CFAES
OHIO STATE UNIVERSITY EXTENSION

Morrow County SCARLET & GRAY News

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OSU Intern, Sara Deakin

Hello, my name is Sara Deakin. I am a senior at Ohio State studying Community Leadership specializing in Extension Education. I also have a minor in Production Agriculture and I have an Associate's degree in Agriscience Education. For those who do not know what that means, my end goal is to become an Extension Educator for 4-H Youth Development. I am interning with Morrow County Extension this semester, so you may be hearing from me or about me throughout the next few months. I grew up in Franklin County Ohio (Columbus) and currently live in Sunbury. I took projects such as dogs, market hogs, beef feeders, market rabbits, and market goats. I also was involved in shooting sports and vet science projects. While in 4-H, I was also a member of the Junior Fair Board and a camp counselor. I also served as a camp counselor for Ohio 4-H State Leadership Camp in 2018. I was a member of two 4-H clubs the Fantastic Futures and the K-9 Wonderdogs. I loved being involved in 4-H and even got to go on a few trips as a 4-H'er. In 2016 I attended State Leadership camp and in 2017 I attended Citizenship Washington Focus in Washington D.C. Outside of 4-H, I train and show dogs in agility at the national level. I currently have 2 dogs; Steeler is a 9.5-year-old Shetland

Sheepdog and Venture is a 9-month-old Shetland Sheepdog. I am looking forward to working with all of you and getting to know what it takes to be a 4-H Extension Educator. If you have any questions or concerns, feel free to reach out to me my email is deakin.5@osu.edu.

National Wheat Yield Contest – Ohio Results

Congratulations to Ray VanHorn for making the top 10 in Ohio for the National Wheat Yield Contest. Ray is a 3rd generation farmer in Morrow County and he grew 1300 acres of wheat in 2020. Ray grows varieties of wheat from Pioneer, Dyna Grow and Becks. He is also on the Ohio Small Grains and US Wheat board of directors. There were 20 entries from Ohio in the National Wheat Yield Contest and 11 completed the contest. This is only the 3rd year for the contest so there is hopes that the competition numbers will continue to increase.

Every year farmers from all over the U.S. enter and compete in the National Wheat Yield Contest. The results are broken down by category and then by individual state. The national results can be viewed here https://wheatfoundation.org/past-contest-winners/ and the state results are below.

Ohio Results National Wheat Yield Contest

Placing	Contestant	Address/County	OCWGA District	Final Yield	Seed Brand
1	Mark Hoorman	Napoleon/Henry	1	118.27	AgriPro
2	Jim Dauch	Bellevue/Sandusky	2	116.02	Pioneer
3	David Lutz	Warren/Trumbull	5	114.67	Ebberts
4	Doug Goyings	Paulding/Paulding	3	113.11	Strike
5	Mark Hoorman	Napoleon/Henry	1	110.64	Synergy
6	Keith Kemp	W Manchester/Darke	6	109.12	Pioneer
7	Ronald Saum	Ft Jennings/Allen	3	106.52	Wellman
8	Fred Miller	Bucyrus/Crawford	4	101.03	AgriPro
9	Brian Sutorius	Vickery/Erie	5	100.50	Pioneer
10	**Ray VanHorn**	**Mt Gilead/Morrow**	**4**	**96.35**	**Pioneer**
11	Martin Quigley	Martinsville/Clinton	9	93.69	Dyna-Gro

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OHIO STATE UNIVERSITY EXTENSION MORROW COUNTY
5362 US Hwy. 42 • Suite 101 • Mt. Gilead, OH 43338
Phone: (419) 947-1070 Fax (419) 947-1071
OSU Extension-Morrow County http://morrow.osu.edu
Like us on Facebook: Ohio State University Extension - Morrow County
YouTube Channel - OSU Extension – Morrow County

OFFICE STAFF:
Becky Barker - 4-H Youth Development Educator (barker.157@osu.edu)
Amanda Staley - 4-H Youth Development Educator (staley.35@osu.edu)
Carri Jagger - Ag & Natural Resources Educator (jagger.6@osu.edu)
Candace Heer - Family & Consumer Sciences Educator (heer.7@osu.edu)
Kathy Whitmore - SNAP-Ed Program Assistant (whitmore.5@osu.edu)
Liz Ufferman - Office Associate (ufferman.1@osu.edu)
Barb Hildebrand - Office Associate (hildebrand.2@osu.edu)

AGRICULTURE

Planning for the future of your farm webinar

OSU Extension will host a virtual three part "Planning for the Future of Your Farm" workshop on February 15, 22 and March 1, 2021 from 6:30 to 8:30 p.m. via Zoom. This workshop will challenge farm families to actively plan for the future of the farm business. This workshop is designed to help farm families learn strategies and tools to successfully create a succession and estate plan that helps you transfer your farm's ownership, management, and assets to the next generation. Learn how to have the crucial conversations about the future of your farm.

Topics discussed during this series include:

- Developing Goals for Estate and Succession
- Planning for the Transition of Control
- Planning for the Unexpected
- Communication and Conflict Management during Farm Transfer
- Legal Tools & Strategies
- Developing Your Team
- Getting Affairs in Order
- Selecting an Attorney

This workshop will be taught by members of the OSU Farm Office Team featuring Peggy Hall & Jeffrey Lewis, Attorneys from OSU Agricultural & Resource Law Program and David Marrison, Extension Educator for Coshocton County.

Because of its virtual nature, you can invite your parents, children, and/or grandchildren (regardless of where they live in Ohio or across the United States) to join you as you develop a plan for the future of your family farm.

Pre-registration is required as one packet of program materials will be mailed to participating families. Electronic copies of the course materials will also be available to all participants. The registration fee is $40 per farm family. The registration deadline is February 10, 2021.

To register, go to: https://osu.az1.qualtrics.com/jfe/form/SV_5jcEZbJ0C1hRoAl

For more information about this webinar contact David Marrison at the Coshocton County Extension office at 740-622-2265 or by email at marrison.2@osu.edu.

Sign up for Carri's Weekly Ag News

When the pandemic hit in March, I wanted a better way to get Agriculture, Horticulture and Natural Resources news out to the folks of Morrow County. I currently have an email list that I send updates to, but I wanted something a little better.

Therefore, I created a weekly newsletter that can be sent to your email. It contains events, educational items, and news. It is delivered through email every Monday. If you would like to receive the Morrow County Agriculture, Horticulture and Natural Resources News please visit https://u.osu.edu/morrowcountyag/ to sign up.

2020: Has it changed how consumers shop for and consume beef?

By Mike Estadt,
OSU Extension Educator, Pickaway County
(originally published in Ohio Farmer on-line)

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.

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. Photo: Jason Mauck

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.

AGRICULTURE

Pasture management:

It's all about maximizing the grazing season!

By Victor Shelton, NRCS State Agronomist/Grazing Specialist

Winter is setting in. The impact of the dry spell in late summer and early fall is now more evident as stockpiled forages that normally would have lasted a bit longer start running short. I've walked most of my pastures to do a quick assessment. Hay will come early this year.

That "walkabout" helped me assess a few areas that could use a little attention besides estimating any remaining forage. A couple blackberry patches in one field certainly got my attention. Long, wet springs seem to be to their liking. I will certainly have to put a bit more pressure on them this coming year and probably clip or spray early to get them under control. Small patches where they were denser created too much competition for sunlight and water for the underlying forages and they were set back. When the canopy of perennial or annual weeds start exceeding more than thirty percent, you will have reduced forage growth and I also believe reduced nutritional value to some degree.

When it comes to briars, grazing intake is also going to be reduced and can you blame them? Who would want to have to try and eat around those thorns? It's bad enough just trying to pick a few berries from them during the summer for a pie!

I have successfully grazed/browsed them out a few times, but you must catch them early when they are immature and there has to be a lot of forage around them to entice the consumption and provide competition for any regrowth. Even then, it's best paired up with an early clipping and some spraying. It seems a bit odd talking about blackberries in January, but it's never too early to start planning out a strategy.

I will plan to skip these patches the best I can if I frost-seed any clover in the next month or so. Why? Because if I end up having to spray these patches, most legumes, especially seedling legumes, will not survive that endeavor. If there are not satisfactory perennial grasses left, which should be a minimum of at least six plants per square foot normally, then I may drill in more seed. You want good seed-to-soil contact, especially for larger grass seed.

They might make good pies, but blackberries in a pasture can reduce grazeable acres.

I've also taken the more conservative route and just fed or unrolled some hay on the site and let the cows tread the seeds in some. This takes a bit of thought and care. You certainly don't want to try and do this under extremely wet or muddy conditions because we don't want to bury the seed. You also don't want to leave too much unconsumed material behind, or it can hamper growth come spring. The hay needs to be good enough quality that they want to consume most of it, but also mature enough that it might contain some viable and, ideally, desirable grass seed also.

The short residence of livestock on these sites while consuming and digesting as well as the redistribution of such material not only helps to "plant" seed, but it also adds nutrients, organic matter and food for bacteria, fungi and other organisms in the soil. All are valuable to restoring the site. Either way, you will still need to make sure to repeatedly reassess the site throughout the upcoming year or two for secondary maintenance.

Clipping or mowing to reduce bramble growth and reduce competition should be done as early as possible to get a jump on it and enable you to keep the canopy in check. If time allows and patches are small, spot spraying when plants are young in the spring followed later by a clipping can really set them back. If you have kept the briars at bay for most of the summer by mowing, then a fall herbicide application with sufficient regrowth can be very controlling. If you have passed them by and let them create a spiny jungle, then you might be better off mowing them close and starting over the next spring. Contact your local extension office or chemical dealer for the appropriate herbicides and rates.

Enough on briars. Let's go back to frost seeding legumes. Frost seeding is certainly one of the least expensive ways to enhance the stand of legumes in your pastures. It is basically the process of broadcasting the legume seed onto the soil surface during the winter dormant months. For the most part, I usually say the ideal time is somewhere between Christmas and Valentine's Day. If I really had my choosing, I'd wait until there is a light snow on the ground and then do the sowing. The snow serves two good purposes. One, it helps "catch" the seed and transport it to the ground and two, it serves as a great marker for the tractor or ATV.

Frost seeding relies on the freezing-thawing action of the soil, which is honeycombing the soil surface with ice crystals. This causes the soil surface to expand and contract, allowing the small seed to find a route into the ground. During warmer winters, you might not always get enough action and if you don't get good seed-to-soil contact and the seed does not get covered; then it is less likely to survive. I doubt that will be the problem this year. Too often, when left lying on the soil surface, the sun can warm the ground and seed enough to initiate germination. It has little chance of surviving if this happens before the occurrence of another killing freeze. The seed that is protected by the soil will not be as likely to be impacted by the sun and is more likely to wait until the proper time period to germinate.

Competition is probably your next worst enemy. Now, I would hope that most would not consider broadcast seeding or frost seeding into a heavy stand of grass, but I have seen it done, usually with less success. If you know you are going to be frost seeding legumes into a pasture then I would recommend waiting until after the forage has become dormant and then graze it down to about 3-4 inches to remove any excess growth (not a problem now) to allow the seed to find its way to the soil surface and wait for that freezing action. Grazing closer to the soil surface also helps to depress early spring growth of the grass which will give the legume seedling a fighting chance. Now that reminds me to mention, don't hit those newly seeded fields with nitrogen in the spring either. All this does is to promote the grass growth in the sward and reduce those new legume seedlings' chances. They won't have the root base or energy stored up to compete with established grass, especially with a boost of nitrogen!

In closing today, you get three things usually for nothing: air, sunlight and water. Pretty much everything else you will pay for one way or another. All three are needed to grow forage. Maximize forage production, be as efficient as possible in grazing and maintaining it, and it will have a positive impact on your bottom line.

Remember, it's not about maximizing a grazing event, but maximizing a grazing season! Keep on grazing!

OSU Extension Small Ruminant Webinar Series

By Brady Campbell, Program Coordinator, OSU Sheep Team

Are you looking for new tips and tricks on how to improve your small ruminant operation this winter? Maybe you're gearing up for lambing and kidding season and you want to make sure that you have everything you may ever need and more when it comes to supplies and knowledge. Perhaps last year you vowed to change your nutritional program to meet the demands of your female based during late gestation and lactation. Or what about marketing? We know the challenges of marketing during the spring of 2020. What did we learn and how can we prepare for issues like these in the future? If these are areas of interest for you, keep reading. Trust us – your livestock will thank you!

The Ohio State University Extension and Department of Animal Sciences is pleased to announce the dates of small ruminant production focused webinars highlighting the topics above on February 16th and March 16th. Webinar registration is quick, easy, and FREE. To register, please visit https://go.osu.edu/smallruminantwebinars2021. Once connected, enter your first and last name, email address for webinar access, and location. Once completed, hit the register button at the bottom of the screen and BAM, mission complete. Webinar registration for all 3 events use the same link. For those that are having difficulty registering for the webinars or are interested in joining via phone, please contact either Brady Campbell or Christine Gelley using the contact information below for assistance. Even if you are unable to join the webinar during the slated time, please register for the programs as each registrant will be given access to the recordings once the programs are complete.

For those interested in the details of each event, please find the descriptions listed below.

Small Ruminant Nutrition

Tuesday, February 16th | 7:00 p.m. – 8:30 p.m.

Members of the OSU Sheep Team will address the importance of providing adequate protein, carbohydrates, and minerals in the forms of processed grains, hay, grazed pasture, minerals, and supplements to your flock/herd. A Question and Answer session will be included.

Weaning, Sorting, and Selling- Lambs, Kids, and Spent Breeding Stock

Tuesday, March 16th | 7:00 p.m. – 8:30 p.m.

Members of the OSU Sheep Team will offer strategies for weaning lambs/kids and preparing them for joining the breeding flock or entering the meat processing chain. Also included will be examples of marketing strategies and determining what to do with ewes/does and rams/bucks that are no longer meeting breeding needs of the flock/herd. Question and Answer sessions will be available during each section.

We look forward to "seeing" each of you there. Good luck with your 2021 lambing/kidding season and Happy Shepherding!

AGRICULTURE

Managing risk: Using heat lamps on the farm

By Michael Glos,
Cornell University Guest Writer

(Previously published with Cornell Small Farms Program: April 7, 2014)

No farmer wants to have a fire, but we all practice fire prevention in different ways.

It is an accepted premise that farming is a daily lesson in managing risk. Some farmers are more risk averse than others but we all find our comfort level and work from there. For example: I am not comfortable borrowing $100,000, while I know other farmers of my same scale who are. The risk of a fire on the farm is another area which is managed differently by each farmer. No farmer wants to have a fire, but we all practice fire prevention in different ways.

This spring I opened up my email inbox to find some very unsettling news. The night before there had been a fire at the Maine farm where I had first interned 20 years ago. The barn where I had learned to milk, harness horses, and generally catch the farming bug was a smoldering pile. And worse of all, it took the lives of all the animals in it, including one of the horses I had worked with. My heart went out to the Thayer's who could only watch in tears as a centerpiece of their farm went up in flames. Luckily no humans were injured or killed.

Through conversations with other farmers and firefighters, I know the truth about rural fires and the role of the fire department. If you live rurally and have a fire you should not depend on the fire department to come save your house or barn. We have seen too many fires destroy houses of friends and neighbors. Even the house of our local volunteer fire department chief burned while, ironically, he was at the fire station.

We have a fantastic network of volunteer firefighters who will come, but only in time to contain a fire, potentially try to rescue the occupants, and keep it from spreading to other structures. The fact is, it will likely be at least 30 minutes after I make that call that a fire engine will show up at my farm. Even with three volunteer stations within 5 miles of my house, the firefighters have to first get to the station after receiving the call and then come to my place. All the water has to be trucked in or pumps have to be set up to transport the water from our pond or the creek across the street. During this time the fire will be burning and spreading.

With those assumptions we know the most important thing to do is to prevent the potential of a fire on the farm and, secondly, to have a plan of what to do if we have one. Prevention primarily involves removing as many risks as possible and reasonable. I can only scratch the surface on preventative measures, but we know that buildings with power in them have an increased risk of fire. Our equipment shed is unlikely to burn because it has no source to cause a fire, but our main barns and house, all with power, are at a higher risk. Add a propane heater, all wood construction, 1,000 bales of hay, feed, many electrical outlets, and freezers with motors and you have many potential sources of fire.

For the sake of this article I will primarily look at one potential source of fire on our farm: heat lamps. They were the cause of the fire in Maine, a number of other fires I have heard about, and two fires on our own farm. Heat lamps, generally defined, are portable hanging fixtures with bulbs in them (usually 150-250vw). They can be purchased at almost any farm or general hardware store and are usually cheap, under $10.00.

A number of characteristics that are not always fully appreciated make heat lamps a high risk. Most are poorly made, with short thin cords, poor connections to the fixture, unreliable attachment points for hanging, and just general cheap construction. In addition, farmers generally don't have a good place to install them because many of us plan to use them "temporarily" and don't have a permanent set up. Perhaps it has gotten cold so a lamp is quickly hung up in the corner of a stall to warm a newborn lamb or 100 chicks that have just arrived. This heat lamp hangs in the corner, attached with baling twine- an accident waiting to happen.

As I mentioned earlier, we have had two fires on our farm since we began in 1996. One was in a greenhouse brooder not attached to, but very close to, the barn. We discovered the fire after it was basically out. Apparently, a brooder lamp had fallen into the bedding. Luckily, aside from the shavings (on wet ground), there was very little to burn. PVC hoops and plastic are not very flammable. But most of the chicks were sadly killed. We felt very lucky that the fire had not spread to our main barn–just feet away. We moved our brooder facility away from the barn and soon after started using "Ohio Brooders" that use heat bulbs but not the hanging fixtures. Not only are they safer, but they can use less power because smaller wattage bulbs are required and are a much better way to warm the chickens.

The second fire happened a year ago last spring. We thought we had learned from our previous mistakes. We were using thicker bulbs, and better fixtures. But one of these must have had a frayed wire internally that shorted out without tripping the breaker. The wires melted and the bulb dropped into the very dry straw in one of our piglet brooder boxes. I believe it is pure luck that I looked out at the sow barn on the way in for lunch. It appeared that the loose snow was blowing off the roof, but as I stepped into the house I had second thoughts. Something didn't look right. I quickly realized I was seeing smoke, not snow, coming out of the eaves. I called back to the house, grabbed the fire extinguisher, and put out the fire. A few buckets of water finished it off. I fully believe that if I had eaten lunch, our sow barn would have burned.

To help prevent on-farm fires from heat lamps, I share the following recommendations from our experiences:

The best thing is not to use them. An exposed hanging hot bulb that is drying the bedding (tinder) below is always going to be a fire risk. Put in systems for your livestock that do not need the supplemental heat. This may include major paradigm shifts like having lambs later in the spring, or using mother hens to raise chicks instead of buying them. We, like most farmers, are not able (or willing) to completely eliminate a need for heat lamps so we must do everything we can to minimize the risk. At a minimum, turn them off as soon as you don't need them.

Don't use cheap poorly made heat lamps. Throw out all of those hardware store heat lamps. We have tried a half dozen types of heat lamps and have currently settled on one from Premier that costs about $40.00. It is completely enclosed and is said to be able to fall and not cause a fire. It has a thick long cord and the electrical connections are sealed.

Use hard glass bulbs–not the thin glass ones. We have switched over to using hard 175w bulbs form Farmerboy Ag. Supply. They are much less likely to shatter and we have developed different types of brooder boxes (for pigs and chickens) that stay warm without the need for a 250w bulb.

Secure them like they are permanent. Use chains and not twine. Keep them out of the way of livestock that can disturb them.

Upgrade your breaker panel. At the recommendation of an electrician we installed an "Arc Fault Interrupter" breaker for the circuits in our barns where we have heat lamps connected. Unlike our previous GFI breaker which failed to trip when the fixture sparked, this type of breaker is made to trip. The down side is these breakers cost about $40 instead of $4.00.

Use heat lamps in buildings that are isolated from other buildings. For us this means having small detached brooder buildings for our chickens and a specific building for our sows/piglets. This is much preferred to brooding in our main barn where we store all of our grain, hay, freezers, tools, and other livestock.

Put a smoke detector in all buildings with the potential of fire. A really loud one with an external speaker is recommended but a standard battery operated one with an annually changed battery is a minimum.

Have at least one fire extinguisher at main entrances of all buildings. In our main barn we have one at each end. We use commercial rechargeable extinguishers and check them annually for a full charge. Learn how to use one and have them clearly marked.

Review your insurance policy and make sure you know what coverage you do and don't have. You may think you have more coverage than you actually do and don't want any surprises when you really need it. We don't insure everything but we do insure what we don't want to self-insure.

AGRICULTURE

OSU Extension State-Wide Agriculture and Natural Resources Events

By Carri J. Jagger, Agriculture & Natural Resources Extension Educator

If you are interested in Agriculture and Natural Resources program for 2021, check out what Ohio State Extension has to offer. This link https://agnr.osu.edu/programming will take you to a list of events happening in the state in 2021. Most are virtual so that you can enjoy them from the safety and comfort of your own home.

Do you want to start your own vegetable seeds?

By Carri J. Jagger, Agriculture & Natural Resouces Extension Educator

As I sit here writing this article, looking out at the cold snowy day, I'm dreaming of warm days in the garden. March 20th will be the first day of spring. With that being said, it's time to start thinking about planning vegetable gardens. If starting a new garden, soil testing the site where the garden will go is a good idea. If it is an existing garden and the soil has never been tested, now would be a good time to think about testing it. Your local OSU Extension office can help you with soil testing.

Another gardening task to be thinking about is seed starting. Growing plants from seed is a lot of fun and now is the time to be doing this. Seeds can be started indoors under a grow light or in a bright window. A few seeds that can and should be started indoors early are: Tomatoes, Peppers, Eggplant, Broccoli, Brussel Sprouts, Cabbage, and Cauliflower to name a few. Tomatoes, Peppers and Eggplant should be started in February and the others can be started later in March.

A few supplies will be needed when starting seeds: Seed starting soilless mix, seed starting containers, labels, spray bottle, plastic wrap and seeds

When starting seeds special seed starting kits can be purchased, however creativity is more fun. A simple egg carton with popsicle stick labels will work, just make sure to poke holes in the egg carton for drainage. Place the seed starting mix in egg cartons or seed starting trays then pre-moisten the soil. Pick out seeds and poke them in the soil one seed per cell. Make sure to label the seeds so that it isn't a mystery when it's time to transplant them. Lastly cover the seeds with plastic wrap as this will create a mini greenhouse to help hold moisture and heat in the soil until the seeds germinate. Once the seeds germinate take the plastic wrap off and keep the container in a bright window or under grow lights. Trays may need to be turned if the plants start to stretch towards the light. Plants should also be given a little brush with your hand every day to help strengthen them up, this mimics the wind.

Once plants have gotten one set of true leaves transplant them to a lager container with one plant per container. When the temperatures start to warm up gradually introduce the plants to the outdoors where they will become hardened off.

For more information about seed starting visit: https://extension.unh.edu/resource/starting-plants-seed-fact-sheet

Baleage mistakes can lead to major health consequences

By Dr. Michelle Arnold, DVM (Ruminant Extension Veterinarian, UKVDL), University of Kentucky; Dr. Ray Smith, Department of Plant and Soil Sciences, University of Kentucky; Krista Lea, Department of Plant and Soil Sciences, University of Kentucky

(Previously published online with the University of Kentucky Cooperative Extension Service)

Baleage or "wet wrapped hay" is simply forage of a relatively high moisture content that is baled and then sealed in a plastic bag or wrapped in plastic, to keep oxygen out. Anaerobic bacteria (those that live without air) convert sugars in the forage to lactic acid which in turn lowers the pH and preserves the forage as silage, with full fermentation completed within 6-8 weeks. Round bale silage ("baleage") is an alternative to baling dry hay that allows shorter curing time and saves valuable nutrients by avoiding rain damage, harvest delays, spontaneous heating and weathering if stored outdoors. Grasses, legumes and small grains can be effectively preserved by this method but only if proper techniques are followed. Forages should be cut at early maturity with high sugar content, allowed to wilt to a 40-60% moisture range, then tightly baled and quickly wrapped in 4 to 6 layers of UV stable, 6-8 mm plastic to undergo fermentation ("ensiling" or "pickling"), a process that should drop the pH of the feed below 4.5 where spoilage organisms will not grow. Problems arise when conditions in the bale allow growth of disease-causing organisms and potentially fatal conditions.

Why do problems occur?

Forage cut at the wrong stage of maturity will not have enough fermentable carbohydrates for good ensiling. Coarse, stemmy, and overly mature forages have less sugars available for completion of fermentation, especially once the seed head has emerged. Small grains including rye, oats, wheat, triticale, and barley have a narrow harvest window and should be cut before the boot stage.

Lower bale density makes round bale silage more susceptible to entrapment or penetration of oxygen and increases the chance of air pockets within the bale. Tight, dense bales wrapped with plastic twine, net-wrap or untreated sisal twine are less likely to spoil.

Baling at the incorrect moisture content is a recipe for disaster. Wet or non-wilted forages are more likely to spoil; bacteria from the Clostridia family thrive in wet environments where forage moistures are in the higher 67-70% range. Greater than 70% moisture almost guarantees Clostridial growth and spoilage. Conversely, forage that is too dry does not ferment but has greatly increased mold production.

Baled silage is also more likely to spoil due to damage to the plastic covering, resulting in the harmful introduction of oxygen. It is important not to puncture the plastic; isolate the area from cattle, pests, and vermin. Anything that claws, bites, or otherwise punctures the plastic sets the feed up for spoilage.

What are the health risks?

Botulism

A disease caused by one of the most potent toxins known to man. This toxin is produced by Clostridium botulinum, a spore-forming anaerobic Gram + rod. These spores are found everywhere in the soil and contaminate baleage during harvest, often by raking up dirt. In the absence of oxygen (as is found in wrapped hay) and a pH greater than 4.5 (poor fermentation), the spores enter a vegetative state, multiply and produce toxin. Two forms of the toxin, Types B and C, cause health problems in cattle. Type B is associated with improperly fermented forage while Type C occurs from the accidental feeding of dead animals or poultry litter in the ration of cattle. Both types produce the same characteristic clinical picture in cattle of progressive muscle weakness leading to recumbency (downers) over a 2 to 5 day period of time, depending on the amount of toxin ingested. Signs may develop as early as 24 hours to as many as 10 days after ingesting the toxin. Death is due to paralysis of muscles of the diaphragm, dehydration, or complications from being a "downer".

Listeriosis or "Circling Disease"

An encephalitis caused by the bacterium Listeria monocytogenes. This organism proliferates in soil, feces and rotting vegetation. It grows in cool temperatures and at a pH greater than 5.4 under anaerobic conditions. It thrives in baleage systems when limited fermentation and entry of air results in spoiled, moldy feed. Common places to find Listeria include spoiled silage at the end of trench silos, decaying forage at the bottom of solid feed bunks, and rotting hay or baleage. A very common mistake by producers is feeding too many bales at once. Baleage that sits out open to the air over several days will begin to rot and spoil, allowing bacteria and molds to proliferate. In order to produce clinical disease, Listeria must survive the fermentation process which it can easily do if the pH never goes below 5. Large numbers of bacteria may gain access to the body through the mucous membranes of the mouth (through small cuts) and travel up the nerves to the brainstem. Fever, anorexia (off feed), depression and neurologic signs develop depending on which cranial nerves are affected. Neurologic signs include leaning to one side, stumbling, circling in one direction, facial nerve paralysis, drooling, difficulty chewing, drooped lower jaw, and head tilt. Early intervention with antibiotic therapy is often successful but, if the [animal] goes down (becomes recumbent), the odds of survival are low despite aggressive treatment. The prognosis for sheep and goats with listeriosis is poor with an approximate 25% survival rate. Infection with Listeria may also result in eye disorders and abortion. Anterior uveitis or "silage eye" follows conjunctival infection with L. monocytogenes. The symptoms are very similar to pinkeye with tearing, blinking, and sensitivity to light early in the course of disease followed by development of a bluish-white corneal opacity then pus and dead cells accumulate just behind the cornea in the anterior chamber. Treatment with long-acting antibiotics should speed healing. Listerial abortion can occur at any stage of pregnancy. The route of infection is through the GI tract into the bloodstream and then to the placenta causing fetal death.

Bacterial and fungal abortion

Abortion is yet another possible consequence of poorly preserved forages. Forage baled and wrapped too dry provides excellent conditions for germination and growth of a variety of yeast, molds, and bacteria. Fungal spores are spread throughout the body by the bloodstream after inhalation or ingestion. Germination and growth of fungal spores in the placenta results in abortion, typically in the last 1/3 of pregnancy. If submitted to a diagnostic laboratory, fungal lesions are almost always identifiable in the placenta. Not all molds are dangerous though; many bales will develop some white surface mold due to small holes in the plastic but it does not penetrate deep into the bale. This outer layer can be removed at feed out or [animals] will usually avoid eating these areas. Bacterial contamination of baleage results in similar abortion risks. Bacillus species proliferate in poor quality silage and are partly responsible for deterioration when air is allowed in the bale. Bacterial abortion due to Bacillus species occurs when cows ingest the organism which travels through the bloodstream to the uterus followed by growth of the organism in the placenta and fetus. In cattle, abortion may occur in the last month of pregnancy or calves may be born alive but die within 24 hours. Prevention of health problems from baleage is based on ensuring proper harvest and preservation of wrapped forages and maintaining proper feedout rates to reduce the risk of growth of organisms dangerous to [ruminant species].

AGRICULTURE

2020 Morrow County forage plot results

By Carri J. Jagger, Agriculture & Natural Resouces Extension Educator

Every year OSU Extension and the Morrow Soil and Water Conservation District plant research plots in the county owned field behind the jail and dog pound. In 2020 annual forage crops were planted and harvested for bailage. The objective was to compare three different annual forage grasses to see which ones performed best and contained the most crude protein, TDN and NDF.

Study Design

The area of the trial was 5 acres. Three species of summer annual forage crops (forage oats, teff grass and sorghum sudangrass) were planted with a John Deere 1590 no-till drill on July 31st and fertilized with MAP at 80 lbs/ac, potash at 61 lbs/ac, and urea at 48lbs/ac two weeks before we planted. The plots were mowed on September 30th and baled on October 3rd. Each bale was weighed and samples for forage tests were taken.

Observations

All species tested grew after wheat but the teff grass and sorghum sudangrass did the best. The teff grass could have been cut twice and if given a longer growing period the sorghum sudangrass could have had two cuttings, as well. Both are great options to plant after wheat if you need extra forage for livestock in the winter.

Summary

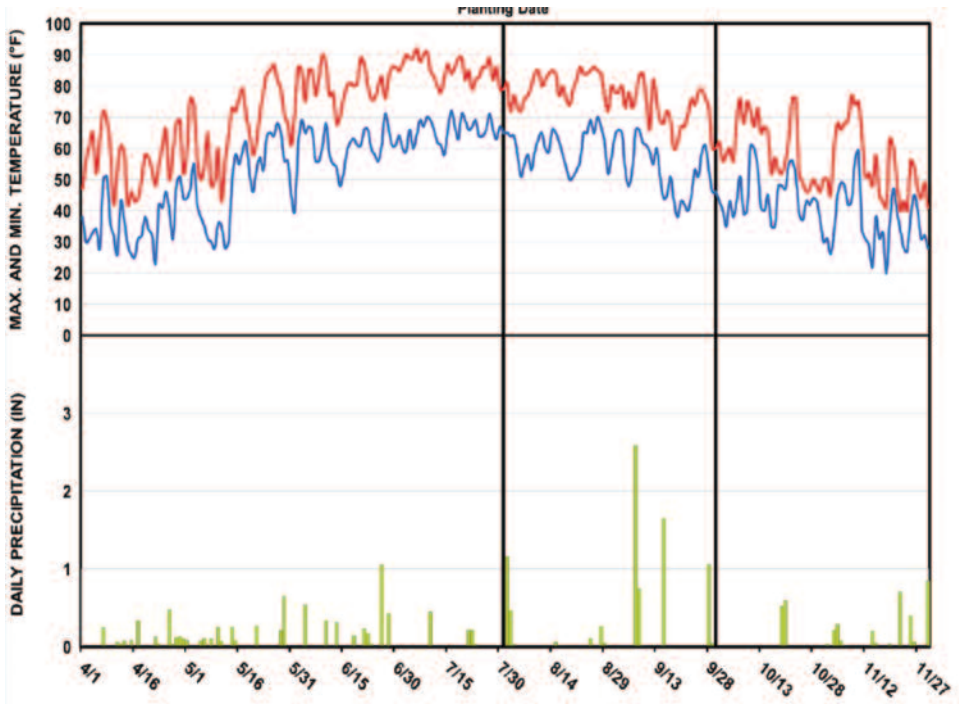
• A significant difference in yield was observed where the teff grass and sorghum sudangrass were over 2.5 times the yield of the oats.

• Crude protein was higher for the oats.

• Teff grass produced the highest energy or TDN, followed by sorghum then by oats.

• Based on crude protein, total digestible nutrients, relative feed values and dry matter any of these species would be acceptable as forages. The key is to plant what works best for your operation.

The complete information will be printed in the 2021 Ohio State eFields report. If you have any questions don't hesitate to give us a call to further discuss our research.



Oats in the forage plot

STUDY INFORMATION

Planting Date	7/31/2020
Harvest Date	9/30/2020
Variety	See Treatments
Population	10-50 lbs/ac
Acres	5
Treatments	3
Reps	4
Treatment Width	60 ft.
Tillage	No-Till
Management	Fertilizer, Herbicide
Previous Crop	Wheat
Row Spacing	7.5 in.
Soil Type	Centerburg Silt Loam, 74% Amanda Silt Loam, 15% Bennington Silt Loam, 11%

Growing Season Weather Summary

	APR	MAY	JUN	JUL	AUG	SEP	Total
Precip (in)	1.98	2.18	3.28	0.96	2.21	6.15	16.76
Cumulative GDDs	110	450	4063	1833	2452	2874	2874

Growing degree-days (GGDs), while not perfect, are a more reliable method of predicting crop and insect development than calendar days. Differing threshold temperatures and beginning accumulation dates are used to determine accumulated heat units for different crops.

RESULTS

Treatments	Crude Protein (%)	TDN (%)	NDF (%)	Yield (tons/ac)
Oats	17.6	47.2	65.7	0.51 b
Teff Grass	11.3	64.1	61.1	1.25 a
Sorghum Sudangrass	11.3	54.0	65.4	1.38 a
Treatment Means with the same letter are not significantly different according to Fisher's Protected Least Significant Differences (LSD) test at alpha = 0.1.				LSD: 0.29 CV: 20.52%

Good Agricultural Practices Trainings

The OSU Produce Safety Team has two more online Good Agricultural Practices (GAPs) trainings scheduled this winter. The first one was held in January. These programs are free to attend.

You can find more information at produce-safety.osu.edu/events. Registration links are available for each event:

• Feb 18, 6:00-9:00pm: register at https://go.osu.edu/gapstraining2-18

• Mar 18, 6:00-9:00pm: register at https://go.osu.edu/gapstraining3-18

4-H NEWS

4-H General Information

The Ohio 4-H Planning Guide for In-Person Meetings & Events

The Ohio 4-H Planning Guide for In-Person Meetings & Events has been updated with new information as of January 13th. As you plan your 4-H club meetings find the guidelines at https://ohio4h.org/families/stay-connected. Remember: virtual meetings are preferred, face masks are required and local guidelines must be followed.

Announcements from State 4-H Program - January 13, 2021

As we begin the new year, the Ohio 4-H Planning Guide for In-Person Meetings & Events has been updated to reflect current guidance from Ohio State University and health officials.

Beginning SATURDAY, JANUARY 16, 2021, the following is in effect:

- Hosting virtual meetings and events is preferred
- If activities are critical/essential and are in-person, they must be education-focused
- Group cannot be larger than 50 people, including adults, youth, presenters, etc.
- This directive is dependent on local health department guidelines.
- The group size may need to be reduced to 10 (or other amount), based on directives from your local health department.
- Face masks are required inside and outside at all times
- Potlucks and buffets are not permitted

Find details and updated guidelines at https://ohio4h.org/families/stay-connected.

As part of an academic institution, we follow science and model what the CDC, Ohio Department of Health and other experts stress is important in addressing this virus. All 4-H volunteers are expected to follow these guidelines regarding 4-H meetings and events. Volunteers who are not in compliance will receive a first warning. A second incident disregarding our effort to protect the health, safety and well-being of members, families and communities will result in immediate termination of volunteer status.

OSU Extension offices will be open based on the current Ohio Public Health Advisory System. If a county is purple or approaching purple, OSU Extension offices will be closed and employees will be working virtually. If a county is red, OSU Extension offices will be staffed by appointment only. You will need to call in advance to schedule a time to go to the office. Please note there may be additional guidelines from county health departments.

Pies, Candy, and Cookies Oh My!! County 4-H Projects!

Did you know we have Morrow County only 4-H projects? When filling out your enrollment forms don't forget to consider these county projects not listed in the State 4-H Family Guide. Morrow County created and recently revised these projects from members/advisors/parents suggestions and needs. These are beginning level projects with the basics to making pies, candy and cookies. They all have project books and are free to members!

1002 - Pies
1005 - Candy
1007 - Cookies

Ohio 4-H Cloverbot Challenge

The Ohio 4-H Cloverbot Challenge gives 4-H Cloverbuds the opportunity to work cooperatively in teams to problem-solve using STEM skills. A new theme is selected each year and teams research a topic, build a working model of their solution to the Challenge issue and create a poster to illustrate their findings. The annual challenge is posted to the website each year in February. https://ohio4h.org/families/cloverbuds/cloverbot-challenge

Let's Recognize Our Outstanding 4-H Teens!

We will be recognizing several teens during the month. Do you have a teen you think deserves to be recognized? Fill out this quick three question survey or send us an email to nominate them!

Nominations from 4-H volunteers only please. For teens ages 13 and older.
Reasons to nominate: extra effort, excellent project demonstration, great leadership, tried new things, club officer role, positive role model, project work, etc.

https://go.osu.edu/4hteenoftheweek **Email: barker.157@osu.edu**

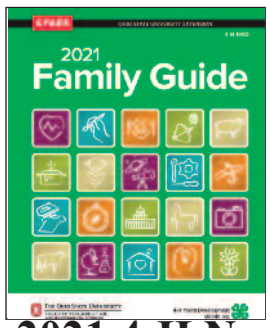
A Reminder of 4-H Membership Eligibility

Just a reminder and clarification on membership eligibility for 4-H members.

- Youth may join the cloverbud program (Non project/activity based) when they are in kindergarten and five years old as of January 1, 2021.
- Youth may begin taking 4-H projects when they are 8 years old and in the 3rd grade. OR

Any youth age 9 or above is eligible for projects, regardless of grade level as of January 1, 2021.

- The last year of 4-H eligibility is the year in which a youth turns 19 years old (example: if you turned 19 years old on July 12, 2020 your last year in 4-H was in 2020).



4-H Family Guides in the Mail!!

Coming soon to your mailbox will be your 2021 Ohio 4-H Family Guide!!

4-H members and volunteers for 2020 will be receiving this mailing for the 2021 4-H Enrollment! So start checking it out and pick your projects! Information will be shared soon to how to enroll!

2021 4-H New Volunteer Training Opportunities

New Volunteer Trainings (mandatory for new volunteers, but open to all current volunteers):

- Tuesday, February 16th, 6:30 p.m., RSVP by the Feb. 15th
- Monday, March 15th, 9:00 a.m., RSVP by March 16th
- Monday, March 15th, 6:30 p.m., RSVP by March 16th
- Monday, April 12th, 6:30 p.m., RSVP by April 11th (last new volunteer training for the 2021 4-H year)

Location: OSU Extension – Morrow County Office Small Conference Rm.

Trainings are in person if Covid guidelines allow, otherwise they will be a Zoom training.

You must RSVP the day before!! Call 419-947-1070 or email barker.157@osu.edu

I will not have the session if I do not have anyone RSVP!!

If you must cancel please call our office as soon as possible!

Morrow County 4-H Camp Dates!

The 2021 4-H Camp dates are scheduled for July 9-13th. Note: We are waiting on allowance/guidance from the State 4-H Program/Ohio State University for camp.

Please keep watching for our updates after May 1st regarding camp.

Thinking of Starting a 4-H Club or Just Volunteering?

Do you have special talent or interest that you want to would love to teach kids about? 4-H is more than 4-H clubs.

Contact Becky Barker for more information. barker.157@osu.edu or 419-947-1070

Shooting Sports Camp Counselors wanted!

Camp counselor applications for the 2021 Ohio 4-H Shooting Education Camps are now available. No Shooting Sports experience required, but training as a camp counselor is required.

Youth must be 14 as of Jan. 1 for Junior Shooting Sports Camp and at those who are at least 16 may be considered for Senior Shooting Sports camp; alumni encouraged to apply.

Find the application at go.osu.edu/shootingsportscounselor

Celebrate Ohio 4-H Week

As clubs get started for the 2021 4-H Year, consider doing something to celebrate "Ohio 4-H Week" held March 7th – 13th.

How about a display in a business highlighting your members? A promotional display to join 4-H? Donating items/dollars to a worthy cause or organization? Send an article to the newspaper? Post to Facebook why you love 4-H! The ideas are endless!!!

4-H NEWS

4-H General Information

Attend the Ohio 4-H Virtual Conference

The 2021 Virtual Ohio 4-H Conference will bring together 4-H volunteers and teens (age 13 and older) from across Ohio. You can participate in a variety of educational sessions that offer something for everyone! Join us as we learn from one another to make the best better for Ohio 4-H programs.

When: Virtual sessions will start at 9:00 a.m. on February 20 and 7:00 p.m. on February 23 & 25. (You pick and choose the sessions and days you would like to attend)

Deadline: Friday, February 12, 2021

Cost: $0

Location: Virtual

The registration booklet and registration can be found at: www.go.osu.edu/2021O4HC.

Thank You Jr. Fair Building Fund Donors for 2020!

Thank you to the following for their donations to the Jr. Fair Building Fun in 2020:

- Russ Mayer
- Robert Creswell
- Dee Rush

Congratulations - New 4-H Reps Selected To 2021 Junior Fair Board

Congratulations to the following who have been chosen to be part of the 2021 Junior Fair Board:

- Cooper Brown
- Travis Fox
- Cadie Hamilton
- Savannah Hiett
- Emily Matix
- Jada Mullins
- Kegan Searls
- Allison Sheriff
- Darren Styer
- Andrew Weber

2021 OSU Virtual Junior Swine Day

The 2021 OSU Virtual Junior Swine Day will be held Saturday, February 20, 2021 from 9:00 a.m. - 12:30 p.m.

Registration information can be found at this link: www.go.osu.edu/jsd2021

The Agenda for the Day:

9:00 a.m. - Welcome

Evaluating and Selecting Your Pig Project (Video evaluating pigs): A.J. Genter, Archbold, OH and Justin Rodibaugh, Rensselaer, IN

Nutrition and Feed Management: Dr. Joel DeRouchey, Swine Nutritionist, Kansas State University

Meat Science: Dr. Steve Moeller, OSU Swine Extension Specialist

When Science and Pig Shows Collide: Dr. Andy Bowman, OSU Veterinary Preventive Medicine

Vaccinations/Pig Health: Dr. Todd Price, North Central Vet Services, Sycamore, OH

Showmanship (Video with interviews and showmanship discussion): Kelly Morgan, Manager of Showpig Programs, Ohio Pork Council

12:30 p.m. - Wrap Up and Answer Questions

Registration Information: After you fill out the registration form you will receive an email confirming your registration. An additional email will be sent to you 48 hours prior to the event which will contain the Zoom Link and password that are needed to view the Virtual Jr. Swine Day. Please register once per household.

Cost: Jr. Swine Day is free of charge

Registration Deadline is Wednesday, February 16, 2021

Virtual Jr. Swine Day will not fulfill your requirement for Quality Assurance.

For more information, contact Dale Ricker (ricker.37@osu.edu)

Project Enrollment for 4-H and FFA Members and Showing Animals at the State Fair

4-H members must be enrolled in their county in the project in which they enter to show at the Ohio State Fair Junior Livestock Shows (including poultry, rabbits, and dogs), regardless of whether that project is offered for county exhibition.

(1) For example: To show in a gilt class at the Ohio State Fair, youth must be enrolled in project 140 Swine Breeding Project and Record Book.

(2) For example: To show a dairy feeder at the Ohio State Fair, youth must be enrolled in project 117DF Dairy Beef Feeder (Market);

(3) For example: To show breeding poultry (chickens) at the Ohio State Fair, 4-H members must be enrolled in project 150CE, Exhibition Chickens; to show breeding poultry (ducks), they must be enrolled in project 150DE, Exhibition Ducks, and so forth. (4) For example: To show a dog in agility at the Ohio State Fair, 4-H members must be enrolled in project 201P, Performance; to show the same dog in obedience, project 201O, Obedience, etc.

FFA members must enter to show at the Ohio State Fair the same animal project they are taking through their Supervised Agricultural Experience (SAE). (1) For example: To show a market lamb at the Ohio State Fair, FFA members must be taking market lambs as one of their Supervised Agricultural Experiences. For example: (2) To show a beef breeding heifer at the Ohio State Fair, FFA members must be taking breeding beef as one of their Supervised Agricultural Experiences.

Note: The same animal cannot be enrolled in two projects in the county (exception dog projects and 4-H PetPALS), with the youth planning to enter one or the other project at the Ohio State Fair. Decisions must be made by project enrollment deadline or county's animal identification deadline (whichever comes first).

(1) For example: A youth is not permitted to enroll the same beef animal in a breeding project (117B Beef Breeding) AND in a market project (117M Market Beef).

(2) For example: A youth is not permitted to enroll the same rabbit in a pet rabbit project (Pet Rabbit Project and Record Book 227) AND in a breeding rabbit project (Breeding Rabbit Project and Record Book 225). She/he must choose which project in which to enroll that animal by county deadlines for that species.

(3) Exception dog projects: For example: Youth may enroll the same dog in multiple dog projects such as in You and Your Dog (201D); Obedience (201O); Performance (201P) and Showmanship (201S) provided that dog can perform the required exercises of each project at the Ohio State Fair. (4) Exception: 4-H PetPALS: Youth may enroll in a pet rabbit project (225) and 4-H PetPALS (230), or 150CE Exhibition Chickens and 230 4-H PetPALS, etc. with the same animal.

Animal Project Born By/Hatch Dates

A complete list of requirements in your 4-H Family Handbook or found on the http://morrow.osu.edu "4-H Youth Development – Livestock Information"

Listed are our fair requirements for some of the animals born/hatched early in 2021.

Mandatory possession for these projects, all breeding type projects and horses is June 1st.

- Market Feeder Calves - Born January 1 to April 1
- Market Hogs - Farrowed/Born after February 1st (ideally born mid-February – mid March)
- Market Goats - Born after January 1
- Market Lambs - Under 1 year of age by fair
- Breeding Poultry – Under 1 year of age by fair

Dogs Project Possession by April 1st

If members are taking or planning on taking any of the 4-H Dog Projects, the member is required to have physical possession by April 1. Also be sure to check with and receive from the Extension Office a veterinarian form to keep your dog up to date on shot requirements.

FAMILY & CONSUMER SCIENCES

Be Strong @ Heart with Sleep!

By: Candace J. Heer, Extension Educator, Family and Consumer Sciences, Ohio State University Extension, Morrow County, heer.7@osu.edu

Most of us LOVE a great night sleep. Why is sleep necessary? Can you name a heart problem due to chronic sleep deprivation? Do you know how to get heart healthy sleep? What does sleep and the heart have in common?

Sleep is essential because it allows your body and mind to rest and repair itself. While resting your body is processing daily information before being stored in long-term memory, strengthening your nervous system function and brain by repairing your nerve cells, and increasing production of proteins needed for cell growth. Quality sleep is necessary to keep your immune system strong and healthy, supply you with energy for another day. Your need for sleep changes as you age. The table on the right shows you the recommendations from the CDC.

The heart pumps blood throughout your cardiovascular system so oxygen and vital nutrients can reach your organs and tissues. When you do not get enough sleep, your cardiovascular system is affected. If the heart is not allowed to perform its job your health is compromised leading to serious health conditions which can hurt your heart.

Sleep Apnea and Insomnia are sleep disorders, along with sleep deprivation which affect the heart.

Sleep Apnea

- A dangerous condition in which "a person's breathing repeatedly starts and stops during sleep" affecting your oxygen level while you sleep.
- More than 22 million Americans are affected by sleep apnea and suffer from lack of restorative sleep.
- Types of sleep apnea include mild, obstructive sleep apnea (OSA), and central.

Insomnia

- A person's inability to get quality or enough sleep through difficulty falling asleep, staying asleep or waking too early in the morning.
- Affects 10-15% of the population with almost 44% of people with heart problems reporting insomnia.

Sleep Deprivation

- Occurs when a person does not get the sleep they need.
- Affects approximately one-third of American adults.
- Chronic sleep deprivation is linked to the following heart problems: Coronary Heart Disease, Heart Failure, Heart Attacks, Heart Rate, Chest Pain

Heart healthy sleep starts with knowing how much sleep you need; then recognize if you have a sleep problem. If you are not sleeping well connect with a medical professional. Finally, follow up and follow through with recommended treatment for the sleep problem.

The answer to what sleep and the heart have in common is YOU! It is all about you, your heart, and your sleep. For me, my diagnosis of mild sleep apnea over 20 years ago made me mindful of my sleep and the changes I needed to make for my heart and overall health. Changes such as how I sleep (no longer on my back), how much sleep I get each night (6.5-8.5 hours) and planning for sleep (getting ready for bed around 9:30 PM). For my father he chooses to sleep using a Continuous Positive Airway Pressure (CPAP) Therapy for his Obstructive Sleep Apnea. He states this helps him sleep better and helps my mother sleep better too. Do yourself a lifelong favor, make sleep a priority and be strong at heart.

CDC Sleep Recommendations by Age

Age Groups	Age	Recommended Hours of Sleep per Day
Newborn	0-3 months	14-17 hours (National Sleep Foundation), no recommendation (American Academy of Sleep Medicine);
Infant	4-12 months	12-16 hours per 24 hours (including naps);
Toddler	1-2 years	11-14 hours per 24 hours (including naps);
Preschool	3-5 years	10-13 hours per 24 hours (including naps);
School Age	6-12 years	9-12 hours per 24 hours;
Teen	13-18 years	8-10 hours per 24 hours;
Adult	18-60 years	7 or more hours per night;
Adult	61-64 years	7-9 hours
Adult	65 years and older	7-8 hours

Tips for Better Sleep

Good sleep habits (sometimes referred to as "sleep hygiene") can help you get a good night's sleep.

Some habits that can improve your sleep health:

Be consistent. Go to bed at the same time each night and get up at the same time each morning, including on the weekends

Make sure your bedroom is quiet, dark, relaxing, and at a comfortable temperature

Remove electronic devices, such as TVs, computers, and smart phones, from the bedroom

Avoid large meals, caffeine, and alcohol before bedtime

Get some exercise. Being physically active during the day can help you fall asleep more easily at night.

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What Should I Do If I Can't Sleep

It's important to practice good sleep habits, but if your sleep problems continue or if they interfere with how you feel or function during the day, you should talk to your doctor. Before visiting your doctor, keep a diary of your sleep habits for about ten days to discuss at the visit.

Include the following in your sleep diary, when you—

Go to bed. Go to sleep. Wake up. Get out of bed. Take naps. Exercise. Drink alcohol. Drink caffeinated beverages.

Also remember to mention if you are taking any medications (over-the-counter or prescription) or supplements. They may make it harder for you to sleep.

Food Safety Manager Training

OSU Extension-Morrow County offers in-person manager level training for food service managers, operators, and owners with accurate, up-to-date information on all aspects of handling food, from receiving and storing to preparing and serving.

Upon successful completion of the course and exam, participants receive a ServSafe® Certificate and an Ohio Department of Health Food Protection Certificate. You must attend the entire training to take the exam.

- In-person Class Series Dates: March 8, 15, 22, 29 (exam)
- Time: 9 a.m. – 3 p.m.
- Fee per person: $75 for business located in Morrow County (offset by levy funds) and $150 for business located outside of Morrow County
- Register online at this link: https://go.osu.edu/registration-foodsafetymanager-march2021 OR

Register by contacting our office at: 419-947-1070

- Payment to guarantee your registration is required by: March 1, 2021
- Contact for questions: Candace Heer at 419-947-1070 or heer.7@osu.edu

FAMILY & CONSUMER SCIENCES

Are these coronavirus vaccines safe? An expert weighs in

January 2021: https://insights.osu.edu/health/covid-19-vaccine-safety

During four decades of work on coronaviruses, Linda Saif — a faculty member in Ohio State's Food Animal Health Research Program within the College of Food, Agricultural and Environmental Sciences (CFAES) — has been involved in many of the veterinary coronavirus vaccines for animals.

The COVID-19 vaccines that received Emergency Use Authorization in December are the first to be approved for use in humans, even though seven coronaviruses have been identified in humans throughout history.

A member of Ohio State's Infectious Diseases Institute (IDI), Saif recently discussed COVID-19 vaccine development during an IDI Symposium in early December. Following the discussion, Saif provided more answers to questions for Insights.

Q Are these vaccines safe?

A Based on the available data accumulated in the animal studies and then the phase I-III human clinical trials, the current vaccines appear to be safe and effective. The safety and effectiveness vaccine data have been carefully reviewed by both the Food and Drug Administration scientists and an FDA vaccine advisory committee of highly qualified physicians and scientists.

The advisory committee review proceedings were open to the public and can be accessed on the FDA website. Such reviews are rigorous and science-based, so they should instill confidence that in spite of the name Warp Speed, the vaccines are being evaluated based on safety and scientific merit.

There may be a warning based on recent data from the BioNtech/Pfizer vaccine that it be administered to anyone with severe allergies in a setting allowing for monitoring and rapid treatment of any severe allergic reaction if needed. Concerns about such possible allergic reactions are also often included for other vaccines as well, such as certain influenza vaccines (egg allergies).

Q Some populations have not been involved in the clinical trials, correct? What could that mean for those people?

A This is true for children and pregnant women who were not included in the clinical trials. For both the BioNtech/Pfizer and Moderna vaccines, more limited numbers of older individuals as well as adolescents were included in the clinical trials.

Based on the available data, both vaccines will be given to the elderly, with more data forthcoming as vaccines are used in this group. BioNtech/Pfizer was approved for adolescents over 16, and Moderna was approved for only those over 18 based on the volunteers they enrolled in this category.

As for pregnant women who were excluded in the trails, they would need to consult with their doctors about whether to take the vaccines and if the benefits might outweigh the potential risks. Additional data will be needed to confirm safety and effectiveness in pregnant women.

Before this vaccine could be given to children there will need to be clinical trials in this age group. Also most vaccines are tested for safety in adults first before being tested in children, and there is a decreasing age scale used for the initial testing of children.

Q Will those vaccinated still need to wear masks?

A Yes, for several reasons.

First, although the vaccines have been tested for their ability to prevent COVID-19, it is unclear if they prevent infection, especially of the upper respiratory tract, which could lead to nasal shedding and possibly asymptomatic transmission of virus to others. If this is the case, then it could be possible that vaccinated individuals still might transmit the virus to others.

However in such cases the amount of virus shed is likely reduced, so hopefully it may not be enough for effective virus transmission, especially if accompanied by universal mask wearing. Also, we still do not know how long either natural or vaccine-induced immunity will last, which is an important issue to maintain a critical level of immunity in the population to prevent reinfection.

Second, because the vaccine is not 100% effective and not all individuals will elect to receive the vaccine or are unable to receive it (pregnant women, infants, immunocompromised, etc.), and not all the population will be vaccinated at once, many people will remain susceptible and capable of transmitting the virus.

Due to limited vaccine availability, it is estimated it will take months to vaccinate even those high-risk groups eligible to receive the vaccines.

It is estimated that around 50% to 70% of the population (about 165 to 230 million in the United States) need to acquire immunity induced by the vaccine (or natural infection) for the pandemic to be finally controlled. This estimated level of herd immunity is also important because this means that if enough people get vaccinated so that herd immunity is induced, this will also protect those in the population who are unable to be vaccinated due to health/age status, etc.

Therefore, continued use of masks, handwashing and social distancing remain essential, even as vaccines are being used. It is up to the public and each individual to accept and get both doses of the vaccines and maintain these public health mitigation measures if we are finally to succeed in ending the pandemic.

Q Are these vaccines reason for optimism?

A The vaccines are a great cause for optimism because they chart the way out of the pandemic by more rapidly inducing immunity and preventing disease and deaths in the population.

However, unless they can be scaled up and provided at low cost worldwide, it is likely that pockets of susceptibility would remain that could fuel the continued global outbreak. This is why international collaboration and cooperation such as through COVAX, WHO and initiatives through the Bill and Melinda Gates Foundation and others in bringing vaccines to all countries is critical to stem the pandemic worldwide.

It is also important to remember that when there are clusters of resistance to vaccine use among unvaccinated people, the virus can continue to circulate in these groups and then reemerge in the general population as immunity wanes. The recent measles outbreaks that started in unvaccinated populations and then spread outside these groups are good examples.

Join the Strong @ Heart email challenge!

- Do you want to learn more about heart health in a fun way?
- Sign up for the Ohio State University Extension's award-winning, Live Healthy Live Well 6-week email wellness challenge, Strong @ Heart.
- I will send you two weekly emails from February 1 – March 15, 2021.
- What is the cost? It is **FREE**!!
- **Who can participate?** Any adult with an email account.
- **How do I sign up?** You can register with this link: go.osu.edu/LHLWMorrow
- Registration ends February 7.
- Contact Candace Heer at 419-947-1070 or heer.7@osu.edu if you have questions.
- Be Healthy, Be Well, and Be Strong @ Heart!

FAMILY & CONSUMER SCIENCES

Chow Line: Healthy ways to improve immunity

By: Tracy Turner, turner.490@osu.edu

As we go into the winter months and illness chances increase, what can I do to boost my immune system?

Your question is on the minds of many consumers, as more people have been reaching for vitamin supplements and seeking out healthy foods to improve their immune system amid the COVID-19 pandemic. In fact, 77% of consumers say they want to eat healthier to boost their immunity during the pandemic, according to a study by Archer Daniels Midland, a Chicago-based, food-processing company.

Building and maintaining a healthy immune system starts with focusing on good nutrition, said Beth Stefura, a family and consumer sciences educator for Ohio State University Extension. OSU Extension is the outreach arm of The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES).

"Our body's ability to fight infection and disease depends on our immune system," she writes in Live Well and Boost Your Immune System, a blog post at the Live Healthy Live Well website. "Eat well by choosing nutrient-rich foods," she adds.

The site, which can be found at livehealthyosu.com, is a free information resource that offers science-based consumer information and insights. It's written by OSU Extension educators and specialists in family and consumer sciences who promote health and wellness.

In the blog post, Stefura lists multiple foods that can help boost your immune system, including foods rich in:

• **Vitamin D,** which plays a wide variety of roles in boosting the immune system, including helping the body absorb calcium, which builds strong bones and prevents osteoporosis. Your muscles, nerves, the immune system, and many other bodily functions all require vitamin D to do their jobs properly. Good food sources of vitamin D include fortified milk and fortified orange juice; fatty fish such as salmon, tuna, and mackerel; eggs and egg yolks; mushrooms; beef liver; cheese; and fortified breakfast cereals.

• **Vitamin C,** which is essential for the growth and repair of tissue throughout the body. Good food sources of vitamin C include kiwi, broccoli, tomatoes, berries, Brussels sprouts, cantaloupe, cauliflower, grapefruit, honeydew, kale, mango, nectarine, orange, snow peas, sweet potato, and strawberries. Red, green, and yellow peppers are also great sources of vitamin C.

• **Beta carotene,** which studies suggest may enhance immune cell function and has been shown to strengthen the body's infection-fighting methods. Good sources of beta carotene include carrots, sweet potatoes, winter squash, mango, tomatoes, beets, broccoli, cantaloupe, green peppers, kale, mangoes, turnip and collard greens, nectarines, peaches, and watermelon.

• **Zinc,** which helps the immune system fight off invading bacteria and viruses and is key to optimal immune function. Foods containing zinc include red meat, seafood, sunflower seeds, pumpkin seeds, oysters, poultry, beans, nuts, whole grains, and some fortified cereals.

Stefura also says that minimizing your intake of sugar, processed foods, and alcohol, as well as managing stress and getting enough sleep is key to boosting your immune system.

Photo: Getty Images

"Lack of sleep contributes to a variety of health concerns, including a weakened immune system," she writes. "Seven to nine hours is recommended each day for adults, and children need eight to fourteen hours depending on their age."

Chow Line is a service of The Ohio State University College of Food, Agricultural, and Environmental Sciences and its outreach and research arms, Ohio State University Extension and the Ohio Agricultural Research and Development Center. Send questions to Chow Line author Tracy Turner, 364 W. Lane Ave., Suite B120, Columbus, OH 43201, or turner.490@osu.edu.

LOL - Laugh Out Loud…for your heart!

By: Dr. Roseanne Scammahorn, Extension Educator, Family and Consumer Sciences, Ohio State University Extension, Darke County, Scammahorn.5@osu.edu

https://livesmartohio.osu.edu/mind-and-body/scammahorn-5osu-edu/lol-laugh-out-loud-for-your-heart/

I have been reading a lot about the benefits of laughter. One surprising benefit of laughter is a healthier heart! Laughter affects your nervous system, boosting your serotonin, dopamine, and endorphin levels, but also it can be a great workout for the immune, lymph, and cardiovascular systems.

When you laugh, your heart rate increases and the amount of oxygen in your blood increases due to the deep breaths involved with laughter. This can improve your vascular function and decrease your risk of heart attacks. As you improve your vascular function and circulation, you also reduce your risk of being diagnosed with heart disease.

Laughing has been shown to reduce stress and pain levels. The act of laughing stimulates hormones called catecholamines, which release endorphins into your body. Endorphins help to counteract cortisol, a stress hormone, and help to relax your muscles. Relaxing can help to lower your blood pressure, decrease your anxiety levels, and boost your mood. Researchers at Michigan State University found that a good laugh can "relieve physical tension in the body and relax the muscles for up to 45 minutes."

So go ahead and give it a try! Read the comics in the Sunday paper, watch your favorite comedy show, spend time with people who make you laugh, or just turn your frown upside down and laugh.

Your heart will thank you!

OSU EXTENSION CALENDAR OF EVENTS

FEBRUARY 2021

1 Jr. Fair Board, 7 pm, Flying Horse Farm
2 Advisor Club Kick Off meetings – Virtual
3 Morrow County Cattlemen's Meeting, 6:30 pm, Ag Credit 2nd Floor Conference Room
4 Advisor Club Kick Off meetings - Virtual
11 Pork Producers 7 pm, Ag Credit 2nd Floor Conference Room
15 2021 Planning For The Future of Your Farm Webinar Workshop – Virtual *(see Article in the Ag Section)*
15 Pesticide/Fertilizer Applicators Recertification, 5:30-9:30 pm, Ag Credit 2nd Floor Conference Room (please call to register – 419-947-1070)
16 New 4-H Volunteer Training, 6:30 pm, RSVP Required
16 Small Ruminant Webinar Series *(see Article in the Ag Section)*
17 Master Gardeners Meeting, 6 pm, Ag Credit 2nd Floor Conference Room
18 Horse and Pony Committee Meeting, 7:30 pm
18 Good Agricultural Practices (GAPs) Training – Virtual *(see Article in the Ag Section)*
22 2021 Planning For The Future of Your Farm Webinar Workshop – Virtual *(see Article in the Ag Section)*
25 Pesticide/Fertilizer Applicators Recertification, 1-5 pm, Ag Credit 2nd Floor Conference Room (please call to register – 419-947-1070)

MARCH 2021

1 Jr. Fair Board, 7 pm, Flying Horse Farm
1 2021 Planning For The Future of Your Farm Webinar Workshop – Virtual *(see Article in the Ag Section)*
3 Morrow County Cattlemen's Meeting, Ag Credit 2nd Floor Conference Room
3 Private Pesticide Applicator Exam, 9 am & 1 pm – Must pre-register
11 Pork Producers, 7 pm, Ag Credit 2nd Floor Conference Room
15 New 4-H Volunteer Training, 9 am, RSVP Required
15 New 4-H Volunteer Training, 6:30 pm, RSVP Required
16 Small Ruminant Webinar Series *(see Article in the Ag Section)*
17 Master Gardeners Meeting, 6 pm, Ag Credit 2nd Floor Conference Room
17 Private Pesticide Applicator Exam, 9 am & 1 pm – Must pre-register
18 Horse and Pony Committee, 7:30 pm
18 Good Agricultural Practices (GAPs) Training – Virtual *(see Article in the Ag Section)*
29 CARTEENS, 6:30 pm – Ag Credit 2nd Floor Conference Room

APRIL 2021

5 Jr. Fair Board, 7 pm
7 Morrow County Cattlemen's Meeting, 6:30 pm, Ag Credit 2nd Floor Conference Room
8 Pork Producers, 7 pm, Ag Credit 2nd Floor Conference Room
12 New 4-H Volunteer Training, 6:30 pm, RSVP Required
15 Horse and Pony Committee, 7:30 pm
19 Livestock Sale Committee, 7 pm, Ag Credit 2nd Floor Conference Room
21 Master Gardeners Meeting, 6 pm, Ag Credit 2nd Floor Conference Room
30 4-H Project Enrollments Due!!!!!