Hello Northeast Ohio Counties!

Happy Thanksgiving! We hope you all have the chance to relax this holiday and spend quality time with your friends and family. Dry weather, and temps in the teens and 20s might let a few fields freeze up enough for harvest, so be safe out there if you are harvesting! Might be a perfect excuse for some to skip shopping.

I’m looking forward to the OSU vs. Michigan game this weekend. For the first time since I moved to Ohio, it looks like it could be competitive game.

O-H-I-O!

Lee Beers
Trumbull County Extension Educator

Andrew Holden
Ashtabula County Extension Educator
Soil’s history: A solution to soluble phosphorus?
By: Adityarup “Rup” Chakravorty
Source: https://www.agronomy.org/science-news/soils-history-solution-soluble-phosphorus

A The Food and Agriculture Organization of the United Nations estimates that around 45 million tons of phosphorus fertilizers will be used around the world in 2018. Much will be applied to soils that also received phosphorus fertilizers in past years.

Low-growing tea bushes in the foreground on tan soil, with a strip of tall trees in the background. Some tea plantations have been fertilized for over 100 years. This can affect how those soils hold phosphorus. Photo credit Abhijit Debnath. According to a new study, much of that could be unnecessary.

“Previous application of phosphorus fertilizers increases the effectiveness of subsequent applications,” says Jim Barrow, lead author of the study. Barrow is a scientist at the University of Western Australia.

He says better understanding soil phosphorus dynamics can have many benefits. It could lead to more judicious use of phosphorus fertilizers. “At a world level, phosphorus is a limited resource. We need to use it wisely.”

At a local level, excessive use of phosphorus fertilizers can pollute water. And at the farm level, purchasing phosphorus fertilizers is a major expense for farmers. “If farmers use only as much as is required, it will help the environment,” Barrow states. “It will also save them money.”

When phosphorus fertilizers are applied to soils, only a fraction is taken up by plants. That’s because most of the phosphorus is stuck on soil grains; only a small proportion is in solution. “When the portion in solution is high, plants can get phosphorus quickly from the soil,” says Barrow. “Low fertilizer application rates are sufficient.”
Phosphate, the compound used in fertilizers, can react with and penetrate soil particles. Barrow points out that when this happens, it’s “scarcely available to plants. This is a major reason why farmers have to reapply phosphorus fertilizers.”

But this has its upside. “When phosphate penetrates soil particles, it makes the soil particles more negatively charged,” Barrow explains. Since similar charges repel each other, negatively charged soil particles repel the negatively charged phosphate. That means there is more in solution. Plants get it faster, and therefore need less fertilizer.

Barrow and colleagues explored whether phosphate would continue to penetrate soil particles at the same rate over time. They reasoned that the rate would decrease as the negative charge built up.

A researcher with yellow protective gloves is holding a flask and using a pipette to fill it. There are an assortment of Erlenmeyer flasks in front of him with yellow liquid in them. Abhijit Debnath in his laboratory. Photo credit Abantika Debnath. They showed that when a lot of phosphorus has been applied over time the penetration of phosphate slows down and ultimately stops. “When this happens, you only need to replace phosphate used (and removed in produce) in the previous year,” says Barrow.

It’s similar to repairing a gravel road. The potholes and other gaps need to be filled first before a smooth, functional top layer is applied.

Barrow worked with colleagues at Bidhan Chandra Agricultural University in West Bengal, India. They used soil from a site about 65 miles west of the city of Kolkata, India. To mimic phosphorus application over time, the researchers applied phosphorus and then kept the soil at 140°F (60°C) for more than a month.

“It is quite slow at ordinary temperatures,” says Barrow. “This way we don’t have to wait around for years before we can do an experiment.”

The findings can help farmers use phosphorus fertilizers more efficiently. Farmers could also save money. “But these findings need to be conveyed to farmers,” says Barrow. “The effectiveness of the soluble phosphate fertilizers has been grossly underestimated.”

Northeast Ohio Agriculture

Ohio State University Extension
Ashtabula and Trumbull Counties
COLUMBUS, Ohio — American beech trees are dying in northeast Ohio and beyond. An Ohio State University study aims to figure out why.

The study is looking into the cause of beech leaf disease, which was first found in Lake County in 2012 and has since spread to nine other counties in Ohio, eight in Pennsylvania, one in New York and five in Ontario.

Young trees seem to be particularly susceptible to the disease, which initially causes dark stripes to appear on leaves, then deforms the leaves. Eventually the disease can kill the trees.

“There’s no similar forest tree disease that we are aware of anywhere,” said Enrico Bonello, a professor of plant pathology in Ohio State’s College of Food, Agricultural, and Environmental Sciences (CFAES), who oversees the study.

“It’s really a black box.”

Working under Bonello’s supervision, doctoral graduate student Carrie Ewing is comparing the genes of microorganisms present in leaves that have symptoms of beech tree disease and those that do not, hoping to identify the microorganisms that are uniquely associated with beech leaf disease. She’s trying to determine whether the mystery microorganisms...
causing the disease are viruses, fungi, bacteria, phytoplasmas or nematodes. Phytoplasmas are bacteria without cell walls. Nematodes are microscopic worms.

“We are comparing huge amounts of data, kind of a shotgun approach,” Bonello said. “It’s like trying to find a needle in a haystack by comparing various haystacks.”

If the infected plants have genetic material from a specific microorganism that the uninfected plants don’t have, Ewing then can zero in on the suspected pathogen and inoculate healthy trees with it in an attempt to prove that the pathogen is the cause of beech leaf disease. Ewing expects to have study results by this summer.

Meanwhile, the U.S. Forest Service and researchers with Lake County’s Holden Arboretum in Kirtland are conducting a separate study on potential causes of the disease. They are looking into whether nematodes found two years ago on infected beech leaves are causing the disease or if they were just present on infected leaves.

Ohio has 17 million American beech trees, and many of them in northeast Ohio, particularly along or near Lake Erie, are afflicted with the disease, Bonello said.

The disease was first reported on American beech trees, the only beech trees native to North America, but similar symptoms have been found on European beech and Oriental beech trees in nurseries in Lake County, where beech leaf disease was first found. “That suggests other species are susceptible,” Bonello said. “So there’s potential for the disease to spread worldwide in the northern hemisphere.”

**Farm animals may soon get new features through gene editing**

By: Candice Choi  
Source: [https://www.apnews.com/f628e7c65c794995b19977b7c1cddc10c](https://www.apnews.com/f628e7c65c794995b19977b7c1cddc10c)

Cows that can withstand hotter temperatures. Cows born without pesky horns. Pigs that never reach puberty.

A company wants to alter farm animals by adding and subtracting genetic traits in a lab. It sounds like science fiction, but Recombinetics sees opportunity for its technology in the livestock industry.

But first, it needs to convince regulators that gene-edited animals are no different than conventionally bred ones. To make the technology appealing and to ease any fears that it may
be creating Franken-animals, Recombinetics isn’t starting with productivity. Instead, it’s introducing gene-edited traits as a way to ease animal suffering.

“It’s a better story to tell,” said Tammy Lee, CEO of the St. Paul, Minnesota-based company.

For instance, animal welfare advocates have long criticized the way farmers use caustic paste or hot irons to dehorn dairy cows so the animals don’t harm each other. Recombinetics snips out the gene for growing horns so the procedure is unnecessary.

Last year, a bull gene-edited by Recombinetics to have the dominant hornless trait sired several offspring. All were born hornless as expected, and are being raised at the University of California, Davis. Once the female offspring starts lactating, its milk will be tested for any abnormalities.

The altering of food and animals by adding and subtracting genetic traits in a lab sounds like science fiction. Different than GMO’s, gene-edited food could be the wave of the future. (Nov. 15)

Another Recombinetics project: castration-free pigs.

When male piglets go through puberty, their meat can take on an unpleasant odor, something known as “boar taint.” To combat it, farmers castrate pigs, a procedure animal welfare advocates say is commonly performed without painkillers. Editing genes so that pigs never go through puberty would make castration unnecessary.

Also in development are dairy cows that could withstand higher temperatures, so the animals don’t suffer in hotter climates.

Recombinetics and others say gene-editing techniques do what traditional breeding has always done, except much faster and with the precision of “molecular scissors.” They are waiting for clarity from government officials, but say meat and milk from gene-edited animals shouldn’t be subject to special regulations.

Most U.S. dairy cows already are bred through artificial insemination from “semen straws,” which are priced for a bull’s pedigree and traits developed through years of traditional breeding. Gene-edited traits would just be higher-priced extras, Recombinetics says. For example, the hornless trait could add $3 to $5 to the price of a semen straw that could cost around $15.

Once gene-editing is accepted by the public, farmers will be more interested in traits that step up productivity, Lee predicted. As an example, she cited pigs edited to have bigger litters.
CHICKENS AS BIG AS ELEPHANT?

Before food from gene-edited animals can land on dinner tables, however, Recombinetics has to overcome any public unease about the technology.

Beyond worries about “playing God,” it may be an uncomfortable reminder of how modern food production already treats animals, said Paul Thompson, a professor of agriculture at Michigan State University.

“There’s an ethical question that’s been debated for at least the last 20 years, of whether you need to change the animal or change the system,” Thompson said.

Support for gene editing will also likely depend on how the technology is used: whether it’s for animal welfare, productivity or disease resistance. In August, a Pew study found 43 percent of Americans supported genetically engineered animals for more nutritious meat.

The array of possibilities is why the Humane Society of the United States supports gene-editing to end pig castrations and cow dehorning but doesn’t give the technology its blanket approval.

“If you edit for your chicken to be the size of an elephant, that’s not good,” said Josh Balk, the group’s vice president of farm animal protection.

The image seems preposterous, but it may not be far off from what the words “gene-edited animals” conjure for many. In the science-fiction movie “Rampage” earlier this year, gene-editing is used to create monsters, including a giant wolf that shoots porcupine spikes from its tail.

Some may also question the need to risk using the technology, if it really just speeds up what could be achieved with conventional breeding.

Advances in traditional breeding have already stepped up the productivity of cows, chickens and pigs. Today, milk producers can shop for characteristics developed through conventional breeding, like body frames and how efficiently animals convert feed into meat. Semex, a Canadian seller of bull semen, offers already offers a “Robot Ready” option for cows “built for automation,” with teat lengths and temperaments bred for milking machines.

The company is working with Recombinetics to develop the gene-edited hornless trait.

Notably, hornless dairy cows also already exist. But Recombinetics says there are so few that breeding them would compromise the valuable traits that have been carefully bred into modern dairy cows.
But John Burket, who breeds hornless dairy cows in Pennsylvania, thinks the hornless trait could spread quickly if it was prioritized.

Burket isn’t opposed to gene-editing, but he said he’s waiting to see if the technology delivers.

“ROBOT READY” COWS

For now, a more practical challenge for Recombinetics will be coming up with gene-edited traits farmers are willing to pay for. Semex says it will take at least two years of testing before it can start selling the hornless trait for dairy cows.

Conventional breeding comes with a lot more chance, but advances over the years have nevertheless made dairy farms increasingly productive. Paradoxically, that has contributed to a glut of milk, driving down prices and pressuring farmers.

Recombinetics says improving productivity isn’t just about producing more milk or meat but targeting inefficiencies like dehorning and pig castrations. Still, Lorraine Lewandrowski, a dairy farmer in upstate New York, is reminded of the skepticism she felt with bovine growth hormone in the 1990s.

“Do we want another technology that will put even more milk on the market?” she said.

Lewandrowski is also wary of anything that might give the dairy industry a bad image. But she noted the gene-edited hornless trait could save the time spent on dehorning.

Jonathan Lamb, an owner of Oakfield Dairy in western New York, said he wouldn’t pay much extra for the hornless trait; he’s watching costs because of low milk prices. But he thinks gene-editing could offer other improvements.

“I see that as a first step to other possibilities,” he said.

**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 11:30A.M. sponsored by the Trumbull County Holstein Club followed by a 1-hour presentation. Cost for individual programs is $10/person. If you would like to register for all four programs, the cost is $35/person.
Tuesday, December 4, 2018 – Tax Updates for Farms
  • David Marrison, OSU Extension Coshocton County
  • New tax laws that went into effect in 2018 made some changes that impacts farm taxes. This session will provide an update to those changes.

Tuesday, January 8, 2019 - Beef Quality Assurance
  • Haley Shoemaker, OSU Extension Mahoning County
  • The Ohio Beef Quality Assurance (BQA) program ensures that both beef and dairy cattle are raised in a manner that results in a wholesome beef product for our consumers. This program helps producers gain market access and keep their cattle desirable to the buyer in the stands.

*Wednesday, February 20, 2019 – NE Ohio Agronomy School in Bristolville, OH*

Tuesday, March 5, 2019 – Climate Impacts for Ohio Agriculture
  • Aaron Wilson, OSU Byrd Polar and Climate Research Center
  • Our changing climate has already influenced how Ohio farmers operate. Learn how predicted climate changes will continue to drive changes in Ohio agriculture. CCA credits available.

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.

The Dollars and Cents of Soil Health: A Farmer’s Perspective
By Elizabeth Creech, Natural Resources Conservation Service
Source: https://www.usda.gov/media/blog/2018/03/12/dollars-and-cents-soil-health-farmers-perspective

Last year, the United States lost 2 million acres of land in active crop production. As the global population grows towards a projected 9.8 billion people by 2050, so too does demand for the food, fuel and fiber grown in America. The result? American farmers are looking for sustainable ways to produce high yields year after year.

To support this growing demand, many farmers are incorporating soil health management principles into their operations. Conservation practices such as cover crops and no-till are widely recommended to build soil health over time, but do these practices actually improve crop yields and lead to stable profit margins? To answer this question fully we will rely on universities, private scientists, government researchers and those most directly impacted: farmers themselves.
Meet Russell Hedrick
Russell Hedrick is a first-generation corn, soybean and specialty grains producer in Catawba County, North Carolina. Hedrick started in 2012 with 30 acres of row crops. Since then, he’s expanded to roughly 1,000 acres.

“When we first started, farmers in the area said we needed a 150 horsepower tractor and a 20-foot disk,” says Hedrick. “We started out broke and we couldn’t afford the tillage equipment,” he adds, with a good-natured laugh. “I was lucky to have a fantastic district conservationist who set us in the right direction from the beginning.”

His first year, Hedrick practiced 100 percent no-till and planted cover crops across part of his land. “We tried out a six or seven species cover crop blend,” says Hedrick. “Back then, a lot of people thought we were crazy.”

That initial blend consisted of cereal rye, oats, triticale, legumes, crimson clover and daikon radish. Hedrick compared yields for soybeans grown with cover crops versus those grown without and noticed a significant difference: higher yields for cover cropped beans, and noticeably improved weed suppression.

“We started off our first year seeing yields higher than the county average,” Hedrick says. “That really lit me on fire to keep growing and trying new things to improve the soil health.”

Soil Health Case Studies

Though every farm and every field are different, a recently-completed Natural Resources Conservation Service (NRCS) Conservation Innovation Grants project shows promising results for farmers interested in adopting soil health management practices.

Conducted by the National Association of Conservation Districts (NACD) in partnership with Datu Research, the project provides economic case studies focusing on four corn and soybean producers in the Upper Mississippi River Basin. The profiled farms range in size from 25 acres of row crops to 2,300 acres, with three focusing on the economics of cover crop adoption and one specifically focusing on no-till.
Of the three farmers focusing on cover crop adoption, two reported average net economic gains over their first four to five years of cover cropping compared to a pre-adoption baseline. The no-till case study showed economic gains for all three years studied.

Giving Soil Health a Shot
When asked what he’d suggest to farmers considering trying new practices to build soil health, Hedrick’s answer is simple – just give it a shot.

“It’s not that hard to try something new,” says Hedrick. “Farmers should remember that soil health practices aren’t silver bullets and some take time to establish. When you’re first starting, try no-till or cover crops across 20 percent of your land. That’s manageable, and it leaves you a safety net if you don’t get the economic results you want to begin with.” Farm Bill programs such as NRCS’s Environmental Quality Incentives Program can further reduce the economic risk farmers face after adopting new conservation practices.

With 318.5 bushels per acre, Hedrick was the dryland division state winner in the 2016 North Carolina Corn Yield Contest. His corn and soybean yields are typically 20 to 30 percent higher than the county average, and over time he’s been able to reduce fertilizer costs by more than $70 per acre thanks to the nutrient boosts associated with cover cropping.

“I spend $45 per acre on my best cover crops,” says Hedrick, “and I spend about $20 per acre on my least expensive. Either way, I’m still saving money because of my fertilizer reductions.”

Hedrick encourages farmers to try different practices until they find what works for them. “At the end of the day,” he says, “there’s no one right way to do this. You just have to do the best you can, and try to do better each year. As long as you’re making progress, no one can fault you.”

To read more about the economics of no-till, please visit the Saving Money, Time and Soil: The Economics of No-Till Farming blog. Visit the NRCS website to learn more about voluntary conservation programs for your working lands.
Livestock Mortality Composting Program Scheduled for December 14 in Canfield, OH

While it's likely not the most popular dinner table topic, a plan for dealing with mortality is something that needs addressed if you raise livestock. Composting is a viable option for various types of farms, and actually allows producers to recycle on-farm nutrients. While livestock mortality composting is similar in goal to backyard composting, it follows a different methodology and requires a more specific approach. These differences, along with facility design, area selection, operation and management will be covered in class. In Ohio, certification is required to compost livestock mortalities legally.

OSU Extension Mahoning County will be hosting Rory Lewandowski on December 14, 208 from 12P.M. to 2P.M. at the Extension office in Canfield, OH to lead the discussion. Upon completion of the program, all participants will be certified in livestock mortality composting. Cost for this program is $25/person, and registration includes lunch, LMC Book, handouts, and other materials. To register see flyer at the end of the newsletter. For more information, call 330-533-5538.

Inversion and Drift Mitigation - Workshop on December 14

By: Cindy Folck

Recognizing weather conditions that could cause inversions is important when using certain herbicides in corn and soybeans. On December 14, join a discussion about recognizing inversions as well as ways to improve communication between farmers growing sensitive crops and pesticide applicators.

Inversion and Drift Management Workshop, presented by the Ohio State University Extension IPM program will be conducted on December 14 from 10 a.m. to noon. Farmers and pesticide applicators can attend the workshop in-person at the Ohio Department of Agriculture, 8995 E. Main St., Reynoldsburg, OH 43068 or attend virtually through the online webinar link. More information about the workshop is available at http://go.osu.edu/IPM

Leading off the workshop will be Aaron Wilson, weather specialist and atmospheric scientist with OSU Extension and the Byrd Polar and Climate Research Center. Wilson will focus on weather conditions that cause inversions and provide useful measures and observation to help determine if inversions are happening. Wilson will also look at average growing years and the days available for herbicide applications that avoided inversion or wind concerns.
Jared Shaffer, plant health inspector with the Ohio Department of Agriculture, will speak next focusing on FieldWatch, the sensitive crop registry available to Ohio farmers and used throughout the Midwest. Shaffer will showcase tools available for farmers with sensitive crops to communicate about the location of their crops. Shaffer will also detail techniques available to applicators to find real-time information about crops in the area and how this information can be used in their spray planning.

There is no cost for the workshop; however, pre-registration is required at attend in-person at the Reynoldsburg location and is limited to the first 75 registrants. Registration is online at go.osu.edu/IPM. Commercial and private applicator recertification credits for core will be available only at the Reynoldsburg location. No recertification credits are available for online participants.

For further information about the workshop, contact Cindy Folck at 614-247-7898 or folck.2@osu.edu. The workshop is sponsored by the OSU Extension IPM Program and the USDA NIFA Crop Protection and Pest Management Competitive Grants Program (Grant number: 2017-70006-27174).

**Become certified! Certified Crop Adviser (CCA) exam registration now open**

The Certified Crop Adviser (CCA) and Certified Professional Agronomist (CPAg) programs of the American Society of Agronomy are the benchmarks of professionalism. When you become certified, you join more than 13,000 of your peers in the largest, most recognized agriculturally-oriented certification program in North America. This program's professional standards are widely respected by industry, academia, and government and are referenced in statutes. Get the recognition, opportunities, and respect you deserve. Exam registration is now open for the February 1, 2019 exam.

**Upcoming Events**

**Trumbull County Farmer Lunch**  
December 4, 2018 – Farm Tax Update  
January 8, 2019 – Beef Quality Assurance
March 5, 2019 – Climate Impacts for Ohio Agriculture
April 4, 2019 – Tillage and Soil Health

Northeast Ohio Agronomy School
February 20, 2019 – Bristolville Community Center

Ashtabula County Dairy Banquet
March 26, 2019

Pesticide Applicator Training Dates
Trumbull County – January 16, 2019
Geauga County – February 1, 2019
Ashtabula County – February 28, 2019
Geauga County “Last Chance” – March 28, 2019

New Pesticide Applicator Training
Geauga County – February 12, 2019
Trumbull County – March 12, 2019

New Fertilizer Certification Training
Trumbull County – February 23, 2019
9A.M. to 12P.M.
Lee Beers  
Trumbull County Extension Office  
520 West Main Street  
Cortland, OH 44410  
330-638-6783  
beers.66@osu.edu  
trumbull.osu.edu

Andrew Holden  
Ashtabula County Extension Office  
39 Wall Street  
Jefferson, OH 44047  
440-576-9008  
holden.155@osu.edu  
ashtabula.osu.edu

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: http://go.osu.edu/cfaesdiversity.
Recent changes to the tax code could mean big changes to your tax bill. David Marrison, OSU Extension Coshocton County, will talk about the new updates and what that means in practical terms for your farm. David will discuss the economics of crop production and financial management in times of low crop prices. Pre-registration fee is $7 if received by Dec. 1, 2018. Cost is $10 at the door. Catered hot lunch, handouts, and other materials are included in the cost. We would like to thank Farm Credit Mid-America for their sponsorship of this program.

To register for the Trumbull Farmer Lunch program on December 4, 2018, 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 ___________________
Show the Extension office your Farm Bureau membership card to get your FREE test!

ONE FREE fall soil test*  
OCTOBER 25 TO NOVEMBER 30, 2018

*ONLY VALID FOR FARM BUREAU MEMBERS

WHO SHOULD SOIL TEST  
Anyone applying lime and/or fertilizer to gardens, yards, pastures, hay and crop fields, etc

WHY SHOULD YOU FALL SOIL TEST  
According to OSU Extension fall is an ideal time to sample soil for several reasons:  
1. Soils often have an ideal moisture range that makes sampling easy  
2. It gives producers ample time to apply fertilizer or lime before the next crop  
3. It helps ensure spring planting will not be delayed.

Soil testing can save you time and money but also plays an important part in water and environmental quality.

WHEN CAN YOU GET YOUR FREE TEST  
October 25–November 30- During your county OSU Extension office's regular business hours

HOW DO YOU OBTAIN YOUR FREE TEST  
Go to your county OSU Extension office (see front for addresses)  
Show your Farm Bureau membership card (Call us for your ID number if you don’t have a card)  
Pick up your FREE soil test  
Have Extension analyze your results if needed

QUESTIONS  
Call Farm Bureau at 440.426.2195 or email us at nefarmbueofbf.org

PICK YOUR FREE SOIL TEST UP AT YOUR COUNTY EXTENSION OFFICE  
ASHTABULA: 30 Wall Street, Jefferson, OH  
GEAUGA: 14269 Claridon-Troy Road, Burton, OH  
LAKE: 99 E Erie Street, Painesville, OH  
TRUMBULL: 520 W Main Street, Cortland, OH
Private and Commercial Pesticide Applicator Licensing

Farmers and agricultural industry personnel can obtain either a “Private” or “Commercial” pesticide applicator license through the Ohio Department of Agriculture (ODA). OSU Extension helps in the licensing process by providing study material, practice exams, and local test preparation classes.

**Private Pesticide Applicator’s Licenses** are for farmers who apply restricted-use pesticides on his/her own land (or rented land) and produce an agricultural commodity. Each private applicator is required to take & pass the CORE test (general safety for the applicator and the environment) and any category(ies) that correspond to the crops he/she grows. There are 7 categories which certification can be received: Grain and Cereal Crops (category 1), Forage Crops and Livestock (category 2), Fruit and Vegetable Crops (category 3), Nursery and Forest Crops (category 4), Greenhouse Crops (category 5), Fumigation (category 6), and Specialty Uses (category 7). Complete details on the licensing process for private pesticide applicators and study materials can be found at: [http://pested.osu.edu/home/privateapplicator/licensing](http://pested.osu.edu/home/privateapplicator/licensing)

**Commercial Pesticide Applicator Licenses** are for farmers or industry personnel who apply pesticides for a business or on land owned by someone else, and usually receive payment for their services. In agriculture this includes agricultural businesses who custom spray crops, as well as farmers who are hired to custom spray for fellow farmers. The commercial license area also includes applicators who work for a government or public agency such as a K-12 schools, colleges, universities, villages, townships, and park districts, in addition to applicators who apply to sites accessible to the public.

Each commercial applicator will need to take and pass the CORE test (general safety for the applicator and the environment) and the category(ies) that correspond to their commercial spray operation. These categories include: Aerial Pest Control (category 1), Agricultural Pest Control (category 2 with 6 sub-categories); Aquatic Pest Control (category 3 with 3 sub-categories), Forest Pest Control (category 4 with 2 sub-categories), Industrial Vegetation (category 5), Ornamental Plant & Shade Tree Pest Control (category 6 with 4 sub-categories), Vertebrate (category 7), Turf (category 8), Animal Pest Control (category 9), Domestic, Institutional, Structural & Health Related Pest Control (category 10 with 4 sub-categories), Livestock Predator Control (Category 11 for USDA employees only), and Wood Destroying Insect Diagnostic Inspection (category 12). Complete details on the commercial categories, licensing process, and their sub-categories can be found at: [http://pested.osu.edu/commercialrecert](http://pested.osu.edu/commercialrecert)

**2019 Test Preparation Classes for Northeast Ohio**

OSU Extension in Northeast Ohio will be providing two training sessions to help farmers prepare for the Ohio Department of Agriculture’s Private Pesticide Applicator’s Exam. Attendance at one of these classes is not required but is a great opportunity for applicators to learn what they will need to study for the test. This first class will be held on **Tuesday, February 12, 2019** from 1:00 to 4:30 p.m. at the Geauga County Extension office. Call the Geauga County Extension office at 440-834-4656 to register. The second class will be held on **Tuesday, March 12, 2019** from 1:00 to 4:30 p.m. at the Trumbull County Extension office. Call the Trumbull County Extension office at 330-638-6783 to register. The registration fee for each class is $35/person which includes CORE study materials.

**See back page for Testing Sessions**
2019 ODA Testing Sessions

Are you looking to take obtain your private or commercial pesticide license or wish to add an additional category to your existing license? The Ohio Department of Agriculture will be holding testing sessions during the winter/spring of 2019 in Northeast Ohio. These tests are administered by the Ohio Department of Agriculture and are held in northeast Ohio as a courtesy to producers. Pre-registration is required for each location and can be made by calling the ODA at 614-728-6987 or 1-800-282-1955 (press 3 then 1). For a full list of all locations and dates, visit: http://go.osu.edu/pestexam

Austabula County
Location: OSU Extension Office, 39 Wall Street, Jefferson, Ohio 44047
Date: March 6, 2019
Time: Testing Begins at 10:00 a.m.
Directions: Call 440-576-9008

Geauga County
Location: Geauga County Extension Office, 14269 Claridon-Troy Road, Burton, Ohio 44021
Dates: February 20, March 20, April 17, May 22, & June 19, 2019
Time: Testing Begins at 10:00 a.m.
Directions: Call 440-834-4656

Lake County
Location: Lake County Utilities Learning & Business Center, 1981 Blasé Nemeth Rd, Painesville Twp, Ohio 44077
Dates: February 11 & April 8, 2019
Time: Testing Begins at 9:00 a.m.
Directions: Call 440-350-2582

Mahoning County
Location: Mahoning County Extension Office, 490 S. Broad Street, Canfield, Ohio 44406
Dates: January 7, February 4, March 4, April 1, May 6, June 3, July 1, August 5, September 2, October 7, November 4, & December 2, 2019
Time: Testing Begins at 12:00 p.m.
Directions: Call 330-533-5538

Portage County
Location: Portage County Extension Office, 705 Oakwood Street, Ravenna, Ohio 44266
Dates: January 17, March 21, May 16, July 18, September 19, & November 21, 2019
Time: Testing Begins at 10:00 a.m.
Directions: Call 330-296-6432

Trumbull County
Location: Trumbull County Extension Office, 520 West Main Street, Cortland, Ohio 44410
Dates: January 22, February 13, March 13, April 10 & May 8, 2019
Time: Testing Begins at 10:00 a.m.
Directions: Call 330-638-6783

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