Hello Northeast Ohio Counties!

The spread of waterhemp continues in Ashtabula and Trumbull Counties. It is confirmed in Greene and Champion townships in Trumbull County, and Williamsfield township in Ashtabula County. Scout your fields, and if you think you have it give us a call and we can help you with identification and management information. We want to keep this weed under control.

Don’t forget to call to reserve your meal ticket for our hay making workshop – A Great Day for Hay – on August 24th! This a free event thanks to our generous sponsors. See the flyer at the end of the newsletter for more information.

Stay safe!

Lee Beers  Andrew Holden
Trumbull County  Ashtabula County
Extension Educator  Extension Educator
A Great Day for Hay!

OSU Extension Trumbull County will be hosting a hay making workshop on August 24, 2019 at Von-Sun Farms, 6374 Youngstown-Kingsville Rd, Farmdale, OH 44417. We’ll be talking about all the steps in the process to make quality hay from growing, mowing, baling, wrapping, and storing the final product. The program will kick off at 11AM with Clif Little, OSU Extension Guernsey County, as he discusses what it means to make quality hay, not just okay hay. We’ll follow that with presentations, demonstrations, and discussions on weed control, equipment settings, and soil fertility. We’ll wrap up the day with demonstrations from Kuhn’s MFG and their bale accumulators, and equipment demos from Bortnick Tractor.

The is a free event, but pre-registration is requested to reserve a meal ticket. To pre-register call the OSU Extension Trumbull County office at 330-638-6783. The Trumbull County Holstein Club will be sponsoring lunch, so be sure to come hungry! We will be outside in hay fields so please dress appropriately, and if it’s raining, we’ll move to the equipment shed so the event will go on rain or shine! If you have questions please email Lee Beers at beers.66@osu.edu.

Waterhemp Update – Three Confirmed Locations

By Lee Beers

We have confirmed waterhemp in Williamsfield township in Ashtabula County, and in Greene and Champion townships in Trumbull County. Each location is being monitored and I am hopeful that those locations will be controlled this year, but flowers were present in two locations. Given the sporadic nature of the populations please scout your fields heavily in the next few days to look for a pigweed that has longer lance shaped leaves and will probably have a rather large green stem that is smooth.

Plants have shown some response to glyphosate applications, but I believe they were simply stunted. An application of ExtendiMax and glyphosate in another location showed more promising results, but several plants below the canopy were still observed to be in good shape. Similar response has been found to glyphosate and 2,4D in non-
crop location at the third location. This is promising as it indicates that our local plants are not the herbicide resistant strains that are wreaking havoc in Missouri and other midwestern states. Dicamba (Xtend), glufosinate (Liberty), and 2,4D (Enlist) resistant soybeans will be useful tool if populations get out of control. Flexstar is still a good option for non-traited beans as well, or in addition to the above chemistries in traited beans.

I will be scouting heavily in the next couple of weeks, but only have one set of eyes. To keep this weed at a minimum, it will take a community effort to scout and control weeds when they are spotted. If you have any questions about the control of the weed or if you think you have some in your fields please call our office and I'll be out to take a look.

You can find more information on waterhemp control here: http://iwilltakeaction.com/weed/common-waterhemp

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**Estimating Yield Losses in Stressed Corn Fields**

By: Peter Thomison  

Many corn fields are still silking (and some are just past the mid-vegetative stages)….so, it may seem a little early to discuss estimating grain yields. However, according to the most recent NASS crop report, for the week ending Aug. 8, 2019, 25% of the corn crop has reached the dough stage (compared to 63% for the 5 year average). Corn growers with drought damaged fields and late plantings may want to estimate grain yields prior to harvest in order to help with marketing and harvest plans. Two procedures that are widely used for estimating corn grain yields prior to harvest are the YIELD COMPONENT METHOD (also referred to as the "slide rule" or corn yield calculator) and the EAR WEIGHT METHOD. Each method will often produce yield estimates that are within 20 bu/ac of actual yield. Such estimates can be helpful for general planning purposes.

THE YIELD COMPONENT METHOD was developed by the Agricultural Engineering Department at the University of Illinois. The principle advantage to this method is that it can be used as early as the milk stage of kernel development, a stage many Ohio corn fields have probably achieved. The yield component method involves use of a numerical constant for kernel weight which is figured into an equation in order to calculate grain yield. This numerical constant is sometimes referred to as a "fudge-factor" since it is based on a predetermined average kernel weight. Since weight per kernel will vary depending on hybrid and environment, the yield component method should be used only to estimate relative grain yields, i.e. "ballpark" grain yields. When below normal rainfall occurs during grain fill (resulting in low kernel weights), the yield component method...
method will OVERESTIMATE yields. In a year with good grain fill conditions (resulting in high kernel weights), the method will underestimate grain yields.

In the past, the YIELD COMPONENT METHOD equation used a "fudge factor" of 90 (as the average value for kernel weight, expressed as 90,000 kernels per 56 lb bushel), but kernel size has increased as hybrids have improved over the years. Dr. Bob Nielsen at Purdue University suggests that a "fudge factor" of 80 to 85 (85,000 kernels per 56 lb bushel) is a more realistic value to use in the yield estimation equation today. https://www.agry.purdue.edu/ext/corn/news/timeless/YldEstMethod.html

According to Dr. Emerson Nafziger at the University of Illinois under current drought stress “….. If there's a fair amount of green leaf area and kernels have already reached dough stage, using 90 [as the “fudge-factor ”] might be reasonable. It typically doesn't help much to try to estimate depth of kernels at dough stage, when kernel depth is typically rather shallow anyway, especially if there are 16 or more kernel rows on the ear. If green leaf area is mostly gone, however, and kernels look like they may be starting to shrink a little, kernels may end up very light, and using 120 or even 140 [as the “fudge-factor"] might be more accurate”. http://bulletin.ipm.illinois.edu/article.php?id=1695.

Calculate estimated grain yield as follows:

Step 1. Count the number of harvestable ears in a length of row equivalent to 1/1000th acre. For 30-inch rows, this would be 17 ft. 5 in.

Step 2. On every fifth ear, count the number of kernel rows per ear and determine the average.

Step 3. On each of these ears count the number of kernels per row and determine the average. (Do not count kernels on either the butt or tip of the ear that are less than half the size of normal size kernels.)

Step 4. Yield (bushels per acre) equals (ear #) x (avg. row #) x (avg. kernel #) divided by 90.

Step 5. Repeat the procedure for at least four additional sites across the field. Given the highly variable conditions present in many late planted and stressed fields, repeat the procedure throughout field as many times as you think appropriate, then calculate the average yield for all the sites to make a yield assessment of the entire field.

Example: You are evaluating a field with 30-inch rows. You counted 24 ears (per 17' 5" = row section). Sampling every fifth ear resulted in an average row number of 16 and an
The estimated yield for that site in the field would be \((24 \times 16 \times 30)\) divided by 90, which equals 128 bu/acre.

NOTE: If there is extensive leaf firing and senescence and little green tissue evident, and kernels appear to be shrinking, using 120 or even 140 as the “fudge-factor” might be more appropriate. Making some assessments using both 90 and 120 can provide an idea of the range in yield possible.

THE EAR WEIGHT METHOD can only be used after the grain is physiologically mature (black layer), which occurs at about 30-35% grain moisture (but this year with late planting it could be as high as 40%). Since this method is based on actual ear weight, it should be somewhat more accurate than the yield component method above. However, there still is a fudge factor in the formula to account for average shellout percentage.

Sample several sites in the field. At each site, measure off a length of row equal to 1/1000th acre. Count the number of harvestable ears in the 1/1000th acre. Weigh every fifth ear and calculate the average ear weight (pounds) for the site. Hand shell the same ears, mix the grain well, and determine an average percent grain moisture with a portable moisture tester.

Calculate estimated grain yield as follows:

Step A) Multiply ear number by average ear weight.

Step B) Multiply average grain moisture by 1.411.

Step C) Add 46.2 to the result from step B.

Step D) Divide the result from step A by the result from step C.

Step E) Multiply the result from step D by 1,000.

Example: You are evaluating a field with 30-inch rows. You counted 24 ears (per 17 ft. 5 in. section). Sampling every fifth ear resulted in an average ear weight of 1/2 pound. The average grain moisture was 30 percent. Estimated yield would be \([(24 \times 0.5) / ((1.411 \times 30) + 46.2)] \times 1,000\), which equals 135 bu/acre.

Because it can be used at a relatively early stage of kernel development, the Yield Component Method may be of greater assistance to farmers trying to make a decision about whether to harvest their corn for grain or silage. Since drought stress conditions and late planting in some fields may result in poorly filled small ears, there may be mechanical difficulties with combine harvest efficiency that need to be considered.
References


**Western Bean Cutworm Update: Past Peak Adult Flight**

By: WBC Team

The majority of counties in Ohio are now past Western bean cutworm (WBC) adult moth peak flight. Trapping efforts last week (August 5 – August 11) resulted in 195 WBC adults across the state (a decrease from 824) and a statewide average of 2.5 moths/trap (a decrease from 10.4 average) (Figure 1). Currently the only location with scouting levels is Lucas County.

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“Ask the Expert” Area Seeks to Help Farmers Mitigate the Challenges of 2019 at this year’s Farm Science Review

By: David Marrison


Each year, faculty and staff of The Ohio State University address some of the top farm management challenges which Ohio farmers are facing during the “Ask the Expert” sessions held each day at the Farm Science Review at the Molly Caren Agricultural Center near London, Ohio. The 20 minute “Ask the Expert” presentations at Farm Science Review are one segment of the College of Food, Agricultural, and Environmental Sciences (CFAES) comprehensive extension education efforts during the three days of the Farm Science Review which will be held September 17-19 in London, Ohio. The 2019 growing season has particularly challenging for Ohio growers and producers due to the historic rainfall in Ohio. Twenty-seven of this year’s “Ask the Expert” sessions will feature discussions aimed at helping farmers mitigate the challenges faced by agricultural producers in 2019 and beyond. Our experts will share science-based recommendations and solutions to the issues growers are facing regarding weather impacts, tariffs, and low commodity prices. Producers are encouraged to attend one or more of the sessions throughout the day. The sessions will take place in the Ohio State Area in the center of the main Farm Science Review exhibit area located at 426 Friday Avenue. The farm management sessions will be featured include:

Tuesday, September 17, 2019

- “Tax Strategies Under the New Tax Law” presented by Barry Ward 10:00 – 10:20 a.m.
- “Climate Smart- Weather, Climate & Extremes-Oh My!” presented by Aaron Wilson 10:20 – 10:40 a.m.
- “Before the Pearly Gates- Getting Your Farm Affairs in Order” presented by David Marrison 10:40 – 11:00 a.m.
- “Crop Inputs & Cash Rent Outlook for 2020” presented by Barry Ward 11:00 – 11:20 a.m.
- “Farm Stress-We Got Your Back” presented by Dee Jepsen 11:20 – 11:40 a.m.
- “Farm Income Forecasts: Are Farmers Experiencing Financial Stress?” presented by Ani Katchova 12:20 – 12:40 p.m.
- “How Much Money Stayed on the Farm? 2018 Ohio Corn & Soybean Production Costs” presented by Dianne Shoemaker 12:40 – 1:00 p.m.
- “Where Are We on U.S. Trade Policy” presented by Ian Sheldon 1:00 – 1:20 p.m.
• “Farm Accounting: Quicken or Quickbooks” presented by Wm. Bruce Clevenger 1:20 – 1:40 p.m.
• “Commodity Markets – Finding Silence in the Noise” by Ben Brown 1:40 – 2:00 p.m.

**Wednesday, September 18, 2019**

• “Climate Smart- Weather, Climate & Extremes-Oh My!” presented by Aaron Wilson 10:00 – 10:20 a.m.
• “Solar Leasing Options” presented by Peggy Hall & Eric Romich 11:00 – 11:20 a.m.
• “Where Are We on U.S. Trade Policy” presented by Ben Brown 11:20 – 11:40 a.m.
• “Crop Inputs & Cash Rent Outlook for 2020” presented by Barry Ward 12:00 – 12:20 p.m.
• Public Perception Risk: Building Trust in Modern Agriculture by Eric Richer 12:40 – 1:00 p.m.
• “Farm Stress-We Got Your Back” presented by Dee Jepsen 1:00 – 1:20 p.m.
• “How Much Money Stayed on the Farm? 2018 Ohio Corn & Soybean Production Costs” presented by Dianne Shoemaker 1:20 – 1:40 p.m.
• “Tax Strategies Under the New Tax Law” presented by Barry Ward 2:00 – 2:20 p.m.
• “Using On-Farm Research to Make Agronomic and Return on Investment Decisions” presented by Sam Custer 2:40 – 3:00 p.m.

**Thursday, September 19, 2019**

• “Farm Stress-We Got Your Back” presented by Dee Jepsen 10:20 – 10:40 a.m.
• “Tax Strategies Under the New Tax Law” presented by Barry Ward 10:40 – 11:00 a.m.
• “Solar Leasing Options” presented by Peggy Hall & Eric Romich 11:20 – 11:40 a.m.
• “Commodity Markets – Finding Silence in the Noise” by Ben Brown 11:40 – Noon
• “Crop Inputs & Cash Rent Outlook for 2020” presented by Barry Ward 12:00 – 12:20 p.m.
• “Where Are We on U.S. Trade Policy” presented by Ben Brown 12:40 – 1:00 p.m.
• “How Much Money Stayed on the Farm? 2018 Ohio Corn & Soybean Production Costs” presented by Dianne Shoemaker 1:40 – 2:00 p.m.

The complete schedule for the Ask the Expert sessions and other events at the 2019 Farm Science Review can be found at: [https://fsr.osu.edu/](https://fsr.osu.edu/)
Additional farm management information from OSU Extension can be found at ohioagmanager.osu.edu or farmoffice.osu.edu

**Tips for a Successful Zucchini, Squash and Cucumber Harvest**

For many backyard growers, community gardeners and urban farmers, growing the cucurbits can be a challenge. This vegetable (fruit?) family is affected by a large number of garden insects as well as both bacterial and fungal disease. There are a few tips and tricks that can be used to make sure some harvest makes it to the table or sales booth in 2019. First thing to do is mind your pollinators. Cucurbits are commonly dependent on pollinators as they have separate male and female flowers. Once the flowers emerge, use of pesticides can damage pollinators and lead to decreased harvest.

The male flower is at the bottom right. It is simply a flower at the end of the stem. The female flower of this yellow summer squash is behind the male flower and has an immature fruit at the base.

Scouting is a very important part of the Integrated Pest Management strategy. I had not seen cucumber beetles in large numbers until the July 4th holiday weekend. Then I started to see them in moderate to large numbers on my summer squash in central Ohio.

*Northeast Ohio Agriculture*

*Ohio State University Extension*

*Ashtabula and Trumbull Counties*
Adult Striped Cucumber Beetle. This bug will damage leaves, stems, flowers, and fruit while feeding. It also transmits a bacterial wilt that can rapidly cause death in cucurbit plants.

This is an adult squash vine borer. They lay eggs at the base of the stems and their larvae then tunnel through the stem of the plant disrupting vascular flow and often killing the plant. These plantings of winter squash, both Waltham Butternut and Buttercup, died over the last weekend in July while the summer squash persisted. Suspects include squash vine borer damage or bacterial wilt from cucumber beetles.
Squash bugs are another common pest of cucurbits that can be present in large numbers in plantings.

Squash bug eggs are laid white, then rapidly change color to bronze. They are commonly found on the underside of cucurbit leaves and should be removed immediately when discovered and discarded away from the plants.
This is the juvenile form of squash bugs. They can achieve large numbers fairly rapidly.

One great strategy to get a harvest of summer squash is to plant a summer planting now for a fall harvest. Many of the pests of cucurbits will be transitioning to their overwintered habitat and become less of a problem in fall.

**Farm Science Review Agronomy College is September 10th**

For agronomists, Certified Crop Advisers, custom applicators and farmers.

Tuesday, Sept. 10 • 9 a.m. - 4 p.m. at the Molly Caren Agricultural Center LONDON, OHIO - home of the Farm Science Review. See the flyer for details on how to get to the site of the program.

Check in begins at 8:30 A.M.

The full-day event features time with OSU Extension staff in the field in the agronomy plots on the east side of the grounds. Breakout session topics will address the challenges of the 2019 growing season and the opportunities moving into 2020 and beyond. Featured speakers include Fred Whitford of Purdue University; Pierce Paul, Tony Dobbels, Kelley Tilmon, Anne Dorrance and Alex Lindsey of The Ohio State University.

This is the 4th year for this event in cooperation between the OSU Agronomic Crops Team and the Custom Application committee of the Ohio AgriBusiness Association.

This year we will emphasize scouting in several talks - why and how to scout, crop growth stages, insect & disease identification, and getting to a recommendation.

Price is $120 per participant. Please register online at oaba.net/events.
Questions? Contact Janice Welsheimer at 614-326-7520 ext. 3 or jwelsheimer@oaba.net, or Harold Watters at 937-604-2415 or watters.35@osu.edu.

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**Extended Forecast from NOAA, Weather.gov**

**Cortland, OH**

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**Jefferson, OH**
Upcoming Events:

**Making Quality Hay Workshop**
August 24, 2019

Lee Beers
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CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: http://go.osu.edu/cfaesdiversity.
“A Great Day For Hay”
NE Ohio Quality Forage Workshop

August 24, 2019 - 11:00A.M. – 3:00P.M.

Difficult growing seasons in 2018 and 2019 have led to a shortage of quality forages throughout most of the Midwest. This workshop will help you tune your equipment, and prepare your fields to make quality forages even in short weather windows. We’ll be talking about dry hay, baleage, and silage, for a complete schedule please view the back of this flyer. Lunch is sponsored by the Trumbull County Holstein Club, and thank you to our sponsors for making this event free! Lunch will be provided, but reservations are required by August 20, 2019 to reserve your lunch ticket.

To register for the Quality Forage Workshop on August 24, 2019 please complete the form below and mail to OSU Extension Trumbull County, 520 West Main St, Cortland, OH 44410. You can also register by phone by calling 330-638-6783. For more information please email Lee Beers at beers.66@osu.edu.

Name:______________________________
Address:________________________________________________
City and State:_________________________ Zip Code:_________________
Phone:_____________________________ Email:_____________________
Number of Attendees:______________________

Workshop Sponsors

Von-Sun Farms
6374 Youngstown-Kingsville Rd
Farndale, OH 44417
trumbull.osu.edu
330-638-6783

The Ohio State University
College of Food, Agricultural, and Environmental Sciences

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information, visit cfaesdiversity.osu.edu. For an accessible format of this publication, visit cfaes.osu.edu/accessibility.