Hello Northeast Ohio Counties!

Although we may have missed the polar vortex, some of you up near the lake may be digging out from snow this week. Don’t stone me, but I wouldn’t mind some more of that white stuff down here.

We will be rolling out some online programs next month, but in the meantime check out https://agnr.osu.edu/programming for a wide variety of topics.

The answer to last week’s trivia is Oliver.

Stay safe and healthy!
2020, Has it Changed How Consumers Shop for and Consume Beef?

By Mike Estadt, OSU Extension Educator, Pickaway County

Source: https://u.osu.edu/beef/2021/01/13/2020-has-it-changed-how-consumers-shop-for-and-consume-beef/

Is this our future? Place an order on MunseeMeats.com that will be filled and stocked in this Automated Farmers Market. You then receive a confirmation QR code that your order is ready. When you arrive at the locker you simply scan the QR code and retrieve your order from the self-serve lockers. If we answer this question with the knowledge at hand this is going to be a very short article. We really do not know yet. But what we do know is there have been some fundamental shifts in how the consumer shops and how they consume not only beef but food in general. Will these shifts remain and what might we expect in the years to come?

Let us look at the year in review and try to understand the effects on the larger food industry as well as local livestock growers. The New Year came in with some optimism for agriculture as the effects of the trade war was dissipating, cushioned by USDA financial assistance via the Market Facilitation Program. For livestock producers, specifically pork, the effects of the Asian Swine Fever which decimated the Chinese breeding herd by 40%, gave rise to optimism for increased exports to China. In late December and early January, reports of a flu-like disease began to be reported out of the Hubei province, in the city of Wuhan, China. The disease caused by SARS-CoV-2, would soon become a worldwide pandemic known as COVID-19.

By March in response to the increasing numbers of infections and resulting deaths, shutdowns of businesses, schools, hotels, and restaurants literally destroyed demand for institutional food suppliers. At the same time Americans were hoarding paper
products, sanitizing wipes and food, especially meat. Store shelves were empty, and some forms of rationing meat began to take place. At the same time milk was being dumped and vegetable fields plowed under as processors could not convert institutional packaging quickly enough to supply the retail sector.

The virus continued to wreak havoc on the economy and drove the national unemployment rate to a high of 15% in April. Center for Disease Control data reported a 300-400% increase in anxiety and depression. This may explain record sales of comfort foods such as canned soups and baking supplies disappearing from grocery shelves. As quarantines and lockdowns continued baking and cooking meals from home continued to increase. At one point during the peak of the pandemic, consumers reported that 88% of meals were being consumed at home.

Just as grocery stores were beginning to recover from this disruption, a larger aftershock would be felt in the food supply chain as workers in beef and hog processing plants began to test positive for the COVID19 virus, leading to major shutdowns of some of the largest plants in the country. These shutdowns resulted in a 40% decrease in beef and swine processing compared to 2019.

Wholesale prices soared but the prices paid to farmers and ranchers declined due to no available processing. Beef producers were able to slow growth rates of feedlot cattle and the prospect of euthanasia of finished hogs loomed over the Midwest. Fortunately, by June processing was able to recover to pre-pandemic levels.

This nationwide series of events gave rise to an unprecedented demand by consumers in communities across America for locally raised pork and beef. But this was not without complications as small mom-and-pop processors, already at nearly full capacity began to book harvest dates sometimes as far out as a year. To make things even more complicated, the supply of deep freezers was quickly exhausted as demand quickly outstripped supply. The backlog for deep freezers was 6-9 months out.

What trends will remain when the pandemic subsides? Online and e-commerce will continue to be a major shopping behavior. If you do not have an online presence, you need to get one soon. If you have one, update it to accept online ordering and payment. Consumers will be cooking more meals at home in the future than prior to COVID-19. This means they will be searching for information to help them cook at home. Recipes and YouTube videos need to be a component of a successful social media marketing strategy.

Not only will consumers buy more food online, but the return to remaining restaurants may also take on a different look as online meals-to-go prepared at “Ghost Kitchens” (food preparation centers with meal delivery services) will likely more common place.
The larger food industry will be spending time and research into making the food processing infrastructure more resilient and less prone to disruptions such as Covid19. More inventory capacity, factory automation and creating linkages to regionally based processing facilities will be explored. Local producers should concentrate their efforts in maintaining positive customer relations, exploring possible cooperative partnerships with other farmers and ranchers and alternative harvesting and marketing infrastructure. What local food producers do now to capitalize on these recent trends could set the course for a fruitful and successful future.

Sources:
Center For Disease Control and Prevention Morbidity and Mortality Weekly Report, August 14, 2020; “Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic
Online Grocery and Meal Ordering Reports, April 2020

Canadian researchers create new form of cultivated meat
By McMaster University
Source: https://www.eurekalert.org/pub_releases/2021-01/mu-crc011921.php

Researchers Ravi Selvaganapathy and Alireza Shahin-Shamsabadi, both of the university’s School of Biomedical Engineering, have devised a way to make meat by stacking thin sheets of cultivated muscle and fat cells grown together in a lab setting. The technique is adapted from a method used to grow tissue for human transplants.

The sheets of living cells, each about the thickness of a sheet of printer paper, are first grown in culture and then concentrated on growth plates before being peeled off and stacked or folded together. The sheets naturally bond to one another before the cells die.

The layers can be stacked into a solid piece of any thickness, Selvaganapathy says, and "tuned" to replicate the fat content and marbling of any cut of meat - an advantage over other alternatives.

"We are creating slabs of meat," he says. "Consumers will be able to buy meat with whatever percentage of fat they like - just like they do with milk."
As they describe in the journal *Cells Tissues Organs*, the researchers proved the concept by making meat from available lines of mouse cells. Though they did not eat the mouse meat described in the research paper, they later made and cooked a sample of meat they created from rabbit cells.

"It felt and tasted just like meat," says Selvaganapathy.

There is no reason to think the same technology would not work for growing beef, pork or chicken, and the model would lend itself well to large-scale production, Selvaganapathy says.

The researchers were inspired by the meat-supply crisis in which worldwide demand is growing while current meat consumption is straining land and water resources and generating troubling levels of greenhouse gases.

"Meat production right now is not sustainable," Selvaganapathy says. "There has to be an alternative way of creating meat."

Producing viable meat without raising and harvesting animals would be far more sustainable, more sanitary and far less wasteful, the researchers point out. While other forms of cultured meat have previously been developed, the McMaster researchers believe theirs has the best potential for creating products consumers will accept, enjoy and afford.

The researchers have formed a start-up company to begin commercializing the technology.
Pesticide and Fertilizer Recertification Update

Happy New Year! I'm sure some of you have received your private pesticide license renewal from the ODA, and are wondering how to get recertified. Admittedly, we are behind this year as we try to navigate changing guidelines from the state, county, and OSU on holding meetings. Hitting a moving target is a little challenging! We will make sure that everyone will get recertified one way or another.

While we prefer in-person programs, that is not possible in the near future. We have been granted permission by the ODA to hold virtual live meetings for pesticide recertification, and we have four sessions scheduled for the upcoming months. You can find those dates below, and registration links as well. These are live events and not recorded. We realize that not everyone has a computer, or reliable internet so we are working on some in-person events later this spring. We will provide updates on those in-person events when those are available.

Thankfully, the deadline for applicators with an expiration in 2020 and 2021 has been extended to July 1, 2020. We hope with the option of having recertification in warmer weather, we can move outside and get together in person. If you have any questions please give us a call and we will answer any questions you have.

- **Horticulture Specialization - New for 2021!**
  - Date: February 4, 2021, Time: Daytime 10AM – 2PM
  - Categories CORE, 3, 4, 5, 6 and Fertilizer
- **Normal/Agronomy**
  - Date: February 16, 2021, Time: Evening 5PM – 9PM
  - All categories, CORE and Fertilizer
- **Normal/Agronomy**
  - Date: March 10, 2021, Time: Daytime 10AM – 2PM
  - All categories, CORE and Fertilizer
- **Normal/Agronomy**
  - Date: April 7, 2021, Time: Daytime 10AM – 2PM
  - All categories, CORE and Fertilizer

You can register now at https://go.osu.edu/NEOPAT21
Consolidated Appropriations Act, 2021 – Highlights of Tax Issues Impacting Farm Businesses

By: Barry Ward, Leader, Production Business Management/Director, OSU Income Tax Schools
Source: https://farmoffice.osu.edu/blog/sun-01102021-1048am/consolidated-appropriations-act-2021-%E2%80%93-highlights-tax-issues-impacting-farm

Congress passed the Consolidated Appropriations Act (CAA), 2021 on Monday, December 21, 2020 which was signed by the President on December 27th. The CAA funds the government through September 30, 2021, implements COVID-19 relief provisions, and extends a number of expiring tax provisions. The $2.3 trillion bill provides $900 billion in COVID-19 relief. This article highlights key provisions for farm related issues from several Acts within the CAA’s 5,593 pages.

Additional 2020 Recovery Rebates
“Economic Impact Payments”
The Act provides for “additional 2020 recovery rebates for individuals.” The additional recovery rebate credit is $600 for “eligible individuals” or $1,200 for “eligible individuals” filing a joint return. “Eligible individuals” are entitled to a $600 credit for each “qualifying child”. (Generally includes dependent children under the age of 17.) Phaseouts apply for higher income taxpayers.

Paycheck Protection Program Loans – Covered Expenses Now Deductible
Previously, the IRS and Treasury indicated that the expenses covered by PPP loans that were forgiven (or would be forgiven) would not be deductible. This new legislation now allows for these expenses to be deducted. This provision overrides IRS Notice 2020-32 and Rev. Rul. 2020-27. The CARES Act indicated that the loan proceeds from PPP loans are not to be included as taxable income. This tax treatment would apply to original PPP loans, as well as any subsequent loans made possible by the Act.

Paycheck Protection Program – Other New Guidelines
Qualified self-employed farmers who did not have employees and had less than $100,000 of net income in 2019 were not originally eligible for the maximum forgivable PPP loan. The new legislation now allows for the PPP loan forgiveness based on gross income rather than net income. Farmers are now able to receive a PPP loan of up to $20,833 (reduced by any loan already received) based on gross receipts of at least $100,000.

The legislation amends the Paycheck Protection Program (PPP) to extend the covered period from December 31, 2020, through March 31, 2021. An allocation of $284 billion is included to provide first and second PPP loans to small businesses. Details of the expanded program will not be known until SBA releases required guidance.
The PPP allows borrowers to spend proceeds on payroll costs and non-payroll costs of business mortgage interest, business rent payments, and business utility payments. This new legislation expands the allowable use of PPP loan proceeds. The legislation allows borrowers to choose a covered period anywhere between an eight-week and 24-week covered period for purposes of loan forgiveness. The covered period must begin on the date the proceeds are disbursed.

The legislation provides a simplified forgiveness procedure for PPP loans up to $150,000. The new procedure provides that such loans “shall be forgiven” if the borrower signs a certification that shall not be more than one page in length and shall require minimal supporting information.

The legislation repeals the provision in the CARES Act requiring the SBA to reduce a borrower’s PPP forgiveness by the amount of an EIDL advance.

**PPP Second Draw Loans**
The new legislation establishes a PPP Second Draw Loan program that generally applies to businesses with 300 or fewer employees if the business had gross receipts during any quarter in 2020 that were reduced by at least 25 percent from the gross receipts of the business during the same quarter in 2019.

To be eligible for a second draw loan, the borrower must have received a PPP loan in 2020 and used all of the proceeds of that loan for permitted purposes.

The Act allows borrowers who have not yet received forgiveness to request an increase in their loan amount if they returned all or part of a PPP loan or did not take the full amount of a PPP loan to which they were entitled. This provision allows borrowers who received loans before more favorable regulations were enacted to take advantage of those new provisions.

**Employee Retention Credit (ERC)**
The legislation extends and expands the employee retention credit, allowing employers to remain eligible up until July 1, 2021. Previously, employers who received a PPP loan were ineligible to claim the ERC. The new legislation retroactively allows employers who receive PPP loans to claim the ERC and to treat payroll costs paid during the loan-covered period as qualified wages to the extent the wages are not paid for with forgiven PPP loan proceeds.

For the period from January 1, 2021 and prior to July 1, 2021 the ERC percentage increases from 50 percent of qualified wages to 70 percent. Employers can count qualified wages up to $10,000 per employee per quarter (instead of for all quarters) in calculating the credit. Employers qualify for the credit if their gross receipts for a
calendar quarter are less than 80 percent of the gross receipts of the corresponding calendar quarter in calendar year 2019.

**Economic Injury Disaster Assistance (EIDL) Loans and Advances**
The Act allows Economic Injury Disaster Assistance (EIDL) Advances provided as emergency grants under the CARES Act to be excluded from gross income while the corresponding expenses would remain deductible. Additionally, loan forgiveness granted to an EIDL loan recipient under discretionary powers provided by the CARES Act does not result in gross income or a denial of deductions for allocable expenses.

**New Net Operating Loss (NOL) Options**
The new legislation provides farmers new net operating loss options not otherwise available in the wake of the CARES Act. Farmers have the option to temporarily carry back Net Operating Losses 2 or 5 years with some caveats.

**Extension of Credits for Paid Sick and Family Leave**
The Act extends the tax credits made available to employers by the Families First Coronavirus Response Act through March 31, 2021 (They were set to expire on December 31, 2020). This includes the sick and family leave credits for self-employed individuals. The new legislation does not provide additional credits for employees but allows for a larger window to utilize them if the employer chooses.

**Emergency EIDL Grants**
The Act appropriates an additional $20 billion for emergency EIDL grants. The Act extends the covered period for this program through December 31, 2021, and extends the period to approve the applications from three days to 21 days.

**Temporary Allowance of 100% Deduction for Business Meals**
The new legislation allows for a 100 percent deduction for business meals where food or beverages is provided by a restaurant, for the 2021 and 2022 tax years.

**Charitable Contributions Deduction by Non-Itemizers**
For tax years beginning in 2021, the Act extends and increases the above-the-line deduction for cash contributions by non-itemizers to $300 for individuals and $600 for married filers.

**Extension of Deferred Employee Portion of Payroll Taxes**
The Act delays the repayment requirement for the employee portion of the payroll taxes that were deferred in response to the President’s August 8 Memorandum on Deferring Payroll Tax Obligations in Light of the Ongoing COVID-19 Disaster. Instead of requiring full repayment of these deferred taxes by April 30, 2021, the new legislation delays this deadline to December 31, 2021.
Do You Have any Trumbull County Ag History?

Trumbull County Historical Society is putting together an exhibit titled "Trumbull County A-Z" that will open in April 2021 and we are looking to the Trumbull County community for help! The exhibit will be structured so that each letter of the alphabet will represent a topic that relates to Trumbull County history. The topics can be events, celebrations, milestones, places, people, or something else that represents diverse groups in our area. We know that the OSU Extension Office is a major part of the agricultural community and we hope that you can help us begin the process of finding topics related to the agricultural community in Trumbull County.

If you have any ideas you would like to pass on, contact Annie Talmadge at annie@trumbullcountyhistory.org.

Hard to crack research reveals how crop roots penetrate hard soils

By: University of Nottingham
Source: www.sciencedaily.com/releases/2021/01/210114163917.htm

Scientists have discovered a signal that causes roots to stop growing in hard soils which can be 'switched off' to allow them to punch through compacted soil -- a discovery that could help plants to grow in even the most damaged soils.

An international research team, led by scientists from the University of Nottingham's Future Food Beacon and Shanghai Jiao Tong University has discovered how the plant signal 'ethylene' causes roots to stop growing in hard soils, but after this signal is disabled, roots are able to push through compacted soil. The research has been published in Science.

Hard (compacted) soils represent a major challenge facing modern agriculture that can reduce crop yields over 50% by reducing root growth, causing significant losses annually. Europe has over 33-million-hectares of soil prone to compaction which represents the highest in the world. Soil compaction triggers a reduction in root penetration and uptake of water and nutrients. Despite its clear importance for agriculture and global food security, the mechanism underpinning root compaction responses has been unclear until now.

Professor Malcolm Bennett from the University of Nottingham School of Biosciences, said: "Understanding how roots penetrate hard soils has huge implications for agriculture, as this knowledge will be crucial for breeding crops more resilient to soil compaction. Our team's identification that the plant signal ethylene controls root
responses to hard soil opens up new opportunities to select novel compaction resistant crops."

The research utilised X-ray Computed Tomography scanners available at the Hounsfield Facility at the University of Nottingham to visualise in situ how plant roots responded to compacted soil. Professor Sacha Mooney from the University of Nottingham and Director of the Hounsfield Facility explained: "Prior to this research we assumed that the hardness of the soil prevented roots growing deeper. By using our imaging approach, we were able to see that roots continued growing in very hard soils when the ethylene signal was switched off. The potential for new crops that can now go deeper in soils and capture previously unavailable resources is really exciting!"

The international team involved in this new Science paper includes researchers drawn from nine universities based in Europe, China and USA, integrating expertise spanning plant and soil sciences, bioimaging and mathematics. The team involves several early career researchers including Dr. Bipin Pandey and Dr. Rahul Bhosale who are funded by Royal Society Challenge Grant, BBSRC Discovery Fellowship and University of Nottingham Future Food Beacon awards.
Enrollment for the Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC) programs for the 2021 crop year is currently open. The deadline to enroll and make amendments to program elections is **March 15, 2021**. Producers have the option to enroll covered commodities in either ARC-County, ARC-Individual, or PLC. These are the same program options that were available to producers during the 2019 and 2020 crop years, but in some cases, producers may want to amend program elections to better manage the potential risks facing their farms during the 2021 crop year. There is no cost to attend these meetings, but **registration is required**:

**https://go.osu.edu/neofb21**

**Location:** Online via Zoom  **Cost:** Free  **Time:** 1:00 PM

**Contact information:** Any questions can be directed to Andrew Holden at 440-576-9008 or email Holden.155@osu.edu

To view the recorded video of this presentation contact Andrew Holden
Stay warm at home and think spring with these great winter Wednesday webinars.

February 3\textsuperscript{rd}
- “Why Native Plants Matter to Bees and Other Wildlife” presented by Denise Ellsworth, Program Director of Pollinator Education, OSU

February 17\textsuperscript{th}
- “Invasives-Identification, Eradication, and Native Alternatives” presented by Rees Davis, Master Gardener, and Andrew Holden, Educator, Ag & Natural Resources for CFAES Ashtabula County OSU Extension

March 3\textsuperscript{rd}
- “Who are the (Non Bee) Pollinators in Your Neighborhood?” presented by Judy Semroc, CMNH Conservation Specialist

March 17\textsuperscript{th}
- “Harvesting and Planting Native Seeds” presented by Red Beet Row, Agroecology Education Farm

March 31\textsuperscript{st}
- “Our Pollinator Picks for Your Native Garden” presented by Carol Blake, Master Gardener and Encie Moroski, Master Gardener

Register now at go.osu.edu/neops