Hello Northeast Ohio Counties!

It’s officially Spring, and with the recent dry weather we can actually enjoy it! We have been blessed some beautiful weather these past couple of weeks, and I know we have all been thinking about getting out into the fields.

If you are wondering what tillage practice is the best for your soil, be sure to mark your calendars for next Tuesday, April 2nd. Steve Culman will be speaking at the Trumbull Farmer Lunch series at 11:30. Call 33—638-6783 to register. See the newsletter for more details.

Have a good week and stay safe!

Lee Beers
Trumbull County Extension Educator

Andrew Holden
Ashtabula County Extension Educator
More nutritious, better tasting, non-GMO ‘orange corn’ launches in US markets

Source: https://www.purdue.edu/newsroom/releases/2019/Q1/more-nutritious,-natural-flavor,-non-gmo-orange-corn-launches-in-us-markets.html

WEST LAFAYETTE, Ind. – “Orange corn,” a more nutritious, naturally selected variety of corn is now available in the U.S. markets through Purdue-affiliated startup NutraMaize LLC.

Torbert Rocheford, the Patterson Endowed Chair in Translational Genomics for Crop Improvement in the Purdue College of Agriculture’s Department of Agronomy, used a process known as biofortification to naturally increase the amount of antioxidant carotenoids in corn, making the corn more nutritious, and creating a deep orange color. The human body converts certain provitamin A carotenoids, such as beta-carotene, into vitamin A, an essential vitamin that promotes eye health and supports the immune system.

“The project began as part of an ongoing humanitarian effort called HarvestPlus to improve nutrition in developing countries,” said Rocheford, who began working on naturally increasing the amount of health benefiting carotenoids in corn over 20 years ago. He did not originally plan to market the orange corn in the United States. However, when orange corn varieties were introduced in Africa, some began to ask if it was grown and consumed in the U.S. When they were told it wasn’t, some were skeptical, questioning “if it is so good, why don’t American’s eat it?”

“So, I decided to grow some here and share it. The response was overwhelmingly positive. I had people tell me that the orange corn made the best grits and cornbread.

Evan Rocheford, chief executive officer of NutraMaize LLC, holds up orange corn along with ears of yellow and white corn. The orange corn was developed by his father, Torbert Rocheford, the Patterson Endowed Chair in Translational Genomics for Crop Improvement in the Purdue College of Agriculture’s Department of Agronomy through a process known as biofortification to naturally increase the amount of provitamin A carotenoids in corn. (Purdue Research Foundation image/Hope Sale)
Rocheford and his son, Evan, co-founded NutraMaize to commercialize the corn in the U.S. NutraMaize is marketing the corn under the brand name “Professor Torbert’s Orange Corn,” and it is available at ProfessorTorberts.com. A video about the corn can be viewed here.

“The name of the product is a homage to my father’s lifelong dedication to improving the world through science and agriculture,” said Evan Rocheford, NutraMaize CEO. The bright orange corn, derived from varieties that originated in South America and the Caribbean, is not the variety eaten off the cob. Rather, it is milled to make products such as cornmeal, grits and polenta.

“People have described our corn products as having a rich, kind of nutty, buttery flavor,” Evan Rocheford said.

Torbert Rocheford developed the orange corn using traditional breeding techniques, rather than genetic modification, making it a non-GMO product. The orange color of the corn comes from natural plant pigments called carotenoids, which are the same family of compounds that give carrots their orange color. Carotenoids naturally occur in corn, but the low concentrations are typically only enough to produce a pale yellow color.

“Although it sounds like a relatively simple idea, it’s actually quite revolutionary when it comes to a staple crop like corn,” Evan Rocheford said. “We are actively breeding and developing varieties that speak to the two qualities consumers care about most: taste and nutrition.”

Because corn is used in a wide variety of popular food formats in the U.S., including tortillas, chips, and cereals, improving the carotenoid content of corn provides an opportunity to significantly increase the amount of the beneficial antioxidants Americans consume without changing consumers' eating habits, Torbert Rocheford said. Long-term, NutraMaize plans to sell its corn as an ingredient to food processors that produce widely consumed products like breakfast cereals and snack foods.

The startup company has received a Small Business Technology Transfer Research from the National Science Foundation, a Small Business Innovation Research from the USDA, and matching grants from the state of Indiana, totaling about $425,000. Before NutraMaize licensed the technology, Torbert Rocheford's lab also received a $25,000 grant from the Purdue Research Foundation-managed Trask Innovation Fund, an endowed development fund to assist faculty and staff whose discoveries are commercialized through the Purdue Office of Technology Commercialization.

The orange corn is licensed through the Purdue Office of Technology Commercialization and the startup also received assistance in developing a business
plan and seeking grants from the Purdue Foundry, an entrepreneurship and commercialization accelerator in Discovery Park's Burton D. Morgan Center for Entrepreneurship, as well as assistance from the State of Indiana SBIR/STTR Program.

“When it comes to supporting innovation and economic development, Purdue University and the state of Indiana really put their money where their mouth is,” Evan Rocheford said. “Having a support network like this really makes a huge difference when you’re trying to build a company from scratch. We are proud to call ourselves a Purdue Foundry startup and call Indiana home.”

**Trumbull County Cover Crop Demonstration Program**

Trumbull Soil and Water Conservation District (SWCD) is sponsoring a Cover Crop Demonstration Program for Trumbull County cropland. Any farmer or grower with a minimum of 1 acre to plant, who is interested in trying cover crops after a low-residue crop should consider applying. Eligible applicants will have a Conservation Plan developed by the Natural Resources Conservation Service (USDA-NRCS) to include a mix appropriate to the site and operation. Trumbull SWCD will pay $50/ac up to a contract total of $250. Applicants must also be willing to host a potential cover crop field day to demonstrate a part of the process. If you or someone you know within Trumbull County is interested, please contact the Trumbull County SWCD or USDA-NRCS office at 330-637-2056 x3. Applications must be accompanied with a map of the field to be included. All completed applications must be received by April 30th to be considered. USDA is an Equal Opportunity Employer, Provider, and Lender.

**Wildlife and Woodland Management Field Day**

The ODNR Division of Wildlife, ODNR Division of Forestry, and USDA-Natural Resources Conservation Service (NRCS), and Portage Soil and Water Conservation Service (PSWCD) will be offering an afternoon field day to discuss and demonstrate options for wildlife and forestry management for private landowners. Various aspects of wildlife habitat, forest management / timber harvesting and conservation practices will be covered. The event will be held on an active conservation club that will be implementing many wildlife and forestry conservation practices with assistance from NRCS.

The event is scheduled for Friday May 3rd, 2019 1:00 pm-5:00 pm at The Izaak Walton League - 9634 Newton Falls Rd. Newton Falls, Ohio. Event is FREE. Please register by calling: 330-297-7633 x3 or online: http://www.portageswcd.org/register/woodland
Appropriate footwear & attire will be necessary as we will be hiking in woodlands and fields. Please use protective clothing and spray for ticks and mosquitoes. If you need special accommodations, please call 330-297-7633 x3.
USDA is an Equal Opportunity Employer, Provider, and Lender

HAVE YOU HEARD ABOUT THE OHIO SPECIALTY CROP REGISTRY?

By: Evin Bachelor
Source: https://farmoffice.osu.edu/blog/fri-03222019-851am/ohio-agricultural-law-blog-have-you-heard-about-ohio-specialty-crop-registry

The Ohio Specialty Crop Registry connects producers of specialty crops, beekeepers, and pesticide applicators to one another through free online registries. Producers of specialty crops and beekeepers may voluntarily report the boundaries of their specialty crops and beehives. The registry then compiles this information in a mapping tool that also provides the contact information of the registrant. In doing so, pesticide applicators are better able to avoid these areas and minimize spray drift.

The Old System: the Ohio Sensitive Crop Registry

The Ohio Department of Agriculture (ODA) first launched a registry for sensitive crops in 2014 so that pesticide applicators could know the locations of sensitive crops before spraying in a given area. The registry came about at a time when widespread demand for organic foods required more farmers to closely monitor what came into contact with their crops. The original tool allowed commercial producers of at least a half-acre of a single type of sensitive crop to register. Sensitive crops included just about any non-row crop such as fruits, vegetables, and herbs. Apiaries, outdoor aquaculture, brambles, certified organic farms, nurseries, greenhouses, and orchards also could be registered.

The New System: the Ohio Specialty Crop Registry

Now, ODA partners with FieldWatch, Inc. to operate the Ohio Specialty Crop Registry. FieldWatch, Inc. is a non-profit organization that operates three registries: DriftWatch for producers of specialty crops, BeeCheck for beekeepers, and CropCheck for producers of row crops. FieldWatch creates maps based on the information from these registries, and makes those maps available to pesticide applicators in another program called FieldCheck. In summary, the three registries are for the producers and beekeepers, and FieldCheck is for the pesticide applicators.

Ohio currently only uses the DriftWatch and BeeCheck registries. According to ODA, the list of sensitive crops under the old program is virtually the same under the new
system, meaning that producers of any non-row crop may utilize DriftWatch. While beekeepers may report the location of their beehives in DriftWatch, ODA recommends that beekeepers with no specialty crops use BeeCheck.

FieldWatch, Inc. continues to update its tools to add features and indicators, and CropCheck represents one such development. New for 2019, this registry allows producers of row crops like corn, soybeans, and wheat to register their crops. Its development comes on the heels of the introduction of dicamba-tolerant seeds. Only Arkansas, North Carolina, Illinois, and Indiana have adopted CropCheck for 2019. Ohio has not yet adopted it.

Connecting the Dots between the Registry and Liability

At this point you may be asking yourself, why is this in the ag law blog? That’s a fair question, and the answer is simple: risk management. As more farmers adopt organic practices, as pesticides and seeds change, and as weather patterns evolve, the risk increases that pesticide drift may come into contact with and negatively impact specialty crops and beehives.

The law expects people to act reasonably and to exercise due care at all times, and this default duty applies to pesticide applicators. Common claims for drift include negligence, nuisance, and trespass. Each of these claims examine whether the parties acted reasonably and with due care. Most often, when a court decides that a pesticide applicator acted unreasonably, it is because he or she failed to apply the pesticide in a manner consistent with the label. Following the label is certainly an expectation, but it is not the only thing a court will consider.

When a pesticide applicator does not use FieldCheck, a perceptive attorney representing beekeepers and producers of specialty crops would likely argue that the use of FieldCheck is an industry standard. If an attorney could establish this, then the failure to use FieldCheck would mean that a pesticide applicator failed to act in a reasonable manner and exercise due care. While we have not seen an Ohio court consider this issue yet, as use of the program continues to grow, this argument will come to hold more weight when a case does arise.

When a pesticide applicator does use FieldCheck, he or she has a stronger argument that he or she acted in a reasonable manner. FieldCheck provides pesticide applicators with a way to know exactly where registered sensitive crops and beehives are located, and allows the applicator to buffer accordingly. FieldCheck provides a quick, cheap, and easy way to manage legal risk, alongside following the label. Applicators who use the program may want to document when they used the program and also how the maps impacted their application plan.
These scenarios presume that the beekeeper or producer of specialty crops has registered the locations of their bees or crop with a FieldWatch registry. When sued by a beekeeper or producer of specialty crops who did not register their locations, a pesticide applicator could use similar arguments as noted above in order to defend against the lawsuit. However, the applicator’s focus would likely regard the lack of notice. Again, these arguments alone would not likely determine the outcome of the case, but they would help the court determine whether the parties acted reasonably.

*What about hemp?*

Another question that some of our readers will also be asking is: which registry is for hemp? We made a call and left a message with FieldWatch. If or when hemp production becomes legal in Ohio, we’ll be sure to provide an update on which registry is proper for hemp. Ohio’s hemp bill is on the move, and the Ohio Senate Agriculture & Natural Resources Committee completed its third hearing of the bill this week. However, we can’t forget that growing hemp is not legal in Ohio unless and until the bill is passed into law and the regulatory system is created.

**Farm income projections hold a bit of good news**

By: Ben Brown, Ani Katchova, Ana Claudia Sant’Anna


Corn prices are on the rise, while soybean prices are projected to continue to dip this year before recovering a bit in 2020, according to government projections.

And this year, national net farm income, which takes into account many commodities not grown in Ohio, is projected to increase 10 percent over last year’s total, forecasts from the U.S. Department of Agriculture (USDA) show.

“These are not the best of times, but it’s stable,” said Ani Katchova, associate professor and chair of the farm income enhancement program at The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES).

Low commodity prices can put financial stress on growers, but the bankruptcy and loan delinquency rates, indicators of the financial health of farms, have not fluctuated much in recent years, said Katchova, one of the authors of a new CFAES report on farm income forecasts.

“It’s definitely not a crisis,” she said. “Farmers are generally not distressed, although many face tight profit margins.”
In years with low profit levels, farmers are increasingly leaning on crop revenue insurance, buying up higher and higher coverage levels to help compensate, Katchova said.

“Due to crop insurance, we see better farm incomes,” Katchova said. However, commodity prices remain low, with modest projected increases. The average per bushel price for corn, $3.36 last year, is projected to increase to $3.50 this year. By 2020, the price will rise to $3.90, according to estimates by the USDA released on March 13.

At the same time, the average per bushel price of soybeans, which was $9.33 last year, is projected to drop to $8.60 this year before rising a bit to $8.75 by 2020.

National net farm income began declining in 2014 and continued to do so until 2017, when it rose slightly before dropping again in 2018.

“Even though you have this expectation of an increase in farm income, it’s still tighter times,” said Ana Claudia Sant’Anna, a CFAES postdoctoral researcher who co-authored the new report with Katchova and Ben Brown, manager of CFAES’ farm management program.

It might take about a decade or more for profit levels to return to what they were in 2014, Sant’Anna said.

A positive for farmers in many states, including those in Ohio, is that agricultural land has maintained its value.

“If there’s a bright spot in farm balance sheets, it’s the land values,” Brown said. Overall, the value of cropland in Ohio has changed very little, he said.

If land prices were dropping, that might be cause for concern, Katchova said. “But farmers are not massively selling land,” she said.

Not surprisingly, expenses on the farm are projected to climb in 2019, with the largest increases being in farm labor, feed purchases, interest, and property taxes.

Corn and soybean farmers in Ohio likely will break even or potentially experience a loss on this year’s crop if they don’t own the land they cultivate, Brown said. Land costs factor significantly into growers’ net profits, and growers who own their land are likely to see a profit on this year’s crop.

Two factors boosted income on the 2018 crop that might not recur this year. New government aid to compensate for foreign tariffs may not be reissued, and 2018’s record high corn and soybean yields might not be repeated this year.
The aid to compensate for foreign tariffs helped bolster profits, particularly for soybeans. The aid amounted to an average payment of $95.70 per acre for soybeans to Ohio farmers and $1.88 per acre for corn, Brown said.

“I can’t emphasize enough the significance of those payments,” Brown said. “For corn and soybean farmers, they really helped income statements.”

Yield-based Nitrogen Management and the ‘1.2 Rule’

By Kaine Korzekwa

Source: https://dl.sciencesocieties.org/publications/csa/articles/64/3/4

An old and widely accepted yield-based N fertilizer management “ballpark” recommendation was evaluated.

While this rule (the 1.2 Rule) served an important function at the time of its inception, it may have harmed agriculture in a number of ways.

The future of nitrogen recommendations is the opposite of the 1.2 Rule approach—farmers’ decisions need to be made using more data, not less.


Rules are made to be broken—or at least challenged—even on the farm. The “1.2 Rule” for nitrogen fertilizer application has guided countless agricultural researchers, consultants, extension agents, and farmers for decades. However, some researchers have begun to re-examine the evidence behind it as well as the history of the rule itself.

In an article published recently in Agronomy Journal (http://doi.org/10.2134/agronj2018.07.0479), agricultural economists and agronomists summarized the research that shows the ineffectiveness and harmfulness
of the 1.2 Rule and yield-based nitrogen fertilizer management, how the rule came to be, and where the research should go next.

The 1.2 Rule was and is still used as a simple rule of thumb to recommend nitrogen fertilizer application rates. In its simplest form, a farmer following the rule takes his or her field’s “potential” yield (in bushels per acre) and multiplies that by 1.2 to get the recommended nitrogen fertilizer application rate (in pounds per acre). There are intricacies involved, such as if soybeans had been grown on the field recently, but largely, the rule is straightforward.

While a Ph.D. student at the University of Illinois Department of Agricultural and Consumer Economics, Divina G.P. Rodriguez dove into the origins of the rule as first author on the article, ultimately finding that two papers in 1966 and 1973 by agronomist George Stanford likely established the rule. Rodriguez is now a researcher at the Norwegian Institute of Bioeconomic Research.

“I started my research on the history of fertilizer recommendations by contacting the authors of the Illinois Agronomy Handbook, 1999–2000 to see if they knew its origins,” she explains. “They pointed me to other work, and then I chanced upon the Stanford papers. I immediately showed them to my adviser David Bullock at the University of Illinois, and we both thought they might be where the 1.2 formula started.”

After those two papers, the rule quickly pervaded the culture and common thinking around nitrogen management, making its way—in the form of catchy slogans like “1.2 is the best you can do”—onto even pocket knives handed out by agricultural organizations (see photo below). It became a rule of thumb, frequently stated and rarely understood, Bullock says.

“So, nitrogen fertilizer is becoming a bigger deal as the 20th century goes on, and people who work with farmers, such as those in extension, wanted to be able to recommend something to them,” he says. “They saw this 1.2 Rule as a great thing to recommend to help farmers.”

Stanford’s basis for his rule was that nitrogen recommendations needed to be data extensive, rather than data intensive, the researchers explain. This served as a way for the 1.2 Rule to become a sweeping recommendation for farmers everywhere, rather than gathering lots of data at the farm level. There were some valid reasons for this at the time, the researchers add. Field-specific trials were costly and time consuming and not as feasible as they are now.

Decades after the rule became commonplace, many began to realize that a blanket rule for nitrogen management had serious consequences for both farmers and the environment. Farmers are putting nitrogen on their fields that costs money but doesn’t increase yield, with the excess fertilizer running into bodies of water.
“Globally, under- or overuse of fertilizer presents either lost agricultural production or environmental degradation,” Rodriguez says. “In the past decades, most land grant universities and soil-testing laboratories provided nitrogen recommendations based on Stanford’s 1.2 Rule, and many still continue to do so. We examined and critiqued the origins of the rule but also analyzed its application, both to judge its appropriateness and to examine how better fertilizer recommendations might be made.”

In trying to get at the origins of the 1.2 Rule, Rodriguez and Bullock obtained the original data Stanford used in his papers and found many issues with the conclusions. Among other issues, they found that the field trial data used in the study was old (from the early 1950s), and some of the data were left out of the papers’ reported results, which proclaimed the 1.2 Rule. Also, the findings were being extrapolated to locations outside the study area, from the American Deep South to the Midwest.

“While Stanford was using the technology and theory available to him at the time, it just wasn’t empirical research,” Bullock says. “By the 1980s, people started getting skeptical and doing research on the rule and started finding there was no relation between yield potential and nitrogen application rate. Many, many papers found that and started taking more empirical approaches.”

The future of nitrogen recommendations is—ironically, Bullock says—the opposite of the 1.2 Rule approach; farmers’ decisions need to be made using more data, not less. He and his team, and several other researchers across the world are performing field trials right on a farmer’s farm since they are now cheaper and easier.

“We get the data right from the field we are interested in, and new precision technology has opened up many new and easy ways to get data,” he explains. “The farmers participate in the trials and are a big part of the research, and it’s interesting, fun, and rewarding for everyone involved. I think that there is a win–win possibility here, and those are hard to find in this world.”

**MARCH MADNESS BRINGS SURFACE WATER DRAINAGE**

By: Evin Bachelor
Source: https://farmoffice.osu.edu/blog/mon-03252019-347pm/ohio-agricultural-law-blog-march-madness-brings-surface-water-drainage

Depending upon who you talk to and when you talk to them, Ohio is either blessed or cursed as a water rich state. Droughts certainly occur, but in the past couple of years Ohio farmers have experienced record breaking rainfall both by measures of inches and intensity. As spring showers bring about a transition from winter to spring, we wanted to take a moment to look at Ohio’s surface water drainage laws.
Ohio courts follow the “reasonable use” doctrine for surface water drainage. Under this doctrine, a landowner may drain surface water from his or her property in a reasonable manner. When a landowner’s attempts to drain surface water from his or her property seem to result in harm to the property of another, legal issues may arise.

Courts and juries generally determine whether a landowner acted reasonably by looking at a number of factors, such as: the utility of the drainage, the gravity of the harm, the practicality of avoiding the harm, and whether it is fair to relieve the landowner of liability. These factors are examined and balanced on a case-by-case basis to determine whether the landowner should be found liable for the harm experienced by another.

Certainly there are ways to resolve a dispute before resorting to a lawsuit. Landowners may talk with their neighbors to work out an agreeable solution. Landowners also have the option to work with the county Soil and Water Conservation District or county engineer’s office to file a petition for a drainage improvement project that would address the drainage need.

For more information, check out our law bulletin on Surface Water Drainage Rights in Ohio, which is available HERE. It explains the “reasonable use” doctrine, describes how reasonableness is determined, and discusses remedies for harm caused by drainage.

**Spring Botany School to be held on April 11th 1-5 p.m.**

Ashtabula County Ohio State University Extension along with The Ashtabula County Master Gardeners invite you to come learn at our Spring Botany School. The topic for the day is *Plant Families: A Botanical Focus* taught by Garrett Ormiston & Patricia Fox from the Botany Department at the Cleveland Museum of Natural History. You will learn hands-on how to identify plants based on their shared botanical characteristics. Refreshments will be served and 4 CE’s for master gardeners will be given. We will be referring to "Botany in a Day: The Pattern Method of Plant Identification" by Thomas Elpel and using "Newcomb’s Wildflower Guide" by Lawrence Newcomb. A few copies of each will be available for purchase.

The cost is $15.00 (Checks payable to OSU Extension Ashtabula), it is asked that you register by April 9th.

**More information or to sign up:** Please contact Andrew Holden at Holden.155@osu.edu or 440-576-9008. Please see flyer below or by visiting: https://ashtabula.osu.edu/sites/ashtabula/files/imce/Botany%20Flyer%201.pdf
Ashtabula County 2019 Plat Book

Who owns Ashtabula County?
Thousands of people have a piece of it, and they are listed in the new plat book published by the Ashtabula County 4-H and OSU Extension with Mapping Solutions. The 2019 book is available for purchase for $25.00 + tax at the County Extension Office located at 39 Wall Street in Jefferson. Premium wall maps are also available. For more information contact their office at (440) 576-9008.

This 136-page spiral-bound book features township and range maps of Ashtabula County. These maps include the property boundaries for all rural parcels within the township, the name of the owner and the number of acres owned. Also, there is a handy landowner index for easy cross referencing.

In this new edition, you will find information regarding the Ashtabula Extension and 4-H programs, a Watersheds Map, and a County Road Map with Road Index as well as Municipal Maps of Andover, Jefferson, Orwell, and North Kingsville. We have again included the Index of the Initialed Parcels for your easy reference. And, as an added bonus there is an explanation of the public land survey system. Mapping Solutions is the publisher.

This information is valuable to anyone with a need to know who owns land in Ashtabula County. Prospective or adjoining property owners, hunters, foresters, timber and petroleum industry personnel, emergency services and many others would be interested in having a copy.

Now available….2 digital versions of the Ashtabula County landowner maps.

1. SmartMap for your smart phone or tablet. A SmartMap allows you to view your location on the map and track real-time movement with the device GPS, you can measure distances and areas as well as add points of interest, photos, position and label names to the map and much more.

2. eBook for your tablet, laptop or PC. This is a digital version of the plat book.

Visit mappingsolutionsGIS.com for these products.
Applications Being Accepted for Summer Master Gardener Training Program

The Ashtabula County Extension office is taking applications from Ashtabula County residents for the 2019 Summer Ashtabula & Lake County Master Gardener training program. If you have a strong interest in gardening and enjoy helping others, you are invited to apply to become an Ohio State University Extension Master Gardener volunteer for Ashtabula County.

To become an OSU Extension Master Garden volunteer, you must attend 11 training sessions held from Mid-June through August 2019 and volunteer 50 hours of horticultural service to the community through Extension educational programming after the training. Such service could include teaching adults and youth about gardening, planting and maintaining Extension demonstration gardens, answering gardening questions from the public, judging flower and vegetable projects at local fairs, or assisting community garden participants.

As a benefit of becoming a Master Gardener, you will increase your knowledge and understanding of such varied horticultural topics as best cultural practices for growing flowers and vegetables, house plant care, plant disease, lawn care, and insect pest identification and control and much, much more. Course topics include: history of OSU Extension, plant physiology, soils, composting, fertilizers, herbs, houseplants, plant propagation, plant pathology, diagnostics, entomology, integrated pest management, vegetables, lawns, woody ornamentals, fruits, landscape maintenance, and making effective presentations.

The dates for this year’s training program are: June 13, 20, & 27; July 11, 18, & 25; and August 1, 8, 15, 22, & 29. This program is taught in conjunction with the Lake County Master Gardener program. Five of the sessions will be taught at the Ashtabula County Extension Office in Jefferson and five will be taught in Lake County. All courses will be taught from 9:00 a.m. – 4:00 p.m. There is a $210 course fee that covers course materials, refreshments, and speaker travel costs. Registration is limited and all applications are due by April 15, 2019. Interviews for the class will be held on the third week of May, 2019. Please call the Ashtabula County Extension Office at 440-576-9008 or Email Andrew Holden at Holden.155@osu.edu for more information or for a complete application packet.

Trumbull County Farmer Lunch Series

OSU Extension Trumbull County, Trumbull County Soil and Water Conservation District, and the NRCS have combined efforts to offer a farmer lunch seminar series that will cover a variety of topics relevant to NE Ohio. Each program will start with lunch at
11:30 A.M. sponsored by the Trumbull County Holstein Club followed by a 1-hour presentation. Cost for individual programs is $10/person.

Tuesday, April 2, 2019 – Tillage Affects on Soil Health
• Steve Culman, Assistant Professor, State Specialist in Soil Fertility
• New tillage technologies are arriving each year, but are they hurting your soil health? Learn how tillage, and other practices can improve or hurt your soils health. CCA credits available.

**Upcoming Events**

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<td>Trumbull County Farmer Lunch</td>
<td>April 4, 2019 – Tillage and Soil Health</td>
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<td>Master Gardener Applications Due</td>
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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.
Trumbull County Farmer Lunch Series

Tillage and Soil Health with Steve Culman

April 2, 2019 - 11:30A.M. – 1:00P.M.

Have you been shopping for a new tillage tool? Does your soil health concern you? Steve Culman will be discussing different tillage practices and what they do to your soil. So, before you make a final decision join us on April 2nd at 11:30A.M. to learn what tools are best for your soils. Cost for this program is $7/person and includes lunch! We would like to thank Trumbull County Farm Bureau for sponsoring this program in addition to the Trumbull County Holstein Club. To register or for more information call 330-638-6783 or email Lee Beers (beers.66@osu.edu).

To register for the Trumbull Farmer Lunch program on April 2, 2019 please complete the form below and mail with payment to OSU Extension Trumbull County, 520 West Main St, Cortland, OH 44410. Please make checks out to OSU Extension. For questions or more information call 330-638-6783 or email beers.66@osu.edu.

Name: __________________________
Address: __________________________
City and State: __________________ Zip Code: __________________
Phone: __________________ Email: __________________
Number of Attendees: ____________ x $7 each = Total Enclosed__________

Trumbull County Agriculture and Family Education Center
520 West Main Street
Cortland, OH 44410
trumbull.osu.edu
330-638-6783
Plant Families: A Botanical Focus

THURSDAY, APRIL 11th 1:00 – 5:00 P.M.

Cost: $15.00 RSVP by April 9th
Checks payable to OSU Extension Ashtabula

Details: Come learn hands-on about plant families and how to identify plants based on their shared botanical characteristics. Refreshments will be served and 4 CE’s for master gardeners will be given.

Books: We will be referring to "Botany in a Day: The Pattern Method of Plant Identification" by Thomas Elpel and using "Newcomb’s Wildflower Guide" by Lawrence Newcomb. A few copies of each will be available for purchase.

More information: Please contact Andrew Holden at Holden.155@osu.edu or 440-576-9008

Ashtabula County Extension Office
39 Wall Street, Jefferson, OH 44047
Downstairs Meeting Room

Please register by April 9th by sending in a completed form to the Ashtabula County Extension office at: 39 Wall Street, Jefferson, OH 44047 Checks payable to OSU Extension Ashtabula

Name: ___________________________ 
Address: ___________________________ 
Phone: ___________________________ Email: ___________________________

Pay (please circle): AT DOOR / MAIL-IN

Co-Sponsored by the Ashtabula Co. Master Gardeners

Ashtabula County Agriculture and Natural Resources

THE OHIO STATE UNIVERSITY COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

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Master Gardener Volunteer Program
Ashtabula County Master Gardener Volunteer Training
Application Deadline is April 15th

Who are Ashtabula County Master Gardener Volunteers and what do we do?
We are the OSU Extension trained volunteers empowered to educate others with timely research-based gardening information. Some of our projects include:

- Educational field trips to gardens and nurseries
- HELPline – Assist home gardeners with research-based answers to their questions
- Ag Day – Teaching all first grade students in the county about local agriculture
- D-Day Conneaut – Hosting a booth to teach the public about gardening during World War II
- Support for various learning gardens around the county including planting, maintenance and teaching
- Provide speakers and programs to interested community groups
- And many other activities that enrich the community and our own lives

How do you know if you'd make a good Ashtabula County Master Gardener Volunteer?
- Do you want to learn more about plants and gardening?
- Are you eager to participate in a practical and intensive training program?
- Do you enjoy sharing your knowledge with others?
- Do you have the time to attend training and serve your community as a volunteer educator?

If you answered “Yes” to these questions and would like to know more about the OSU Extension Master Gardener Volunteer Training, please e-mail Holden.155@osu.edu or call 440-576-9008.

The Master Gardener Volunteer training course consists of:

- A minimum of 50 hours of instruction. The training takes place on Wednesdays with one Thursday and one Saturday for a field trip to a production nursery and a vegetable farm.
- A required 50 hours of horticultural-related volunteer time within the first 12 months following training. This is required to become a certified Master Gardener Volunteer. This may include up to 10 hours of Continuing Education.

FOR MORE INFORMATION, CONTACT:
Contact Andrew Holden at: 440-576-9008
Find us on Facebook: Ashtabula County Master Gardeners