It is beginning to look a lot like winter! With this week’s snow flurries, it has been a good reminder that winter is far from being over. However, our winter has been milder this year and every day we are one day closer to spring! This has been a busy week in our Extension office, planning for our winter programs. We had a great meeting of the Tri-County Grape Growers last week as they brainstormed some great sessions for our Northeast Ohio Winter Grape School which will be held in March. This Friday, we will kick off our Pesticide Re-certification & Fertilizer Certification sessions in Williamsfield. Be watch for next week’s edition as the details on our February Northeast Ohio Winter Agronomy School will be released. Stay warm this week!

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OSU’s Agricultural Outlook Webinar Provides Insights for 2016
by: Chris Bruynis, Assistant Professor & Extension Educator

What’s ahead for farmers and agriculture businesses in 2016? Ohio State University’s Department of Agricultural, Environmental, and Developmental Economics (AEDE) and Ohio State University Extension, both located in the College of Food, Agricultural, Environmental Sciences, will be hosting an agricultural outlook webinar on February 1, 2016, starting at 6:30 p.m. EST. Listen and learn from OSU faculty as they discuss the opportunities and challenges for the agricultural sector, and interpret the impact of recent policy decisions on the agricultural sector. Registration cost is $10/person and can be paid for with a major credit card. Registration can be completed on-line at https://www.regonline.com/AgOutlook2016 and is limited to 200 registrants. Webinar log-in information will be send to all registrants closer to the event. There will be a period previous to the webinar for participants to test their connections and technology.
Topics that will be covered along with presenters include:

- Examining Land Values, Rents, Crop Input Costs & Margins in 2016 – Barry Ward, OSU Extension Leader in Ag Production Management
- President Obama’s Clean Power Plan and Ohio – Brent Sohngen, OSU Department of Agricultural, Environmental and Development Economics
- Grain Markets in 2016 – Matt Roberts, OSU Department of Agricultural, Environmental and Development Economics

These presentations will provide excellent information and insights that will benefit farmers and agricultural leaders as they make plans for 2016 and beyond. Direct questions to Chris Bruynis, OSU Extension at bruynis.1@osu.edu or 740-702-3200.

Grape Growers Invited to Meet the Candidates for the New Manager of the OARDC Ashtabula Research Station
By Ken Scaife

OSU - OARDC is in the process of searching for a Research Specialist/Research Station Manager for the OARDC Ashtabula Agricultural Research Station at Kingsville. A search committee made up of OSU faculty and staff and grape/wine industry members has narrowed down the field of applicants to two qualified individuals. Since this position will serve the northeast Ohio grape and wine industry, we are providing an opportunity for the industry to meet with applicants. Your input and involvement to the process is vitally important as we strive to select the next leader for the research station. The first candidate interviewed last week and the second will interview this week. Northeast Ohio Grape Growers are invited to meet the 2nd Candidate at Ferrante’s Winery and Restaurant this Thursday, January 14, 2016. The presentation and time for questions will begin at 1:30 p.m. and will conclude no later than 4:00 p.m.

Section 179 Expensing Increase and Bonus Depreciation Allowed under “Protecting Americans from Tax Hikes” Act
By Larry R. Gearhardt, Assistant Professor and Field Specialist in Taxation, OSU Extension

On December 18, 2015, Congress passed and the President signed into law an agreement on tax extenders and numerous other tax provisions in the “Protecting Americans from Tax Hikes (PATH) of 2015” (the Act). Tax extenders are the 50+ tax provisions that are routinely extended by Congress on a one- or two-year basis. The Act makes permanent many of the individual and business extenders. Some of the more pertinent provisions are as follows:

Section 179 Expense Deduction
Under Sec. 179 of the Internal Revenue Code, a taxpayer may elect to deduct as an expense, rather than to depreciate over time, up to a specified amount, the cost of new or used tangible personal property placed in service during the tax year in the taxpayer’s trade or business. In this case, “taxpayer” does not include an estate, trust, or certain non-corporate lessors. The maximum annual expensing amount generally is reduced dollar-for-dollar by the amount of Code Sec. 179 property placed in service during the tax year in excess of a specified investment ceiling. The old law provided that, for 2015, the maximum expensing limit was $25,000 and the investment ceiling was $200,000. Pursuant to the new law, the expensing limit was increased to $500,000 and the investment ceiling was increased to $2,000,000 before the phase-out begins. These amounts were made retroactive to the beginning of 2015 and they were made permanent for future use. In addition, for any tax year beginning after December 31, 2015, both the $500,000 and the $2,000,000 are indexed for inflation.

The amount eligible to be expensed in a tax year cannot exceed the taxable income derived from the taxpayer’s active conduct of a trade or business. The amount deducted under Code Sec. 179 can offset the taxpayer’s income,
but it cannot be used to create a loss. However, any amount that is not allowed as a deduction because of the taxable income limitation may be carried forward to succeeding tax years.

“Eligible property” for Code Sec. 179 purposes is any tangible property that is Code Sec. 1245 property (generally machinery and equipment) depreciated under the MACRS rules of Code Sec. 168, regardless of its depreciation recovery period. In short, if you can depreciate it, the property would qualify for Sec. 179 treatment. “Eligible property” includes machinery and equipment; property contained in or attached to a building (other than structural components), such as milk tanks, automatic feeders, barn cleaners, and office equipment; livestock, including horses, cattle, hogs, sheep, goats, mink and other fur bearing animals; grain bins; single purpose livestock and horticultural structures; and agricultural fences and drainage tile. Both new and used property qualifies.

The Code Sec. 179 deduction applies to the tax year when the eligible property is “placed in service.” This may be different than the date of purchase. Property is “placed in service” when it is ready and available for a specific use, even if the item is not being currently used. Warning: writing a check on the last day of the year to purchase new machinery or equipment does not automatically qualify that item to be deducted in that tax year. In addition to writing the check, the machinery or equipment must be ready and available to use in that tax year. This may be extremely important when taking on a long-term project, such as constructing a building.

A Code Sec. 179 deduction is taken on tax form 4562. The taxpayer may elect to deduct the entire cost of the property (within limitations), none of the cost, or a portion of the cost of the item. Even though Code Sec. 179 provides for a “deduction,” taking the deduction reduces the basis in the property the same as if it was depreciated. A “recapture” of the deduction may be triggered if the item is later sold for more than its basis.

**Bonus First-Year Depreciation Extended Through 2019**

There was no Accelerated First-Year Depreciation (AFYD) for 2015 under the old law. Under the new law, Congress provided some future stability by providing for AFYD through 2019, albeit on a decreasing scale. Eligible taxpayers will be able to claim:

- A 50% bonus depreciation allowance for qualified property placed in service in 2015, 2016, and 2017;
- A 40% bonus depreciation allowance for qualified property placed in service in 2018; and
- A 30% bonus depreciation allowance for property placed in service in 2019.

In general, property qualifies for the bonus depreciation allowance if it is property to which the modified accelerated cost recovery system (MACRS) rules apply with a recovery period of 20 years or less. This includes virtually all of the items used in agriculture. Unlike the Code Sec. 179 expense deduction, which applies to both new and used property, the bonus depreciation allowance applies to only new property. Its original use must commence with the taxpayer. The bonus depreciation allowance is also taken on tax form 4562. The basis of the property and the depreciation allowances in the year of purchase and later years are appropriately adjusted to reflect the additional first-year depreciation deduction. A taxpayer may elect out of additional first-year depreciation for any class of property (as opposed to an individual item) for any tax year.

**New Rule for Plants With Long Production Periods**

The Act contains a special new rule for plants planted or grafted after December 31, 2015 and before January 1, 2020. Bonus depreciation is allowed for certain trees, vines, and plants bearing fruit or nuts when planted or grafted rather than when the plant reaches income-producing stage. Under the old law, for depreciation purposes, fruit-bearing or nut-bearing plants were deemed “placed in service” when they reached an income-producing stage. The “placed in service” rule was relaxed in the Act so that a fruit-bearing or nut-bearing plant is deemed “placed in service” when planted or grafted. Therefore, plants with a long pre-production period can qualify for the bonus depreciation allowance under the new law.
A “specified plant” that qualifies is a plant, planted or grafted in the United States, that is: (1) any tree, vine, or plant that bears fruit or nuts; or (2) any other plant that will have more than one yield of fruits or nuts and generally has a pre-productive period of more than two years from the time of planting or grafting to the time that the plant bears fruit or nuts.

Other Extended Provisions Worth Noting
In addition to the foregoing provisions, the PATH Act extended the following provisions, among others:

- A permanent extension of the general state and local sales tax deduction.
- A permanent extension of the $250 educator expense deduction.
- A permanent extension of the Credit for Increasing Research Activities (research credit)
- A permanent extension of the 15-year recovery period for qualified leasehold improvements, qualified restaurant property and qualified retail improvements.
- An extension of the tuition and fees deduction through 2016.
- An extension of the nonbusiness energy credit through 2016.
- An extension of mortgage insurance premiums paid or accrued as an itemized deduction through 2016.
- An extension of the qualified principal residence indebtedness exclusion for debt discharge income through 2016.

Is Section 179 a Ticking Tax Time Bomb?
By: Paul Neiffer
Source: http://www.farmcpatoday.com/2016/01/05/is-section-179-a-ticking-tax-time-bomb/

Most farmers took advantage of up to $500,000 of Section 179 over the last five years. The recent tax extender bill has now made this permanent at the $500,000 level (indexed to inflation after 2015) and it does not start to phase-out until a farmer invests more than $2 million in farm equipment.

On the face, this sounds like a great tax deduction for farmers, however, with continued low commodity prices, might this be a ticking tax time bomb for many farmers. This is due to a farmer having to liquidate some farm equipment due to the bank requiring additional liquidity be put into the farm operation or perhaps the farmer has lost some ground and no longer needs the equipment. This sale of equipment causes the Section 179 to be “recaptured” as ordinary income and since the farmer probably does not have sufficient liquidity to prepay additional farm expenses, causes the farmer to be in a high tax bracket. This leads to a large tax bill which then requires the farmer to sell additional equipment or grain to cover the tax bill. This is especially harsh when the equipment was financed 100%. As an example, let’s assume that Farmer Brown had purchased a combine for $500,000 back in 2014 and took full Section 179 on it. In 2015, the bank requires him to sell this combine for $350,000 (which paid off the note to the bank; Farmer Brown received no cash from the sale). Farmer Brown now reports his normal farm income of $100,000 plus has a $350,000 ordinary income from the sale of the combine. This results in about $150,000 of federal and state income taxes being owed. This causes Farmer Brown to have to sell additional grain of about $150,000 in 2016 to pay his income taxes which causes additional tax liability of about $50,000 being owed in 2017. If Farmer Brown had not taken Section 179 in 2014, his tax liability might have been higher that year, but likely he would have had the liquidity to pay it and would not get stuck in the extra tax spiral as shown in the example.

One option to help Farmer Brown in this situation is to amend his 2014 tax return and take Section 179 on a different piece of property that was not sold (assuming he bought additional property). The IRS allows you to amend your tax return and take Section 179 on other property. I believe we will see more of these situations in 2016. If you have some flexibility in your equipment, take a look at amending your tax return to help with the gain on selling equipment you took Section 179 on.
Hay Quality Determines Supplementation Needs
By Jeff Fisher, Chris Bruynis, Jeff Moore, and Steve Boyles, Ohio State University Extension (this article first appeared in the January issue of The Ohio Farmer Magazine)

Rain in the late spring through early summer delayed hay harvest in some areas of the state. Additionally there were some high temperatures that caused an increase in the rate of maturity of forages. For example alfalfa grown at 63°F may take 52 days to reach early bloom but only 21 days at 90°F. As forages mature, there is an increase in cell wall content and a decrease in the digestibility of the cell wall. So for some producers, all these factors came together to create the perfect storm and significantly lowered forage quality.

A group of agents in Pike, Ross and Gallia counties worked with forty-seven livestock producers in obtaining hay sample for nutritional analysis this fall. There were a total of eighty-one hay samples collected. The following are a subset of those samples with example diets to meet beef cow dietary requirements for late pregnancy and lactation.

The following diets are for a 1300-pound cow in the last trimester of pregnancy. The table includes Crude Protein (CP) and Total Digestible Nutrients (TDN) which can be an estimate of energy needs. Soybean meal (SBM) and Corn were made available as supplemental protein and energy if needed.

<table>
<thead>
<tr>
<th>Hay Sample</th>
<th>% CP As Fed</th>
<th>% TDN As Fed</th>
<th>SBM (lbs.)</th>
<th>Corn (lbs.)</th>
<th>Hay (no waste) (lbs.)</th>
<th>Cost per day with $60/ton hay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orchardgrass</td>
<td>6.6</td>
<td>46</td>
<td>0.75</td>
<td>6.7</td>
<td>22.2</td>
<td>0.91</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>13.2</td>
<td>52</td>
<td>x</td>
<td>x</td>
<td>25</td>
<td>0.75</td>
</tr>
<tr>
<td>Mixed Grass Hay</td>
<td>10</td>
<td>52</td>
<td>x</td>
<td>x</td>
<td>25</td>
<td>0.75</td>
</tr>
<tr>
<td>Grass-clover Hay</td>
<td>13.1</td>
<td>45</td>
<td>x</td>
<td>5</td>
<td>23</td>
<td>1.92</td>
</tr>
<tr>
<td>Fescue-Orchardgrass Hay</td>
<td>8.1</td>
<td>43</td>
<td>0.17</td>
<td>6</td>
<td>21</td>
<td>1.97</td>
</tr>
</tbody>
</table>

The following table is for a 1300-pound cow for lactation. There were various levels of lactation. The hay samples are the same ones as above.

<table>
<thead>
<tr>
<th>Hay Sample</th>
<th>%CP As Fed</th>
<th>%TDN As Fed</th>
<th>Lactate Pounds of Milk per day</th>
<th>SBM (lbs.)</th>
<th>Corn (lbs.)</th>
<th>Hay (no waste) (lbs.)</th>
<th>Cost per day with $60/ton hay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orchardgrass</td>
<td>5.4</td>
<td>46</td>
<td>18</td>
<td>2.9</td>
<td>18.9</td>
<td>21.6</td>
<td>1.2</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>13.2</td>
<td>52</td>
<td>19</td>
<td>2.57</td>
<td>18.1</td>
<td>25.4</td>
<td>1.48</td>
</tr>
<tr>
<td>Mixed Grass Hay</td>
<td>10.6</td>
<td>45</td>
<td>18</td>
<td>3.1</td>
<td>17.9</td>
<td>21.0</td>
<td>1.28</td>
</tr>
<tr>
<td>Grass-clover Hay</td>
<td>13.5</td>
<td>45</td>
<td>18</td>
<td>3.2</td>
<td>17.6</td>
<td>21.1</td>
<td>1.11</td>
</tr>
<tr>
<td>Fescue-Orchardgrass Hay</td>
<td>8.1</td>
<td>43</td>
<td>18</td>
<td>1.2</td>
<td>19.0</td>
<td>21.2</td>
<td>1.18</td>
</tr>
</tbody>
</table>

Forage quality is always important to cattle nutrition and can greatly affect the cost of supplementation. These are computer generated diets. Computer cows do not waste feed but we know their live counter parts do. Additional supplementation is necessary during cold and/or wet weather. Consideration needs to be given to the hay delivery system. Higher levels of grain also slightly change mineral requirements. Some of the diet above would benefit from calcium supplementation since grains like corn are relatively low in calcium. Cattle genetics can also affect nutritional cost. If a producer constantly needs to supplement cows with energy and protein, even in a good year, there needs to be attention to bull selection. Milk production should be closely aligned to the forage quality that can be produced.
Although predicting the future is always a risky exercise, I believe making any firm predictions about the direction of agricultural policy in 2016 is outright foolish. Let’s face it – 2016 is a wildcard. As proof, I only need to note that the orange guy from The Apprentice is leading the polls for the GOP nomination. With that said, I still believe that 2016 will be an important year for agricultural policy. Here are 9 matters that I think will have an impact on agricultural policy in the coming year:

1. **Obama’s Last Year**
   Presidents tend to use their last year in office to shore up their legacy and tie up loose ends. It is unlikely that President Obama will pursue any new major legislative initiatives during 2016. However, the Obama Administration has a number of regulatory initiatives that it intends to finalize and implement in 2016. Of note for agriculture are the regulations implementing the Food Safety Modernization Act. While the major regulations were finalized in 2015, how these rules are actually applied to agriculture and food processors will be largely shaped in 2016. Also, no American politician is less accountable to voters than a lame-duck president after voters have selected a replacement. As we saw with Bush (43) and Clinton (42), I would not be surprised to see executive orders on public land use restrictions or endangered species listings during the last few days of the President’s term.

2. **Trade**
   Free trade is an area where the President and the Republican-controlled Congress appear to agree in principle. However, the devil is always in the details. Such is the case with the Trans Pacific Partnership (TPP). While the TPP is favorable for most of the ag. sector, provisions related to tobacco products and intellectual property appear to be holding up Congressional approval. While Congress may vote on the TPP, it is likely that they will wait out Obama’s term in hopes of having a Republican partner in the White House in 2017.

3. **WOTUS**
   The “Waters of the U.S.” rule is currently being held up by a stay issued by the 6th Circuit Court of Appeals. It will take a while for the federal court system to work through the numerous legal attempts to halt implementation of the over-reaching WOTUS Rule. Agriculture can breathe a temporary sigh of relief because it is unlikely that these lawsuits will be resolved this year.

4. **Immigration**
   It is unlikely that we will see any major changes in our immigration system this year. Congress has made clear that they intend to wait out Obama’s term. Several presidential candidates have also made immigration a top issue in the 2016 campaign. While taking a hard line may be smart politics, it does nothing to fix the current labor situation in agriculture, which relies heavily on undocumented workers.

5. **GMO Labeling**
   Unless the federal courts stop it, Vermont is poised to become the first state in the nation to require GMO labeling on July 1st. Vermont’s law is bad policy, raises food costs, and is nearly impossible to comply with. It appears that Congress may come together to pass legislation that would preempt state GMO labeling measures. However, this legislation may contain some compromise measures, such as a mandated phase-in of QR code “smart labels” that would indicate whether products are produced with genetic modification. This will require greater efforts to educate consumers on what genetic modification is and is not.
6. 2016 Presidential Election
Who knows? In all seriousness, agriculture policy has not been a priority at this point in either party’s nomination contests. Ethanol policy has been divisive in the Republican contest with many free-market candidates shying away from taking a strong position on the RFS (or flat-out opposition a la Sen. Cruz). Immigration has received a significant amount of attention from both parties, but there has been little focus on how this impacts our food production systems.

7. The Monarch Butterfly
The population of monarch butterflies has decreased substantially in recent years, so much so, that many activist groups are calling for it to be listed under the Endangered Species Act. These activists point to glyphosate as the root cause of the decline in monarch populations, which feed on milkweed. Listing of the monarch could trigger a number of onerous restrictions on land use in an effort to revitalize the population. With a migration path that covers much of the United States, an ESA designation could have serious impacts for some farmers.

I expect that the U.S. Fish and Wildlife Service, which has the responsibility for ESA listings, will pursue creative routes for population revitalization without having to resort to listing. The agency took this approach with the greater sage grouse, although it still resulted in numerous restrictions on federal land use. I would expect to see FWS pursue some alternatives to listing the monarch butterfly in 2016, such as programs to encourage milkweed growth on (butter)flyways.

8. Non-traditional Environmental Lawsuits
While government agencies and private plaintiffs still primarily rely on nuisance torts and the Clean Water Act to target agricultural producers, we have seen an uptick in more creative approaches to litigation. Some activists (and the federal government) have started to use the Safe Drinking Water Act and the Resource Conservation and Recovery Act to target dairies on the west coast with some success. If these approaches to litigation take hold, then producers will need to adapt to protect their rights and ensure that they are in compliance.

9. Unleashing the Drones
FAA has announced that it intends to finalize its rules for commercial operation of small unmanned aerial vehicles (drones) in 2016. FAA’s new rules will dramatically expand the number of commercial drone operators, which has been currently limited to licensed pilots flying under a Section 333 exemption. However, the proliferation of drone flights will likely add to the growing concerns over privacy related to drone operations over private property. I expect some states may consider some privacy measures to restrict drone flights over private residences and farms.

Happy New Year!

John Dillard is an attorney with Olsson Frank Weeda Terman Matz P.C. (OFW Law), a Washington, DC-based firm that serves agricultural clients and clients with issues before federal and state courts, EPA, FDA, USDA, and OSHA. John focuses his practice on agricultural and environmental law. He occasionally tweets at @DCAgLawyer. This column is not a substitute for legal advice.

Agronomic Crop Research Experience (ACRE) Summer Interns Sought for 2016
The Ohio State University Agronomic Crops Team is continuing a new summer program in 2016 aimed at providing a rich training experience to undergraduate students in a diversity of disciplines related to agronomic crop research. These Agronomic Crop Research Experience (ACRE) Interns will support OSU on-farm research, by being placed in strategic locations or hubs of research throughout the state. They will work to help facilitate better integration of research, education and outreach overall.

Specifically, the ACREs program strives to:
- Provide valuable, hands-on training to undergraduate students in a variety of agronomic crops disciplines to prepare them for careers in extension, research or industry
- Provide a network of research assistants to help collect data from on-farm field trials throughout the state, more effectively expanding on-farm research capabilities
- Enable greater independent research initiatives by county educators

The primary responsibilities of the ACRE interns will be to assist with crop scouting, sample collection, field data collection, laboratory analysis, data entry, field plot maintenance and crop reporting. Other activities related to research, extension and outreach are also likely, including administrative and clerical work. ACRE interns will form a cohort and will meet semi-regularly for trainings and to discuss the work they completed and any challenges faced. These trainings will happen at different locations throughout the state.

The 2016 ACRE location hubs are listed below. Note that there is an office location listed for each hub, but this location may be flexible and an intern could be based at another OSU extension office within that hub.

1. Fulton, Defiance, Williams and Paulding Counties, main office likely in Wauseon
2. Wood County, main office likely in Bowling Green
3. Trumbull, Ashtabula, Geauga and Mahoning Counties, main office likely in Cortland
4. Darke, Miami, Mercer and Auglaize Counties, main office likely in Greenville
5. Madison, Champaign and Fayette Counties, main office likely in London
6. Ross County, main office likely in Chillicothe
7. Knox, Delaware, Morrow and Licking Counties, main office likely in Mt Vernon
8. Wayne and Tuscarawas Counties, main office likely in Wooster

The ACRE program will last approximately 12-14 weeks. A mandatory, 2 day training will be held in Wooster, on May 11-12th and the program will finish around Aug 12th – 19th, 2016. Interested students should be 1) currently enrolled in an undergraduate program, 2) just finishing their undergraduate degree this semester, or 3) planning on starting graduate school this fall. Applicants must be able to work independently. They should be professionally motivated to help farmers make research-based management decisions. Students must have a valid driver’s license, a reliable personal vehicle and must be willing to travel extensively over the duration of the summer. All mileage will be reimbursed at the standard University rate ($0.54 per mile). These internships are paid, full-time positions that will last for 12-14 weeks. Pay will be $11 per hour at 38 hours per week. There should be some flexibility for taking vacation depending on student interest, workload and county educator need. Applications should be submitted by January 29th 2016 as a single pdf file to Steve Culman at culman.2@osu.edu.

A Survey for Ohio Farmers with Grain Storage Bins
Dee Jepsen, OSU Extension, State Ag Safety Leader & Yang Geng, Research Assistant

Managing and marketing crops has become as much an art as it is a science. It is an important skill for Ohio farmers to understand how their stored grain facilities operate for optimum grain quality. Out of condition grain is an economic concern for cash grain operators. Out of condition grain is also a health and safety risk for Ohio farmers.

From the health perspective, grain dust is considered an organic dust. It contains large particles that enter the airway and cause cumulative lung damage. Moldy grain contains various spores and mycotoxins that cause even more damage to the body. Current grain handling practices allow the opportunity for workers to have exposure to grain dust. From the safety perspective, on-farm storage systems present certain dangers for the farm worker. Grain storage systems are unique and vary between their construction type, storage capacity, and drying system. Management practices also vary with these systems, everything from moisture content at harvest, length of time the commodity is held before marketing, seed hybrid, and external air temperature and humidity.
This is a study to help understand Ohio farmers’ on-farm grain storage systems. A portion of this study was funded by the Ohio Bureau of Worker’s Compensation Program to understand the health and safety risks workers face while working around stored grain.

By completing this survey, you will begin to provide information that will be used for future educational programs. Taking part in this survey is totally voluntary and will take approximately 10-15 minutes. You will not be asked to provide any personal identifying information, making your answers anonymous. To take the survey, please paste the URL below into your internet browser: https://osu.az1.qualtrics.com/SE/?SID=SV_00cx8atxQ1ndAfH

We appreciate your consideration to supply information that will create an accurate picture of the practices used on Ohio grain facilities. Ultimately, this information will be used to develop better training programs for our cash grain commodity.

Local Farmer Pens Second Book
By SHELLEY TERRY sterry@starbeacon.com

Local author Ralph J. Rice has lived his entire life within 20 miles from the farm where he was born. His grandparents and great-grandparents all lived within 10 miles of that farm, and he inherited his love of rural life and interest in farming from them. Rice, 57, and his wife, Connie, now operate "Riceland Meadows" on Route 307 west of Jefferson Village, preserving food, raising sheep, horses, chickens, cattle and hogs, making maple syrup and logging their woods with the help of their Percheron draft horses. It is a throwback to the farms of yesteryear. "There was nothing but red bush and golden rod when we moved here in 1992," he said. "It was vacant land."

Rice designed the ranch-style house and laid out the farm so the fields, barn and forest border can be monitored from the farmhouse windows. With encouragement from his wife, Rice pursued his interest in writing several years ago. Today, he's a published author and a columnist for "Rural Heritage Magazine." However, Rice insists he is a farmer who writes, not a writer who farms. Even so, he has penned his second book, "Cultivating Memories," a 335-page collection of short stories about his memories and the life lessons he's acquired from farm life.

"I write to share information with other farmers, gardeners and homesteaders," Rice said. "I write to touch the hearts of many people, by putting into words my experiences, my love for life and the reflections on my very soul." A shift supervisor at Cristal Global in Ashtabula Township and a farmer, Rice's writing career actually started in 1992 when he began keeping a journal. A couple of years later, he wrote, "A Tribute to Trees." His wife, who is his biggest fan, encouraged him to see if anyone would publish it. After a few rejection letters later, "Country Magazine" published it. From there, Rice sold several articles to farm and garden magazines and, eventually, became a regular columnist for "Rural Heritage Magazine."

"I am very pleased he's developed an audience," said Connie Rice, who edits and proofreads his work. In 2008, Rice wrote a book about World War II, "A Soldier's Story," to honor veterans. He tackled the project by interviewing his father-in-law, who inspired the story. Rice then started work on "Cultivating Memories," his second book and a
reflection on the rural lifestyle. He writes his manuscripts in longhand and he writes in spurts. Connie Rice said once he gets going, "the words just flow."

Rice warns tender-hearted readers that they may want grab a few tissues before reading "Cultivating Memories," especially chapter 43, titled,"She's Gone." In it he recounts his love for his childhood pet, a Border Collie named Queenie, and the day she died. Rice’s childhood included many happy memories of raising jersey cattle, rabbits and goats for 4-H, as well as 4-H meetings and a week every summer at Camp Whitewood in Windsor Township.

"Cultivating Memories" is available for $14.95 at the Jefferson Mill or J.R. Hofstetter’s, both in Jefferson, as well as at The Hair House on Lattimer Avenue in Ashtabula, and online at Ruralheritage.com. Bethany Caskey, also a contributor to "Rural Heritage Magazine," illustrated the book.

**The Quest for High Vacuum in a Maple Tubing System (Part 1)**

By Les Ober, Geauga County Extension

Source: [https://ohiomaple.wordpress.com/2016/01/04/the-quest-for-high-vacuum-in-a-maple-tubing-system/](https://ohiomaple.wordpress.com/2016/01/04/the-quest-for-high-vacuum-in-a-maple-tubing-system/)

The variety of vacuum pumps on today’s market is very extensive. Although vacuum has become a mainstay in maple production our utilization of vacuum pumps and equipment is very small compared to their use in the industrialized world. Maple production is just on the tip of the iceberg when it comes to vacuum utilization. Even though vacuum is used extensively in the maple industry we have only been at it a very short time. For this reason there is a lot of misunderstanding about the laws of physics (Quantium Mechanics) that govern the science of vacuum. The online encyclopedia Wikipedia defines the word vacuum as “void of matter”. In fact it stems from the latin word vacuus which means vacant. The study of vacuum goes back to the Greek Age and the time of Aristotle. Several basic scientific principals apply when it comes to vacuum. Due to pressure exerted by the earth’s atmosphere (15 lbs per sq. in.) you can only achieve a maximum vacuum level of 29.92 inches of mercury. You actually can only achieve a vacuum level equal to the barometric pressure on any given day at any given location. Barometric pressure changes with the elevation above sea level. Another principal is how we measure vacuum. The level of vacuum is a negative measure (because you are creating a negative pressure inside of a vessel) and is read in inches of Mercury. The rate of air being removed from a vessel by a vacuum pump is measured in cubic feet per minute on an English measurement scale.

Even though it has become the Holy Grail, in the maple industry, the term “High Vacuum” is largely misunderstood. High Vacuum or perfect vacuum exists only at 29.92 in. Hg. This is the highest level of vacuum achievable in our atmosphere and occurs only when every molecule of matter is removed from a vessel. This is extremely hard to achieve because once all of the air is removed there are still other gases that qualify as matter and are very hard to remove. In fact the closest thing to a perfect vacuum only exists in outer space and we are not producing syrup on the moon. Wikipedia states “There are three levels of vacuum achievable with modern vacuum pumps. Low vacuum (vacuum cleaners), Medium Vacuum (achieved with a single pump) and High Vacuum (achieved with multi-staged pumps and measured with an ion- gauge).” As you can see the vacuum we use falls in a range of somewhere between low and medium. Obviously the average maple producer does not live in the scientific world of vacuum, nor does he need to. The reality is that we are not dealing with a closed vessel but rather miles of tubing where the introduction of air occurs at every tap, fitting and squirrel chew. The range that most maple producers should be comfortable with is around 20 in. to 27 in. of vacuum depending on their system and the pump they are using. The reason being is that, this is that all vacuum pumps are not created equal and vary greatly in their ability to produce vacuum. Now this is where the discussion and the debate begin. As I have stated in an earlier post (March 25, 2013 Is it The Pump or The Mainline Size That is Effecting the Performance of Your Tubing System?) the producer must consider the entire system before he decides on the type and size of vacuum pump to use. Even though we are increasing the volume of sap being produced by increasing the level vacuum closer to 29.92 we need to be more concerned about the ability of the whole system to remove air from the system efficiently. Rather than concentrating
on achieving the maximum depth of vacuum we should be paying closer attention to the systems ability to overcome leakage and everyday wear and tear.

There is a wide variety of vacuum pumps that can be used to apply vacuum to a maple tubing system. In fact with the use of 3/16 tubing (based on the research of Tim Wilmot at the Proctor Maple Research Center) you may not even need a vacuum pump to achieve your vacuum goal. Most of the pumps used in the maple industry are adapted from some other type of use. The first pumps came from the dairy industry and were used to milk cows. These were rotary vane pumps that were designed to produce around 16 inches of vacuum. The vacuum was produced as the air trapped between the vanes held in an offset rotor was expelled to the outside via the exhaust. As the vacuum level increases heat is builds as a result the system needs some kind of lubrication to absorb the heat. The pump is lubricated with oil that was contained in an oil reservoir. Once you went above 16 inches the strain on the pump produced more heat that it was designed for. For that reason oil coolers and oil-reclaimers were used to make them more efficient. Bearings need to be lubricated with a precise amount of oil to maintain function. When running above 20 in hg, if any of the above are neglected you are headed for a Chernobyl type melt down. There are commercial rotary vane pumps (running a flood vacuum) on the market that are capable of achieving up to 27 inches of vacuum. One of the most popular pumps being used is the liquid ring pump. The liquid ring pump uses an impeller running in a ring of liquid producing close to 29 inches of vacuum. As the air is drawn in it becomes trapped in a compression chamber that is formed between the impeller veins and the liquid. The air is expelled to the outside as the liquid (oil or water) is recycled. These pumps achieve as close to 29 inches of vacuum as any pump on the market. The downside of this type of pump is that a water source is needed and that source needs to be kept above freezing. If oil is used then there are environmental considerations. One of the most recent pumps to come on the maple scene is the rotary claw pump. The rotary claw will produce 27 inches of vacuum, just under a liquid ring. This is a pump that is designed for continuous duty and one that requires minimal maintenance during the season. The claw runs at a very close tolerance to the chamber and traps air in-between the claws and the chamber and expels it to the outside. A small amount of oil is used lubrication. The downside is that these pumps are very expensive. They are designed to be run year round. Long layover periods may allow the pump to develop a rust layer inside to the pump resulting in excessive air. Because they run at a very close tolerance this may lead to early breakdowns. If you buy a rotary claw you need to fog the pump with anti-oxidation oil in the off season to prevent premature wear.

The last pump is the new age rotary vane pumps that are designed to run continuously and to produce a vacuum of 29 inches. This appears to be a very efficient pump. These pumps are similar in design to the older rotary vane pumps but have very close tolerances. They lubricate with oil but total requirement is minimal. So let’s rate the pumps on their ability to produce high vacuum from top to bottom. At the top is the liquid ring and the new age rotary vane with the edge going to the liquid ring especially one of the two stage models on the market at this time. These pumps will consistently reach 27 to 29 inches of vacuum. Not far behind is the rotary claw which will produce 27 to 28 inches of vacuum. Next is the improved rotary vane with a flood system at 27 inches. At the bottom is bossy’s favorite the old style rotary vain used in milking systems. She liked it because it produced no more than 16 inches of vacuum. Any more and she would send it across the room with one swift kick. No matter what you use you will get more sap from your trees. Collecting maple sap with a vacuum system not only saves time and labor but the vacuum will increase your sap yield by up to between 50 % and 150%. In the next post I will cover things you need to consider before you hook your pump into the system.

Garden Journaling
By the Ashtabula County Master Gardeners

There are good reasons for keeping a garden journal. Most gardeners can recall the first thing to bloom in the spring and the last thing to bloom in the fall of the previous year. Those who keep journals can look it up for several years in the past. In 2016 we'll be able to see that our Chicago Peace rose was blooming the third week in December, even though in previous years we were lucky if anything was still blooming by Thanksgiving.
Of course, there are better reasons for keeping a garden journal—when the neighbor asks you what kind of apple trees you have, you can say, “Enterprise and Liberty,” even though you had never heard of them before you bought them. The simplest form of a garden journal is pages torn out of catalogues with notes on them such as “ordered,” “bought,” “planted” and “bloomed.”. You don't have to order from the catalog—you can take pictures with you when you talk to your local nursery person, or you can call in the winter and have the correct name instead of having to describe the plant.

A step up from simply tearing out pages is to put the pages in plastic holders in a loose-leaf binder. A step up from that is to also find an old spiral notebook with at least 52 blank pages which you can label from January—week one, through December—week four or five. It's your journal, how you label the weeks is up to you. The advantage of doing it by weeks is that you can add a comment or two each year and then the next year you can read the previous years’ notes. Some of us have blank pages during the hectic gardening times. With luck, we will have taken a picture or two.

The pages in a regular binder may not hold up year after year, but it is a good way to get started without spending any money. If you'd rather start with a one-year journal, you can print out on card stock or sturdier paper. There are several printable journals available online. One can be found at http://www.northerngardening.com/gardenjournal.pdf. If you want to bind your own journal, we recommend using the binding that will allow you to fold it so that it lies flat no matter what page you fold it open to. If the above methods for journaling are too old fashioned for you, try one of the online versions of journaling. A popular one that also makes use of your photographic abilities and lets you share with other gardeners can be found at http://greenthumbjournal.com/. It's free.

It may seem like too much information, but remember, this is your journal—how much or how little you enter is entirely up to you. If you have a tablet, you can walk around your garden with it and make entries every night that you aren't too exhausted.

We couldn't find any apps that looked good for journaling on your smartphone. Taking pictures with your smartphone is something else. If you know you are too busy to make journal entries, you can snap pictures which will be dated. The next winter you can find a photo album app that lets you make a photo journal. If you have a large home vegetable garden, this pdf file from the extension office of Cass County ND might be just what you have been looking for. It allows you to calculate how much you saved (or how much extra it cost) by growing your own. https://www.ag.ndsu.edu/casscountyextension/pdfs/h-1692-garden-journal/view You will have to download it to your desktop to see it. If you don't like it, delete it. If you do, print out the pages you like.

Happy Journaling!

2016 Ag Day Sponsors Sought
On May 13, 2016 Ashtabula County will be hosting an Agriculture Day for nearly 1,100 members of the class of 2026 at the Ashtabula County Fairgrounds. The goal of program is to educate first graders on where their food comes from and to showcase the different types of agricultural commodities which are being grown in Ashtabula County. OSU Extension is currently seeking sponsors for this year’s event.

During this interactive day, students will be able to get up close and personal with farm animals, crops, fruits, and vegetables at twelve interactive stations relating to our county’s agriculture. They will learn about dairy cows, sheep, horses, beef cows, goats, pigs, alpacas, chickens, ducks, and turkeys. Each student will make their own home-made butter and tried their hand at milking a cow. The youth will also learn how seeds are planted to give us an array of tasty fruit and vegetables and how they are processed into foods that we enjoy. For instance, how cucumbers are
transformed into pickles and how tomatoes are turned into ketchup, salsa and spaghetti sauce. They will learn about root crops like carrots and potatoes and the importance of bees in agriculture.

The cost of hosting this event is over $10,000 (both monetary and in-kind) and without the support of many this program would not have been possible. To help fund the 2016 Ag Day we are offering 5 levels of sponsorship. These are:

- Platinum Sponsorship - $1,000 and over
- Gold Sponsorship - $500 to $999
- Silver Sponsorship - $250 to $499
- Bronze Sponsorship - $100 to $249
- Friends of Ag Day - $1 to $99

We are asking all Ashtabula County farms, agribusinesses, and supporters of Ashtabula County Agriculture to consider making a donation to help us educate our youth about agriculture. Your gift to this program is 100% tax deductible. More information about becoming a sponsor for this program can be obtained by calling the Ashtabula County Extension office at 440-576-9008.

2016 Ohio Beef Cattle Webinar Series- Watch it in Ashtabula County

The Ashtabula County Extension office and the Ashtabula County Cattlemen’s Association would like to participate in the 2016 Ohio Beef Cattle Webinar Series during the winter of 2016. The free webinar series will be held on Tuesday evenings, January 19, February 2 and February 16, 2016 with each session beginning at 7:00 p.m. The programs will address some of the most important issues currently facing Ohio's beef industry. Rapidly changing forces are constantly shaping the beef industry's landscape and successful producers need to stay abreast of changes to remain competitive.

The school begins on January 19, 2016 with a focus on outlook, marketing and risk management. Dr. Derrell Peel, Oklahoma State University Livestock Marketing Specialist, will kick off the program with his insight into the beef cattle market outlook. Sam Roberts of United Producers Inc. will offer suggestions on market risk management and capturing profitable pricing opportunities in the coming year. The February 2, 2016 session will address management priorities for profitable beef production. Members of the OSU Extension Beef Team will address important concepts including calving windows, genetic choices, breeding management, crossbreeding and economic traits that will impact profit potential. The series will conclude on February 16, 2016 with a focus squarely on the end product. Dr. Lyda Garcia, Assistant Professor of Meat Sciences at The Ohio State University, will demonstrate carcass fabrication into primal and sub-primal cuts and discuss how quality and yield differences establish beef values.

There is no fee to attend these webinars at the Ashtabula County Extension office. For more information, call the Ashtabula County Extension office at 440-576-9008.

Beef Cattle Pasture Management Workshop to be held on February 25 in Jefferson

OSU Extension and the Ashtabula County Cattlemen’s Association would like to invite beef producers to “Beef Cattle Pasture Management” workshop on Thursday, February 25, 2016 from 7:00 to 8:30 p.m. in the downstairs meeting room of the OSU Extension - Ashtabula County office located at 39 Wall Street in Jefferson, Ohio. Area beef producers and 4-H/FFA youth are encouraged to attend this workshop.

During this program, producers will learn the strategies for effective pasture management and how to control troublesome pasture weeds. Learn the key steps to take in getting rid of profit-robbing weeds. Effective pasture management can lead to increased profitability.
This program will feature Breanna Lawyer, Range & Pasture Sales Trainee: Eastern Vegetation Management District for Dow AgroSciences. Breanna’s duties with Dow AgroSciences includes assist farmers in Indiana, Illinois, and Ohio with their pasture management needs. She received her Bachelor’s Degree in Agricultural Business and Management from Purdue University and an Associate’s Degree in Ag Business from Black Hawk College.

This workshop is free and open to the public. Light refreshments will be served. More information about this program can be obtained by calling the Ashtabula County Extension office at 440-576-9008.

Preparation Class for Private Pesticide Applicator License Test to be held on February 4, 2016 in Burton, Ohio OSU Extension in Northeast Ohio will be providing a training session to help farmers prepare for the Ohio Department of Agriculture’s Private Pesticide Applicator’s Exam. This class is not required but is a great opportunity for applicators to learn what they will need to study for the test. This class will be held on Thursday, February 4, 2016 from 1:00 to 4:30 p.m. This session will be held in Burton, Ohio at the Geauga County Extension office. The registration fee for this program is $35/person, which includes all CORE study materials. Call the Geauga County Extension office at 440-834-4656 to register or for more information.

2016 Winter Extension Program Dates
The following programs have been scheduled for Northeast Ohio farmers this upcoming winter. Complete registration flyers can be found at: [http://ashtabula.osu.edu/program-areas/agriculture-and-natural-resources/upcoming-educational-programs-deadlines](http://ashtabula.osu.edu/program-areas/agriculture-and-natural-resources/upcoming-educational-programs-deadlines)

Northeast Ohio Pesticide Recertification & Fertilizer Certification Sessions
January 15, 2016 at the Williamsfield Community Center
January 29, 2016 at the Geauga County Extension Office
February 10, 2016 at the Trumbull County Extension Office
February 26, 2016 at the Perry Community Center

State Beef Webinar
January 19, 2016 at the Ashtabula County Extension Office
February 2, 2016 at the Ashtabula County Extension Office
February 16, 2016 at the Ashtabula County Extension Office

2016 Northeast Ohio Agronomy School
February 23, 2016

Northeast Ohio Winter Beef Clinic
February 25, 2016 at the Ashtabula County Extension Office

2016 Northeast Ohio Winter Grape School
March 16, 2016

2016 Ashtabula County Dairy Banquet
Saturday, March 19, 2016 at the Lenox Community Center

2016 Joe Bodnar Memorial Northern Classic Steer & Heifer Show
Saturday, April 16, 2016 at the Ashtabula County Fairgrounds
PLEASE SHARE...this newsletter with farmers or others who are interested in agricultural topics in Ashtabula & Trumbull Counties. Past issues can be located at: https://go.osu.edu/ag-news. Please tell your friends and neighbors to sign up for the list. CONTACT: marrison.2@osu.edu

Readers can subscribe electronically to this newsletter by sending an e-mail message to: marrison.2@osu.edu. If you would like to opt-out of receiving this newsletter, please e-mail marrison.2@osu.edu with the words: UNSUBSCRIBE

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES
The Ashtabula County Extension office and the Ashtabula County Cattlemen’s Association would like to participate in the 2016 Ohio Beef Cattle Webinar Series during the winter of 2016. This free webinar series will be held on Tuesday evenings, January 19, February 2 and February 16, 2016 with each session beginning at 7:00 p.m. The programs will address some of the most important issues currently facing Ohio’s beef industry. Rapidly changing forces are constantly shaping the beef industry’s landscape and successful producers need to stay abreast of changes to remain competitive.

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This workshop is free and open to the public. Light refreshments will be served. More information about this program can be obtained by calling the Ashtabula County Extension office at 440-576-9008.
Join us for another great Northeast Ohio Beef Clinic!

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: http://go.osu.edu/cfaesdiversity.
Private and Commercial Pesticide Applicator

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. OSU Extension also provides annual re-certification sessions for applicators to attend to obtain the continuing education requirements needed.

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). Study materials can be found at: http://pested.osu.edu/privatestudy.html Complete details on the licensing process for private pesticide applicators can be found at: http://pested.osu.edu/privatelicense.html

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 and their sub-categories can be found at: http://pested.osu.edu/catlist.html. More information about the commercial licensing process can be found at: http://pested.osu.edu/commbecome.html

See next page for preparation classes and testing locations
OSU Extension in Northeast Ohio will be providing a training session to help farmers prepare for the Ohio Department of Agriculture’s Private Pesticide Applicator’s Exam. This class is not required but is a great opportunity for applicators to learn what they will need to study for the test. This class will be held on **Thursday, February 4, 2016** from 1:00 to 4:30 p.m. This session will be held in Burton, Ohio at the Geauga County Extension office. The registration fee for this program is $35/person, which includes all CORE study materials. Call the Geauga County Extension office at 440-834-4656 to register or for more information.

### 2016 ODA Pesticide 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 2016 in Northeast Ohio. These tests are administered by the Ohio Department of Agriculture and are held at Extension offices 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). Study materials online can be found at: [http://pested.osu.edu/privatestudy.html](http://pested.osu.edu/privatestudy.html)

#### Ashtabula County
Location: OSU Extension Office
Basement Meeting Room
39 Wall Street
Jefferson, Ohio 44047
For Directions Call 440-576-9008

**Date**
March 23 (beginning at 10:00 a.m.)

#### Geauga County
Location: Geauga County Extension Office
Patterson Center Basement
P.O. Box 387
14269 Claridon-Troy Road
Burton, OH 44021-0387
For Directions Call 440-834-4656

**Dates**
February 17 (beginning at 11:00 a.m.)
March 16 (beginning at 11:00 a.m.)
April 20 (beginning at 11:00 a.m.)
May 18 (beginning at 11:00 a.m.)
June 15 (beginning at 11:00 a.m.)

#### Trumbull County
Location: Trumbull County Extension Office
520 West Main Street, Suite #1
Cortland, OH 44410
For Directions Call 330-638-6783

**Date**
April 13 (beginning at 10:00 a.m.)
Agronomic Crop Research Experience (ACRE) Application Form - 2016

Program Overview

The Ohio State University Agronomic Crops Team is continuing a new summer program in 2016 aimed at providing a rich training experience to undergraduate students in a diversity of disciplines related to agronomic crop research. These Agronomic Crop Research Experience (ACRE) Interns will support OSU on-farm research, by being placed in strategic locations or hubs of research throughout the state. They will work to help facilitate better integration of research, education and outreach overall.

Specifically, the ACREs program strives to:

1) Provide valuable, hands-on training to undergraduate students in a variety of agronomic crops disciplines to prepare them for careers in extension, research or industry
2) Provide a network of research assistants to help collect data from on-farm field trials throughout the state, more effectively expanding on-farm research capabilities
3) Enable greater independent research initiatives by county educators

ACRE Responsibilities

The primary responsibilities of the ACRE interns will be to assist with crop scouting, sample collection, field data collection, laboratory analysis, data entry, field plot maintenance and crop reporting. Other activities related to research, extension and outreach are also likely, including administrative and clerical work.

ACREs interns will form a cohort and will meet semi-regularly for trainings and to discuss the work they completed and any challenges faced. These trainings will happen at different locations throughout the state. Some examples of these meeting include:

- Trainings led by a state specialists or county educator about a specific sampling protocol
- Agronomic field days to listen to speakers and learn more about research results
- Tours of industry facilities and programs
In addition to in-person meetings, a phone conference call will happen each week on Monday mornings directly following the C.O.R.N conference calls. These will be primarily planning meetings for that week’s activities.

State Location Hubs

The 2016 ACRE location hubs are listed below. Note that there is an office location listed for each hub, but this location may be flexible and an intern could be based at another OSU extension office within that hub.

1. Fulton, Defiance, Williams and Paulding Counties, main office likely in Wauseon
2. Wood County, main office likely in Bowling Green
3. Tumbull, Ashtabula, Geauga and Mahoning Counties, main office likely in Cortland
4. Darke, Miami, Mercer and Auglaize Counties, main office likely in Greenville
5. Madison, Champaign and Fayette Counties, main office likely in London
6. Ross County, main office likely in Chillicothe
7. Knox, Delaware, Morrow and Licking Counties, main office likely in Mt Vernon
8. Wayne and Tuscarawas Counties, main office likely in Wooster

Map of 2016 ACREs Hubs
Timeline

The ACRE program will last approximately 12-14 weeks. A mandatory, 2 day training will be held in Wooster, on May 11-12th and the program will finish around Aug 12th – 19th, 2016.

Qualifications and Expectations

Interested students should be 1) currently enrolled in an undergraduate program, 2) just finishing their undergraduate degree this semester, or 3) planning on starting graduate school this fall. Applicants must be able to work independently. They should be professionally motivated to help farmers make research-based management decisions. Students must have a valid driver’s license, a reliable personal vehicle and must be willing to travel extensively over the duration of the summer. All mileage will be reimbursed at the standard University rate ($0.54 per mile).

Pay and Hours

These internships are paid, full-time positions that will last for 12-14 weeks. Pay will be $11 per hour at 38 hours per week. There should be some flexibility for taking vacation depending on student interest, workload and county educator need.

Deadlines and Application Submission

Applications should be submitted by January 29th 2016 as a single pdf file to Steve Culman at culman.2@osu.edu. Detailed submission instructions are below.
## ACRES 2016 Application

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### University or College Attending

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### Questions

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<tr>
<td>Do you have a valid US driver’s license?</td>
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<td>Do you have a reliable vehicle that you will be able to use for travel between field sites all summer?</td>
<td>Yes</td>
<td>No</td>
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<td>Are you willing to put at least 2,000 miles on your personal vehicle this summer, if reimbursed for mileage?</td>
<td>Yes</td>
<td>No</td>
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<td>Will you be available May 11-12th for a mandatory 2-day training?</td>
<td>Yes</td>
<td>No</td>
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Part of the ACRE internship experience will be collecting field data. This will likely require some days of working in hot weather for long periods of the day. Do you have any physical or health conditions that would prevent you from working potentially long hours in the field? If yes, please explain.
Rank your preference for the location you’d like to be placed. Note that there may be some flexibility regarding placement within a hub. Please rank #1-8 and provide any additional information or justification for your choice that you’d like to share with us.

<table>
<thead>
<tr>
<th>City, County</th>
<th>Rank Your Location Preference</th>
<th>Optional comments or justification</th>
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</thead>
<tbody>
<tr>
<td>Wauseon, Fulton County</td>
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<td>Bowling Green, Wood County</td>
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<td>Cortland, Trumbull County</td>
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<td>Greenville, Darke County</td>
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<td>London, Madison County</td>
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<td>Chillicothe, Ross County</td>
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<td>Mt Vernon, Knox County</td>
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<tr>
<td>Wooster, Wayne County</td>
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For the next 4 questions, please limit each answer to 200 words or less.

Describe any experiences you’ve had working in the field and/or with agronomic crops.

Describe any research experience you’ve previously had.
Please tell us why you want to be an ACREs intern. What do you want to get out of this program?

Any additional information that you’d like to share that makes the case for your application.

Please let three references below. These should be professional references if possible.

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone</th>
<th>Email</th>
<th>City, State</th>
<th>Relationship</th>
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Application Submission Instructions

Please submit your application as a single pdf. You can create and merge pdfs with a number of free online tools including: https://online2pdf.com

Your application should contain the following in this order:

1) This application document (last 3 pages only)
2) Current resume listing previous work, training or volunteering experiences

Please name your pdf as “YourFirstName YourLastName 2016 ACRE Application.pdf” and email to Steve Culman at culman.2@osu.edu. Decisions will be made within a week or two after deadline. Please email Steve with any questions regarding the application process.