Hello Northeast Ohio! Weather in northeast Ohio is definitely crazy -from snow accumulations to 70 degrees all in the span of a week. But then again, we are used to this type of rollercoaster. Many of my counterparts across Ohio are a bit concerned about their delayed planting but it appears as if we are on target here in Northeast Ohio. After the gloomy weather clears out this morning, it appears as if we will have a nice remainder of the week. Our Ag Day last Friday was a great success. It was so great to see the expressions on all the first graders faces as they learned about agriculture. Thanks to all of those who helped with this event. We were also very excited that Dr. Roger Rennekamp (our new OSU Extension Director for Ohio) was able to join us for this event. I hope each of you have a great week!

David Marrison, Ashtabula County Ag & NR Educator

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Ashtabula County Ag Day a Success
By David Marrison

On Friday, May 13 nearly 1,200 members of the class of 2027 descended on the Ashtabula County Fairgrounds to participate in Ashtabula County’s “Ag Day.” This program was sponsored by OSU Extension and the Ashtabula County Farm Bureau with the goal of educating first graders on where their food comes from and to showcase all the different types of agricultural commodities which are being grown in Ashtabula County.

This is the fifth year for this program and I think it gets better every year! During this interactive day, students were able to get up close and personal with farm animals, crops, fruits, and vegetables at twelve interactive stations relating to our county’s agriculture.

We were delighted the rain held off for this event. This made for a nice day for the kids to visit the stations scattered across the fairgrounds. During the day, the 1st graders learned about all the different types of farm animals in our county. During their day, they got to learn more about dairy cows, sheep, horses, beef cows, goats, pigs, alpacas, chickens, ducks, and turkeys. Each student was able to make their own home-made butter with the PV FFA Chapter and try their hand at milking a cow.
Best of all, every student received a great chocolate milkshake from the Ashtabula County Holstein Club. I saw a lot of milkshake mustaches!

The youth also learned how seeds are planted to give us an array of tasty fruit and vegetables. They also learned how these fruits and vegetables are processed into foods that we enjoy. For instance, they learned how cucumbers are transformed into pickles and how tomatoes are turned into ketchup, salsa and spaghetti sauce. They also learned about root crops like carrots and potatoes and how grains are made into bread.

They also learned how honeybees are important to agriculture, touch and smell fresh Christmas trees, learn how Miscanthus grass can be made into paper products, and see different tractors which are used on local farms. Each child was also able to plant a Sweet 'n Neat miniature tomato plant with the Ashtabula County Master Gardeners. These miniature tomato plants can be raised this summer in a container. These one foot plants will give the kids tasty cherry tomatoes later in the summer.

It was fun watching the enthusiasm on the kids’ faces as they explore our great industry of agriculture. There were a lot of oohs and ahs heard all over the fairgrounds. It was a wonderful event! This event was a major undertaking by OSU Extension and Farm Bureau. I would like to thank Abbey Averill, OSU Extension Program Assistant, for providing the leadership to this event. Abbey did a wonderful job coordinating with the planning committee and working with each school to plan trip logistics. Thanks Abbey for a wonderful job!

I would also like to thank the over 325 volunteers who donated their time to teach at one of the activity centers, serve as a classroom guide, or work behind the scene to make the day flow smoothly. This program would not have been possible without the help of each of these volunteers. I would like to send out our sincere appreciation to the Lakeside Functional Skills class and their teacher Mrs. Kendzerski. These students were an incredible assistance as they stuffed all the Ag goodie bags for the 1,200 first graders prior to the event and were very valuable in helping to man the water stations and help out the Master Gardeners with the tomato planting during Ag Day. They were awesome!

I would also like to thank the many sponsors of this event. The cost of hosting this event was over $11,000 and without the support of many this program would not have been possible. For the fourth year, we were able to cover the transportation cost for each school. Our other donors were also important as they donated program materials and dollars to support the day.

Thank you to our **platinum sponsors**: Ashtabula County Holstein Club, Ruth Mary Service, Ashtabula County Farm Bureau, OSU Extension-Ashtabula County, Ashtabula County Fairboard, Ashtabula County Veteran’s Service Commission, Western Reserve Farm Cooperative, and the Albert Ford Charitable Trust.

Our **gold sponsors** were: John & Nancy Patterson, Erie Bank, Attorney Katherine S. Riedel, Wright Farms LTD, and Linda Springer & family. Our silver sponsors were: Ashtabula County Cattlemen’s Association, Ashtabula County Educational Foundation, Barb Schaab- Ashtabula County Recorder, Bossy’s Way Inc., Farm Credit Services, Gildersleeve Farms, Marrison Farms, Grand River Cellars, and Jefferson Garden Club.

Processing, Ralph & Pat Pankowski, Richard & Barbara Pruden, Spencer’s Farm, Richard Dana & The Sezon Family, Roll’N B Cowboy Café’ LLC, Sheryle Tersigni, Valley Feed Mill, and Dan Whitmire.

And our Friends of Ag Day sponsors included: Roger & Shirley Corlett, Brian & Jean Forman, Saybrook Grange, Jefferson Grange, Cheryle Chiaramonte, Mary Howe, Kalas Farm, Gregory & Patricia Seymour, Mechling’s Maple Farm, Pymatuning Valley Primary PTO, Inc, Saybrook Raiders 4-H Club, Sheffield Star Grange, Skyview Farm, Tree Tyme Nursery, and Larry & Donniella Winchell

We are already planning for next year’s event. We welcome feedback from anyone who participated in this year’s program and are looking for committee members to serve on the 2017 planning committee. We are so excited on how this program helps open agriculture world to our county’s youth! If you are interested in helping with next year’s program, please contact Abbey Averill at 440-576-9008.

2016 Ohio Corn and Soybean Enterprise Budgets Project Lower Costs But Low to Negative Returns

by: Barry Ward, Leader, Production Business Management, Department of Agricultural, Environmental, and Development Economics

Production costs for Ohio field crops are forecast to be lower again in 2016 but the profit picture remains poor, much the same as in 2015. Variable costs for Ohio corn for 2016 will be 9.6% to 13% lower ($34 to $60 per acre lower) compared to 2015 depending on land productivity and target yield. Variable costs for corn for 2016 are projected to be $325 to $404 per acre depending on land productivity. Variable costs for 2016 Ohio soybeans are projected to be 6.7% to 8.7% lower ($14 to $19 per acre lower) and range from $188 to $203 per acre. Wheat variable expenses for 2016 are projected to range from $170 to $211 per acre, down $18 to $20 per acre (8.6% to 9% lower). Lower fuel and fertilizer prices will be the primary fundamental drivers of lower variable costs in 2016.

With continued lower crop prices expected for 2016, returns will likely be low to negative for many producers. Projected returns above variable costs (contribution margin) range from $194 to $359 per acre for corn and $244 to $429 per acre for soybeans. (This is assuming fall cash prices of $3.75 per bushel for corn and $10.25 per bushel for soybeans). Returns to land for Ohio corn (Gross Revenue minus all costs except land cost) are projected to range from -$31 to $122 per acre in 2016 depending on land production capabilities. Returns to land for Ohio soybeans are expected to range from $69 to $245 per acre depending on land production capabilities.

Total costs projected for trend line corn production in Ohio are estimated to be $787 per acre. This includes all variable costs as well as fixed machinery, labor, management and land costs. Fixed machinery costs of $130 per acre include depreciation, interest, insurance and housing. A land charge of $187 per acre is based on data from the Western Ohio Cropland Values and Cash Rents Survey Summary. Labor and management costs combined are calculated at $77 per acre. Returns Above Total Costs for trend line corn production are negative at -$146 per acre. Total costs projected for trend line soybean production in Ohio are estimated to be $562 per acre. (Fixed machinery costs - $108 per acre, land charge - $187 per acre, labor and management costs combined - $57 per acre.) Returns Above Total Costs for trend line soybean production are also negative at -$30 per acre.

These projections are based on OSU Extension Ohio Crop Enterprise Budgets. Newly updated Enterprise Budgets for 2016 have been completed and posted to the Farm Management Website of the Department of Agricultural, Environmental and Development Economics. Updated Enterprise Budgets can be viewed and downloaded from the following website:

http://aede.osu.edu/research/osu-farm-management/enterprise-budgets
Slowly Improving Conditions Next 1-2 Weeks For Planting
By Jim Noel
Source: http://agcrops.osu.edu/newsletter/corn-newsletter/slowly-improving-conditions-next-1-2-weeks-planting

The mainline heading forward the next 1-2 week across the corn and soybean belt as a whole is for improving conditions for planting across the region so expect to see increasing planting from west to east in the next 1-2 weeks. Mother Nature has decided not to be so nice lately to us. As we talked last week we expected some frost May 15 and 16 and this is exactly what occurred. For the most part temperatures dropped to 31-36°F Monday morning but it was mainly a frost event and no hard freeze as that requires temperatures below 28 for at least 3 hours and this appears to not have occurred. There was some lake effect snow mainly on grassy areas in far northeast Ohio as well.

So what to expect going forward. As we talked last week it appears the below normal temperatures would hang on through about May 22 or so. This still looks to be the case. Temperatures this week will average 4-8 degrees below normal. At the same time, weather systems will move through on Tuesday then again late Friday into Saturday but the main focus will be the southern half of Ohio. Rainfall for the week will range from about 0.25 inches in the north to near 1 inch in the far south. Overall, this will mean below normal precipitation in most areas as well.

Evapotranspiration with the cool weather will be below normal as well so drying will be slow but overall this week should not be as bad as last week. I can't rule out some patchy frost in far eastern Ohio and northeast Ohio the middle of this week with low temperatures 35-40 degrees but again no hard freezes are expected.

Going into the last full week of May we should see more dry days than wet with temperatures shifting to 1-3°F above normal as we forecast last week as well. The outlook through May 22 calls for temperatures below normal and rainfall normal to slightly below normal. The outlook from May 23 through May 31 calls for temperatures above normal and rainfall not far from normal or slightly below normal. Normal rainfall is about an inch per week.

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<th>Weather Element</th>
<th>Forecast Range</th>
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<td>Temperatures</td>
<td>0.25-1.0 inches north to south</td>
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<tr>
<td>May 17 - 22</td>
<td>Rainfall</td>
<td>-4F to -8F</td>
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The two week rainfall outlook can be seen in the graphic. Normal rainfall for the period is about 2 inches.

Make Hay When the Sun Shines...What Sun?
By: Mark Sulc

Getting our first cutting of forages this year seems to be shaping up to be another frustrating experience, although we can only hope it won't be as bad as last year. The outlook for the end of May does not look very promising for a nice stretch of dry weather. While the recent cool weather has slowed development and growth of our forage crops, in central Ohio forage grasses are entering or already well into the heading stage and alfalfa is beginning to show buds. So it is time to start thinking about that first harvest soon, along with getting corn and soybeans planted!

Last year in the midst of very rainy weather I urged hay producers to “be patient, to make sure their hayfields were dry enough to support their equipment before they try to get out on them once the sun starts to shine again.” I heard how some tore up their fields and lost stands. The alternative is to be patient and to lose forage quality as the
stand matures. But I still think the complete loss of the value of one cutting is a better choice than ruining a forage stand for the remainder of its potential productive life by running equipment on ground that is too soft, especially if it is a younger stand. So let me repeat what is indeed easy for me to say, but super hard to put into practice – be patient, take the long look and wait until the field is dry enough to support the equipment without damaging the forage stand.

There are some management steps that can reduce the field curing time once the hay is cut. First, adjust your mower to lay as wide a windrow as possible in order to maximize the surface area exposed to the sun. The picture accompanying this article shows narrow windrows, which is not what you want. Try to get windrows that cover 65-70% of the cutting swath. Follow the manufacturer’s guidelines to adjust the crimping rollers or the clearance of the flails on flail conditioners. Do not assume the mower is adjusted correctly for this spring’s crop, check it and make sure the mechanical conditioner is doing a good job. Tedding soon after mowing (usually the same day or early the second day) can also be a good option to maximize forage surface area exposure to the sun. Tedding is especially a good option for grasses because it does not cause the leaf loss in grasses that can result with legumes.

Using chemical desiccants this time of year tends to be risky because they are less effective under cool and moist conditions than under good drying conditions. A more reliable option in the spring is to apply a propionic acid preservative as the crop is being baled because it allows you to bale at slightly higher moisture contents. Follow the manufacturer’s guidelines for recommended rates (product formulations vary), but you should be applying the equivalent of 10 lbs of actual propionic acid per ton of forage being harvested.

Consider making balage or silage rather than dry hay on first cutting if at all possible. For upright silos or bags, wilt the crop to 30 to 50% dry matter (50 to 70% moisture) and for balage to 40 to 55% dry matter (45 to 60% moisture). This significantly reduces the curing time compared with drying down to 80 to 85% dry matter (15 to 20% moisture) that is necessary for dry hay, depending on the hay bale size. When making hay crop silage or balage from legumes in the spring (alfalfa and clover), consider using a lactic acid bacteria (LAB) inoculant to improve fermentation. Naturally occurring populations of LAB can be too low when legume crops are wilted under cool and/or short wilting periods.

What is a Veterinarian-Client-Patient-Relationship?
Source: Ohio Veterinary Newsletter
http://vet.osu.edu/sites/vet.osu.edu/files/documents/extension/Vol%2042%20No%206.pdf

A veterinarian-client-patient-relationship (VCPR) is defined by the American Veterinary Medical Association as the basis for interaction among veterinarians, their clients, and their patients and is critical to the health of your animal. A VCPR means that all of the following are required:

1. The veterinarian has assumed the responsibility for making clinical judgments regarding the health of the patient and the client has agreed to follow the veterinarians’ instructions.

2. The veterinarian has sufficient knowledge of the patient to initiate at least a general or preliminary diagnosis of the medical condition of the patient. This means that the veterinarian is personally acquainted with the keeping and care of the patient by virtue of a timely examination of the patient by the veterinarian, or medically appropriate and timely visits by the veterinarian to the operation where the patient is managed.

3. The veterinarian is readily available for follow-up evaluation or has arranged for the following: veterinary emergency coverage, and continuing care and treatment.

4. The veterinarian provides oversight of treatment, compliance, and outcome.
5. Patient records are maintained.

The practical explanation is that it is a formal relationship that you have with a veterinarian who serves as your primary contact for all veterinary services and is familiar with you, your livestock/animals, and your farm operation. This veterinarian is referred to as your Veterinarian of Record (VoR), and both the VoR and the client should sign a form to document this relationship. You can download a VCPR template developed by the Ohio Veterinary Medical Association Drug Use Task Force at: https://vet.osu.edu/extension/general-food-fiber-animal-resources

This can be thought of as similar to having a primary “family doctor” where that individual is the one whom you consult with regarding prescription needs, changes in health status, or specialized services. Because the VoR somewhat regularly provides veterinary services to you, they may be able to approve prescriptions and provide consultation over the telephone. Having an established VCPR is important to help protect consumers and avoid residues in meat and milk. This becomes even more crucial to a farm operation with the changes regarding the purchase of antibiotics and the veterinary feed directive (VFD). http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/ucm071807.htm

Vegetable Growers Field Night to be held on May 25 in Garrettsville, Ohio
OSU Extension will be holding a Vegetable Growers Field Night on May 25, 2016 in Garrettsville, Ohio on Wednesday, May 25, 2016 from 6:30 p.m. to 8:30 p.m. at Uria Byler’s farm located at 14439 Grove Road in Garrettsville, Ohio. During this field night, participants will look at vegetable diseases and insects and discuss any growing season concerns which growers have. New growers, prospective growers, or anyone interested in growing produce are welcome to attend. Remember to bring your dying plant samples and questions to stump the agents!!! The farm is located at 14439 Grave Road in Garrettsville, Ohio. For more information, call the Geauga County OSU Extension Office at (440) 834-4656.

When Should You Pay Your Spouse and Kids?
P. Neifffer, CPA
Source: http://www.farmcpatoday.com/2016/05/13/pay-spouse-kids/

My father was 47 when I was born (I am the oldest of three kids) and he elected to start receiving social security at age 62 (when I was 15). When a person elects to take social security benefits before full retirement age, there is a limit on how much you can earn before you have to start paying the benefits back.

In my father’s case, this was a very low number and this forced my parents to defer quite a bit of crop sales for over three years until my dad turned age 65 and could make as much as he wanted without having to pay any benefits back. My mother was the accountant in the family and had owned farmland before marriage. She was very active in the operations. Additionally, my brother and I did quite a bit of work during the summer and after school during fall and spring planting. My father should have compensated my mother, brother and I for all of this work. By paying these wages, he could have sold more of the grain to offset the wages and the family would have been better off than deferring grain sales.

During these three years, my father’s income from farming would have been under the FICA wage base so paying wages to my mother would not have created any additional payroll tax liability. Since my brother and I were under age 18 (and actually knew how to operate a combine and tractor), all of these wages would have been deductible and not subject to payroll taxes and it is likely that my brother and I would owe no income tax either. Here are certain situations where you should either pay the spouse or the kids:
The development of root systems, and the nutrient absorption of plants through them, is critical for healthy plant growth. When plants absorb nutrients, two primary processes occur: Mass Flow and Diffusion. These processes are crucial for understanding how plants take up nutrients from the soil and how nutrients are distributed within the plant system. 

### Mass Flow
Mass Flow is a process where nutrients are transported through the plant's root system as a result of water movement. When water moves through the soil, it carries dissolved nutrients with it. The flow of water and nutrients is influenced by factors such as soil moisture, temperature, and root pressure. In situations where water movement is disrupted, such as in dry conditions or soil compaction, the uptake of nutrients may be limited. 

### Diffusion
Diffusion, on the other hand, occurs through the exchange of substances across the root cell membrane. This process is driven by concentration gradients and is affected by factors like root surface area, nutrient solubility, and root-to-air temperature differences. Diffusion allows for the uptake of nutrients that are present in the plant's immediate vicinity, even if they are not being actively transported by water. 

These two processes, Mass Flow and Diffusion, work together to ensure that plants receive the nutrients they need for growth, development, and overall health. Understanding how these processes interact can help in optimizing plant nutrition and maximizing crop yields.
moisture exits through openings on the leaf called stomata. Interfere with this process (drought) and the plant dries out or wilts. If the plant is growing normally, water is taken up by the roots and nutrients like nitrogen moves with it. When a plant is young it does not have much leaf surface and a lower requirement for moisture. This is good because it also has a relatively low requirement for N at this time. As the plant matures and moves toward grain-fill it requires more water and more nitrogen. A corn plant at full canopy has enough leaf area to achieve maximum transfer of water and nutrients into the plant. Adequate water and nitrogen are critical to the corn plants growth during reproductive period. Adverse weather conditions can have major impact on yield at this time. For decades farmers have tried to compensate for the potential loss of N by over applying nitrogen fertilizer. This practice of apply early and often has led to massive water quality problems in places like the Delmarva Peninsula on the Chesapeake Bay and in the Gulf of Mexico. Nitrogen that was applied in the fall or early spring sits in the soil for months and is at risk for nitrogen loss. This is why we say you need to put nitrogen on as close as possible to the period of maximum uptake by the plant. When determining the amount of a nitrogen fertilizer to apply we strongly suggest that you use one of the new computer data bases such as the Iowa State university MRTN (Maximum Return to Investment) that looks at more than just yield. It sets your rates based on financial return to your bottom line.

Phosphorus and Potassium are transferred from the soil to the plant by a process called Diffusion. In the process of diffusion the root hairs come in contact with the elemental form of phosphorus or potassium which is electronically attracted to the root hairs. The attraction occurs when an electric charges cations (+), positive are attracted to negative charge and anions (-). This allows the root to pick up the nutrients and transfer them through the root wall into plants system. The stimulation for this this process is the plant utilizing nutrients creating a lower concentration of the nutrient inside the plant. Because the nutrients are in a higher concentration in the soil they move across the plant membranes into the plant system. You can easily see that this transfer is not made until the plant needs the nutrient. Therefore phosphorus is utilized very slowly across the entire growing season as the plant needs it. Remember the plant needs P but we satisfy that need by applying fertilizer in the form of P2O5.

Phosphorus is an element that normally is very stable in the soil and is held in large reserves. Phosphorus reserves are held tightly by the soil in a process called fixation. For every pound of phosphorus available on a soil test there is 10 times that amount held in the soil by fixation. However, we are finding out that the soil does have a saturation point when it comes to Phosphorus. For years, farmers felt they had to put on extra P2O5 to overcome this fixation process. They were told there was little risk for applying extra P2O5 to the soil because the only way it would leave the soil would be through erosion into a water source. Protect the soil surface from runoff and you solved the problem. We have now learned that what we thought for decades may not be right. Phosphorus does move in the ground water in the form of Dissolved Reactive Phosphorus. Overloading the soil with excess phosphorus puts you at risk of saturating the soil with P and increasing the risk of promoting dissolved reactive phosphorus moving from the soil into the ground water. We are beginning to understand that because of the large amount of phosphorus that is fixed in the soil we may not need to apply as much P2O5 as we once thought was necessary. In the case of phosphorus, you can quickly see that we need to place the fertilizer near the root zone (banding) for optimum utilization. Spreading the P2O5 on the top of the ground places the material at risk of surface loss.

Supplying the plant with P becomes a function of two systems. One is the application of P from an outside source in this case fertilizer. And the other the amount of P that becomes available from the soils fixed reserve through a process called mineralization. This release could be significant or not depending on the environmental condition and the soil health. We know that compacted over worked soil has a lower potential to release fixed Phosphorus. A healthy soil (optimum pH, increased organic matter and others) gives you a better chance of being able to tap into nutrients that are naturally available. A good soil test will give you the knowledge you need to develop a nutrient management plan based on your soil conditions. All of the above principals follow the 4R’s of Nutrient Management. The Right Rate, The Right Place, The Right Time and The Right Source. It is just the Right thing to do. It will save you money by applying crop nutrients the right way.
Beginning Farmers and Ranchers Find One-Stop Shop in Farm Answers
https://farmanswers.org/

The U.S. Department of Agriculture on April 11 opened a new information clearinghouse for new agriculture producers, FarmAnswers.org. Farmers and ranchers, like owners of other start-up companies, face serious challenges, including the need for easy to access, reliable information and technical assistance for getting their businesses started.

FarmAnswers.org is a website clearinghouse where farmers and ranchers can find online courses, videos, presentations, apps, and other materials – more than 3,175 at this time – to answer farming and ranching questions. FarmAnswers is supported by a grant from the U.S. Department of Agriculture’s National Institute of Food and Agriculture (NIFA) through its Beginning Farmer and Rancher Development Program (BFRDP).

Farm Answers library items can easily be filtered to the specific information the user wants. Its programs section helps beginning farmers and ranchers find educational programs in their state or area on topics of particular interest to them. In addition, “toolbox” give producers tools on topics like business planning, marketing products locally, and accessing land. Farm Answers was developed by the Center for Farm Financial Management at the University of Minnesota. The web site can be accessed at: https://farmanswers.org/

Google’s Food Trends Report Reveal What Consumers Want to Cook, Eat
By Alison Rice, AgWeb.com, Markets and News Editor

Hello, uncured bacon. Goodbye, gluten-free cupcakes. According to Google’s Food Trends Report 2016, consumers are looking for new ways to prepare pork and rediscovering their love of pasta, at least based on the volume of their Google searches. Those two subjects—pork and pasta—represent two of the five trending themes in the report, which compiled and analyzed U.S. Google users’ food-related searches between January 2014 and February 2016. Researchers then categorized the various searches into “sustained” risers or decliners, “seasonal” risers or decliners, and “rising” or “falling” stars.

So what’s hot and what’s not? Rigatoni, linguine, uncured bacon and Bundt cakes, among others, made the “sustained risers” list. Bacon cupcakes and bacon cinnamon rolls, however, landed on the “sustained decliners” list, along with gluten-free cupcakes, wheat-free bread, and evaporated cane juice. Still, pork remains a highly popular food item among U.S. Google users, according to the search engine. In a deep dive into pork shoulder, it found that people are 22% more likely to search for “pork shoulder” on weekends and that the most searches occur in December. Who has all these questions about pork shoulder? People in Chicago, Denver, and Boston, according to Google.

Weekend is a popular time for people to search for pasta recipes and more, particularly rigatoni. Users are 29% more likely to search on rigatoni on Saturday and Sunday. But they aren’t necessarily the same ones looking for pork shoulder recipes; these curious would-be rigatoni eaters tend to live in Chicago, yes, but also San Francisco and Miami. Google also looked specifically at “how to” searches related to food. Among the top 100 were “how to cook steak,” which was up 22% compared to the previous year; how to cook prime rib, which showed 14% growth compared to the previous year; and how to make beef jerky, which was up 11% year-over-year.
Update on the Zika Virus
This issue of PEP talk summarizes information about the potential Zika virus threat to Ohioans that was presented at an April 26, 2016 conference sponsored by the Ohio Department of Health.

The Disease and Current Status in Ohio
The disease is primarily spread through the bite of an infected Aedes species mosquito. The illness is mild in most people, lasting for several days to a week with most common symptoms including one or more of these: fever, rash, joint pain, and conjunctivitis. As many as 80% of those infected do not realize they have the disease. However, if infected during pregnancy, the disease may cause microcephaly, a very serious birth defect, and more rarely, severe effects may occur in adults. Currently there is no treatment or vaccine for the virus. As of April 26, 2016 there were no local mosquito-transmitted cases of Zika in the continental U.S., but there had been approximately 380 travel-related cases, with 12 of those cases in Ohio. In addition to mosquito transmission, the virus can be transmitted by men to sexual partners, and by blood transfusion.

The Vector
Two species of mosquitoes are known vectors. The yellow fever mosquito (Aedes aegypti) is the primary vector of the disease in countries where the disease is spreading (Caribbean, South & Central America) because the female feeds almost exclusively on human blood to produce eggs. While this species could potentially be transported to Ohio by human activities (e.g., by movement of scrap tires), it is not currently established here, and cannot survive Ohio winters. A second vector, the Asian tiger mosquito (Aedes albopictus) is an established exotic mosquito pest in Ohio; it will feed on other vertebrates in addition to humans.

A. albopictus populations in Ohio currently do not carry the Zika virus; the public health goal will be twofold: control the mosquito population at large, and also prevent transmission of the virus from any infected humans to the Aedes mosquito population in Ohio.

Precautions
Because infected individuals may have no symptoms, travelers from countries with active mosquito transmission are advised to wear repellent for 21 days upon return to prevent transmission to local populations of mosquitoes. There are also specific recommendations for returning travelers with respect to sexual activity and contact with pregnant women – the Center for Disease Control website should be consulted for current status of the disease and specific precautions to take upon return to the U.S. for both travelers to affected countries, and those with active disease. Any woman who is pregnant or considering pregnancy is advised not to travel to affected countries, and to read the CDC recommendations carefully. For comprehensive Zika information and advisories see the Centers for Disease Control and Prevention Zika Virus Home. The CDC website also has a section with factsheets and posters that may be useful to educators and public health officials. The fact sheets are found under Communication Resources. The U.S. Food and Drug Administration also has a Zika Virus Response Update webpage with more useful information on the use of repellents, prevention, and the safety of the blood supply.

Public Vector Control Efforts will depend on Transmission Status
Public efforts in Ohio to combat the Asian tiger mosquito can be expected to include mosquito population surveillance, information campaigns for the public and healthcare providers, active community engagement in source reduction, and pesticide application for both adult and larval mosquitoes. Health department prevention and control strategies would be expected to progressively intensify if the disease transmission status changes from no mosquitoes capable of transmitting disease in the continental U.S. (current situation), to local transmission in Ohio. Community-wide spraying, as well as targeted control around the home (150’ radius) or neighborhood of individuals with active disease were options discussed at the April 26 conference; legal and privacy issues related to these scenarios also were discussed. Supplying pregnant women with mosquito protection kits and insect repellent in order to direct
resources to the most vulnerable population was recommended if mosquito populations capable of transmitting Zika were detected in Ohio.

Control and Mosquito Characteristics Affecting Control

Aedes aegypti and albopictus mosquitoes are relatively weak fliers (2-4 city blocks). They seek cool, shady moist areas and typically rest in the lower canopy of vegetation (10’ and under) until they detect a host. Asian tiger mosquitoes (Aedes albopictus) are most active in the daytime, especially in early morning and late afternoon, which contrasts with the vector of West Nile Virus (Culex spp.) which is active in the evening. Widespread outdoor community spraying targets adult mosquitoes in flight. With the current application technology, very low amounts of active ingredient are used per acre. The insect must be contacted to be controlled and effect of these applications is transient, but nonetheless effective for knockdown. Widespread outdoor spraying usually take place in the evening when the best conditions for spraying are present, - very light winds 1-9 MPH. The goal is to produce a fine suspension of droplets that moves slowly through the target area; optimal spraying conditions for ground (truck) applications occur during thermal inversions. Low winds and inversion conditions typically occur at night, but the Aedes mosquito flies by day. For best control of the day-flying Asian tiger mosquito, it’s advisable to spray closer to daylight hours – ½ hour before dusk, ½ hour after sunrise, but close enough to evening to take advantage of more advantageous environmental conditions. Other modifications may be necessary for programs that previously focused on the night-flying West Nile Virus vector in order to effectively control Aedes species. Furthermore, to ensure continued effectiveness of insecticides, testing for insecticide resistance in the mosquito population and resistance management is critical.

Another approach to adult mosquito control is to target a limited area with residual insecticides. Often called “barrier treatments,” these can be effective against Aedes species. To be effective, a residual insecticide is applied as a mist to all surfaces that adult mosquitoes frequent, including external walls and any vegetation 10’ in height or less in the area. Any shady, cool, non-vegetated areas (e.g., under porches) surrounding the residence also must be treated. Conventional mosquito control products may be hazardous to pollinators and beneficial insects; when making barrier treatments, vegetable gardens and plants that favor pollinators should be avoided. Avoiding the pollinator plants probably will not reduce the barrier control significantly because Aedes mosquitoes don’t frequent bright, sunlit areas of the garden. Typically, barrier applications use a synthetic pyrethroid in a long-lasting formulation.

Attractive toxic sugar bait (ATSB) is a new technology currently being evaluated for mosquito traps and barrier treatments with less impact than conventional pesticides on non-target pollinators and other beneficial insects. Some studies are promising, but the method is not yet considered an alternative to conventional adulticides. Source reduction to remove habitat, and larval control with pesticides are key components of a comprehensive control plan that complement the adult control strategies.

For more information on control see these CDC webpages: Interim CDC Recommendations for Zika Vector Control in the Continental United States. Surveillance and Control of Aedes aegypti and Aedes albopictus in the United States. Also see the Mosquito Control Methods page on the National Pesticide Information Center website.

Fight the Bite
What you can do to avoid transmission of mosquito-borne disease – recommendations from the from the Ohio Department of Health Website. [www.odh.ohio.gov/zika](http://www.odh.ohio.gov/zika). When outdoors, wear Environmental Protection Agency (EPA) registered insect repellents. All EPA-registered insect repellents have been evaluated for effectiveness. Always follow the repellent label instructions. Be sure you understand clearly how to apply and how much to use. Do not allow children to handle the product and store safely out of their reach. A useful report that compares repellent efficacy is available from Consumer Reports.
Unlike many mosquitoes, the Asian tiger mosquitoes are most active during the day and are most common in shade conditions. Be sure to use insect repellent and wear long sleeves and pants where these mosquitoes are active. For individuals sensitive to repellents, repellent-treated clothing is available, as well as repellents designed for treating clothing, tents, etc. Make sure you have intact screens on your windows and doors to keep mosquitoes out. Yellow fever mosquitoes and Asian tiger mosquitoes are both container breeding mosquitoes. They do not breed in ponds, puddles or marshes but are capable of breeding in any size container, including very small ones, - even folds of tarps. Remove their breeding sites by emptying standing water from flower pots, buckets and barrels. Change the water in pet dishes, and replace the water in bird baths at least weekly. Drill holes in tire swings so water drains out. Check gutters to make sure they are flowing. Keep children’s wading pools empty and on their sides when they aren't being used.

Dine in to Make a Difference at Bob Evans Restaurants on May 16-17, 2016

Looking for a great way to support agriculture and get a great meal? If so, mark May 16-17 on your calendar as the Ohio Farm Bureau and Bob Evans are partnering to support a trio of organizations that enhance education and experience of youth in agriculture. Ohio Farm Bureau and Friends Days at Bob Evans restaurants throughout Ohio are set for May 16 and 17. The goal of the fundraiser is to increase awareness of the importance of agriculture education programs supported by Ohio Farm Bureau, Ohio 4-H and Ohio FFA.

Farm Bureau members in conjunction with 4-H and FFA member families have the potential to work together to make a huge impact on the future of agriculture education programs in Ohio. Plan to “dine to make a difference” at any of the 194 Bob Evans Restaurants in Ohio on May 16 or 17, 2016. When diners present a flyer at check-out, Bob Evans will donate 15 percent of the sale to the Ohio Farm Bureau Foundation, Ohio 4-H Foundation and Ohio FFA Foundation. Dine in, carryout and catering orders will count toward the fundraiser. Catering orders must be placed by May 9.

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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

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GROWERS FIELD NIGHT

High Tunnels

Wednesday, May 25, 2016

6:30pm – 8:30pm

Uria Byler’s

14439 Grove Road

Garrettsville, OH 44231

(Map on Back)

We’ll look at diseases and insects and discuss concerns and issues.

New growers, prospective growers, or anyone interested in growing produce are welcome to attend. Remember to bring your dying plant samples and questions to stump the agents!!!

Looking forward to seeing everyone there!

Erik Draper, Extension Agent Commercial Horticulture
Les Ober, Program Assistant Agriculture

For more information, call the Geauga County OSU Extension Office at (440) 834-4656.
Uria Byler
14439 Grave Road
Garrettsville, OH 44231
Bob Evans Community Fundraiser
Dine to make a difference

Ohio Farm Bureau & Friends Days
May 16 and 17, 2016 | All Day
(dine in, carryout and catering* orders)
*Catering orders must be placed by May 9.

Bob Evans will donate 15% of sales to

Ohio Farm Bureau Foundation
Ohio FFA Foundation
4-H

when you present this flyer**
at your local Bob Evans (Ohio only).

#BE4AG

**Printed flyer must be presented at time of checkout.
Electronic flyers will not be accepted.