cover system, lower pH was observed as the vetch added nitrogen to the soil. Appropriate credits for N from hairy vetch could reduce excessive acidity and production costs.


**Organic seed coating for Alfalfa Helps Prevent Some Soilborne Diseases**

The fungicidal treatment mefenoxam is ineffective against root rot for alfalfa. Scientists tested a natural mineral, zeolite, as a coating on the seed instead. This mineral coating was proven to be effective against most soil pathogens, including root rot.

*Source: Agricultural Research Service.*

**Subsurface Drainage Effects on Nitrogen Loss with Polymer Coated Urea**

Nitrogen may be lost in a gaseous form (N₂O or NH₃) from poorly drained soils. The use of polymer coated urea (PCU) may decrease N loss by as much as 53% for N₂O. Loss as ammonia (NH₃) may be reduced from 2.7 to 0.8% with PCU. In this study though, no significant difference was seen in N loss from tile drained vs fields that were not drained.

Master Gardener Program

Saturdays: September 5th through November 21, 2015
Henson Center
University of Maryland Eastern Shore

The Master Gardener Program provides 40 hours of education from specialists in Botany, Composting, Diagnosing plant problems, Ecology, Entomology, Lawn Care, Native Plants, Pruning, Vegetable gardening and more. After you finish the Master Gardener training Program, you will be asked to volunteer 40 hours the first year and 20 each of the following years.

If you are interested in registering for the Master Gardener Training Program, please send a check for $165.00 made out to the Wicomico EAC and mail it to the Wicomico Extension Office, PO Box 1836, Salisbury, MD 21802.

Nutrient Management Updates

We are approaching a new fall planning season!

- Soil tests only last 3 years, check to see if any of yours are expiring
- Manure samples must be taken after Thanksgiving
- Is you have an orchard, be sure to do tissue tests at the correct time of year. Call your advisor to see when, because it may have passed.

12th Annual Small Farms Conference

SAVE THE DATE!

November 6 and 7th, 2015
Student Services Center
UMES—Princess Anne, MD

This year’s conference will be held at the UMES Student Services Center, a new location for the conference. Conference registration is already available online. Early Bird tickets will be $40 ($70 a couple). After October 4th ticket prices will rise, so get yours now!

Register online: https://12thannualsmallfarmconference.eventbrite.com
Call 410-651-6070 (or 6210) for more information.
Email: mlhoward@umes.edu

Mid-Atlantic Crop School

November 17-19, 2015
Princess Royale Hotel
Ocean City, MD

Individuals needing training or credits in soil and water, nutrient management, crop management and pest management can create their own schedule choosing from five program options offered each hour.

Look for registration information coming soon at: https://www.psla.umd.edu/extension/md-crops

Private Pesticide Application — Recertification and New Applicators

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>October 20, 2015</td>
<td>Somerset County Extension</td>
<td>6-8pm, Pesticide Recertification followed by Nutrient Voucher</td>
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<tr>
<td></td>
<td>(410)-651-1350</td>
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<tr>
<td>November 9, 2015</td>
<td>Wicomico Extension Office</td>
<td>6-8pm, Pesticide Recertification followed by Nutrient Voucher</td>
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<tr>
<td></td>
<td>(410)-749-6141</td>
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<tr>
<td>December 3, 2015</td>
<td>Snow Hill Lions Club</td>
<td>6-8pm, Pesticide Recertification followed by Nutrient Voucher</td>
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<td></td>
<td>(410)-632-1972</td>
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<tr>
<td>March 8, 2015</td>
<td>Wicomico Extension Office</td>
<td>1-3pm, New Applicator Training</td>
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<td>(410)-749-6141</td>
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<tr>
<td>March 15, 2015</td>
<td>Wicomico Extension Office</td>
<td>1-3 pm, New Applicator Exam</td>
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<td>(410)-749-6141</td>
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### EXTENSION EVENTS

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Details</th>
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<tbody>
<tr>
<td>9/8</td>
<td>Small Flock Workshop, Berlin Tractor Supply, 6-8 pm</td>
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<tr>
<td>9/15</td>
<td>Small Flock Workshop, Salisbury Tractor Supply, 6-8 pm</td>
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<tr>
<td>9/16</td>
<td>New Grower Training, Caroline 4-H Park, 8:30 a.m.-3:00 p.m.</td>
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<td>9/22-10/1</td>
<td>Into to Farming, Wor-Wic</td>
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<tr>
<td>9/30</td>
<td>Poultry Disease Workshop, Various Locations in MD and DE</td>
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<tr>
<td>10/20</td>
<td>Pesticide Recertification, Somerset County Extension, 6-8 pm</td>
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<tr>
<td>11/9</td>
<td>Pesticide Recertification, Wicomico County Extension, 6-8 pm</td>
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<tr>
<td>12/3</td>
<td>Pesticide Recertification, Snow Hill Lions Club, 6-8 pm</td>
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### Other events

<table>
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<tr>
<th>Date</th>
<th>Event Details</th>
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<tbody>
<tr>
<td>08/28-9/7</td>
<td>Maryland State Fair, Timonium</td>
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<tr>
<td>10/10</td>
<td>Wicomico 4-H Fair</td>
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</table>

Dorchester Ext. Office ~ 501 Court Lane, Room 208 ~ Cambridge, MD 21613 ~ 410-228-8800 ~ Fax 410-228-3868
Somerset Ext. Office ~ 30730 Park Drive ~ Princess Anne, MD 21853 ~ 410-651-1350 ~ Fax 410-651-0806
Wicomico Ext. Office ~ P.O. Box 1836 ~ Salisbury, MD 21802 ~ 410-749-6141 ~ Fax 410-548-5126
Worcester Ext. Office ~ P.O.Box 219 ~ Snow Hill, MD 21863 ~ 410-632-1972 ~ Fax 410-632-3023

Want to receive this newsletter electronically? E-mail jarrod@umd.edu and type LES AG Newsletter into the subject line.