SINCE 1894

AgriNaturalist

COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Spring 2019 | Volume 125

Prioritizing Farmers' **Mental Health**

AgriNaturalist: *Then and Now*

Luke Bryan Rocks **Ohio Farm**

THERE'S NO PLACE LIKE HOME

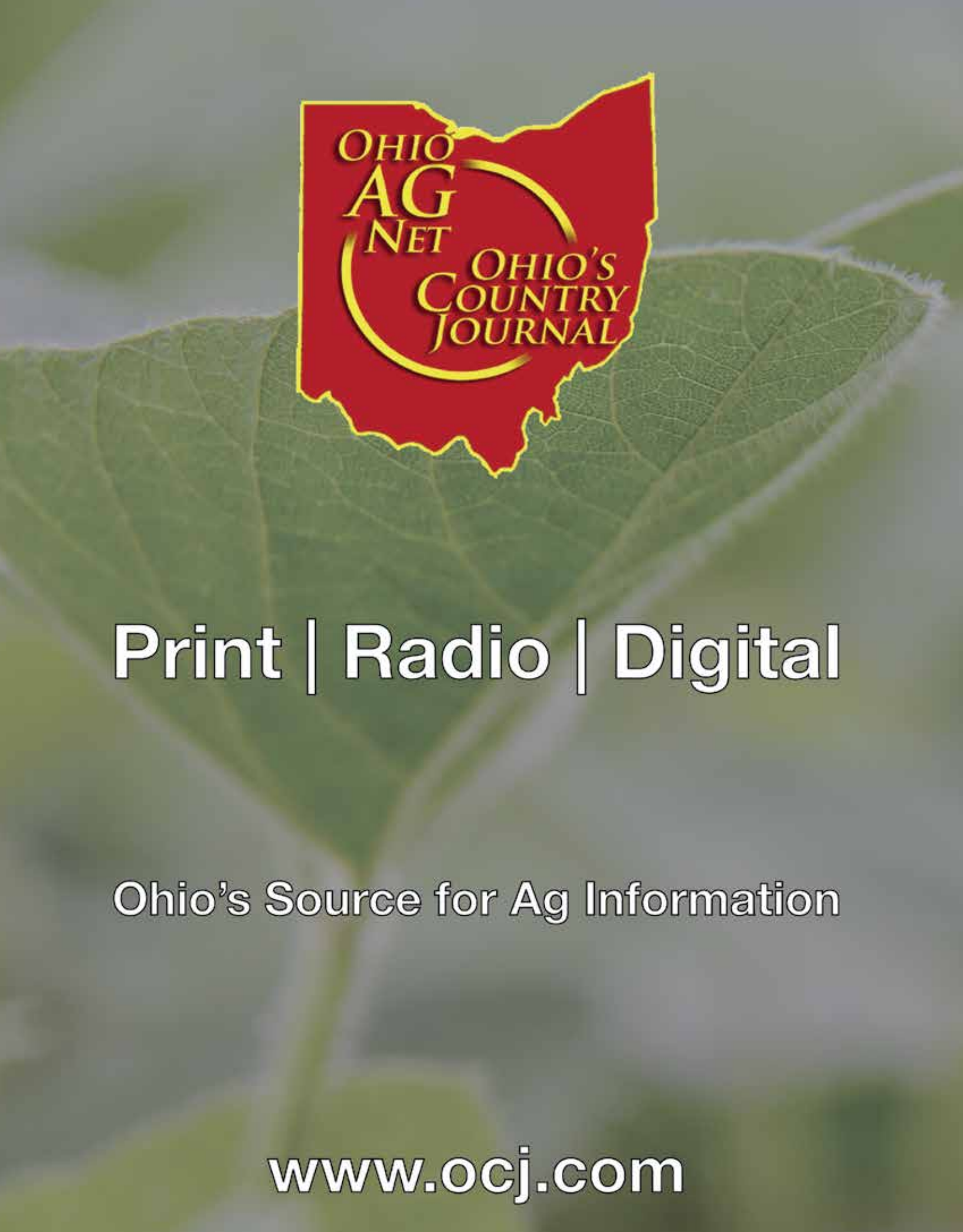
SMALL TOWN VALUES ON A BIG CITY CAMPUS

Finding a home on a large campus like Ohio State can be daunting. Our Fraternity is named FARMHOUSE after the old rural homes of America known for strong family bonds. Grounded in 9 foundational values, ours is a home of Brothers, Scholars and Leaders.

TOP GPA OF ALL AGRICULTURAL FRATERNITIES | 2014-2018 CFAES AG OLYMPICS CHAMPS
2018 SECOND PLACE FLOAT BUILD | 2016 GREEK WEEK CHAMPS

For more information contact our recruitment chairs,
Ryan Matthews, at matthews.538@osu.edu
and Jack Korenyi-Both, at korenyi-both.2@osu.edu

@FARMHOUSEATZ


OHIO AG NET
OHIO'S COUNTRY JOURNAL
Print | Radio | Digital
Ohio's Source for Ag Information
www.ocj.com

CROPS THRIVE WHEN FED PROPERLY.

THE SAME GOES FOR AG CAREERS.

Think of us as food for your career.

Through our Young Agricultural Professionals program, you'll connect with other Ohioans who share your interests.

- Learn how to become a more effective advocate for the issues that matter most to you.
- Receive our publications, Buckeye Farm News and Our Ohio magazine.
- Save on your favorite brands: Rocky Brands/Lehigh Outfitters, Case IH, Grainger, Ford and much more.
- Attend events, from farm-to-table dinners and canning classes to educational seminars and farm tours.

YOUNG AG PROFESSIONALS | OHIO FARM BUREAU

Join Us AS A YOUNG AG PROFESSIONAL

ofbf.org/join

OHIO FARM BUREAU FEDERATION
PO Box 182383 | Columbus, OH 43218
614-249-2400 | TogetherWithFarmers.org

facebook.com/OhioFarmBureau
facebook.com/YoungAgProfessionals
twitter.com/OhioFarmBureau
instagram.com/OhioFarmBureau

CFAES

ACEL

Department of

AGRICULTURAL COMMUNICATION, EDUCATION, AND LEADERSHIP

The Department of Agricultural Communication, Education, and Leadership fosters educators, communicators and leaders who excel in the agriculture industry.

We have three majors - **agricultural communication, agriscience education, and community leadership** - that will prepare you for a variety of agriculturally-engaged professions.

Our minors - **agricultural communication, community outreach education, leadership studies and youth development** - can support your major career goals.

The graduate programs we offer in **agricultural and extension education** - both in person and online - develop students for leadership, administrative and faculty level positions.

Visit us in our recently renovated space in the Agricultural Administration Building to learn more about opportunities available, or just to see the new office!

THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Want more info? Contact us.

online: acel.osu.edu

phone: 614-247-6358

social media: @ACELatOSU

AGRINATURALIST STAFF

Top, left to right: Bailey Pees, Jane Hulse, Nick Rainey, Taylor Day, Claudia Clemons, Emily Reed, Courtney Fulton. Middle, left to right: Lexie Nunes, Paige Hamrick, Hailie Cassady, Meghann Winters, Mary Kate Waitkus, Jessica Woodworth. Bottom, left to right: Madeline Bauer, Haley Plahuta, Linnea Stephens, Mariah Morris, Mary Jenkins, Nicole Strouse, Sydney Snider.
Not pictured: Emily Moon and Lesley Shanahan.

Court's Corner

As this year's staff set out to produce the 125th "milestone edition" of the *AgriNaturalist*, we took time to delve into what milestones really are, and what significance they have on our lives. Milestones serve as markers of the hardworking people and powerful stories that got us to where we are today, while simultaneously offering glimmers of hope and excitement for the future. We made it our mission to observe the other milestones happening right now in our college, university, industry, country and world, and we're pleased to share those with you in this 125th edition.

Milestones are also a reason for celebration! Our staff has been hard at work writing, photographing and designing, and we hope you are as excited about the final product as we are. Join us on this journey of rich history and tradition, intertwined with optimism for the days to come.

To my fellow staff members: It has been such a blast working with this team of talented individuals! I'm truly thankful for all of your hard work, dedication and long hours spent in the Mac lab. I look forward to seeing the milestones that each of us achieve as we launch into this new chapter of our lives.

Join us on this journey of rich history and tradition, intertwined with optimism for the days to come.

Courtney Fulton

Happy 125th Birthday, *AgriNaturalist*!

Editorial Team

Editor-in-Chief, Courtney Fulton (right) and Associate Editor, Sydney Snider (left)

Design Team

Design Editor, Meghann Winters (center) and Associate Design Editors, Jessica Woodworth (left) and Mary Jenkins (right)

Sales Team

Sales Manager, Mariah Morris (right) and Associate Sales Manager, Linnea Stephens (left)

Web Team

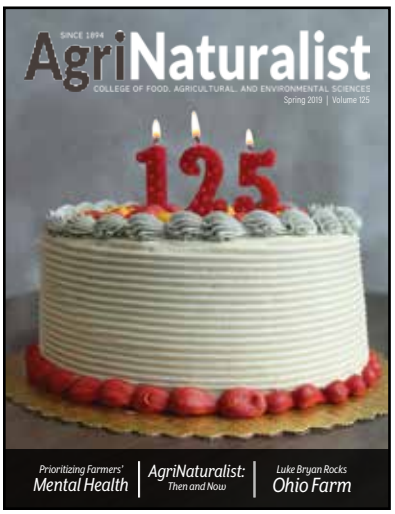
Web Editor, Paige Hamrick and Associate Web Editor, Lexie Nunes

Staff Advisors: Dr. Annie Specht and Lauren Stohlmann

The AgriNaturalist is a student publication for Ohio State University's College of Food, Agricultural, and Environmental Sciences, meant to inform staff, faculty, students and alumni of current events in the college and university.

IN THE 125TH EDITION

Highlights



On the Cover

The *AgriNaturalist* is one of the oldest student-run publications in the country, starting in 1894. This year's staff is excited to celebrate 125 editions!

To view a digital copy of the *AgriNaturalist,* visit us online at agrinaturalist.osu.edu

Thank you to Mariah Morris for providing our cover photo commemorating the celebration!

Ayars Family SETS THE STAGE for Ohio Agriculture

By: Courtney Fulton

Most nights, Mechanicsburg natives John and Bonnie Ayars finish milking their herd of 150 dairy cattle and watch the sun set low over the pasture. They look out at the cattle grazing in the field, take in the sound of the crickets and breathe in a sigh of relief at the peaceful scene before them after a long day's work.

But not tonight.

Tonight, their eyes dance excitedly as they follow the flashing lights that bounce off the boots and bling of thousands who join them in the field. Tonight, they trade the peaceful sounds of crickets for tones of laughter and blaring guitar.

More than 15,000 people attended a Luke Bryan concert held at the Ayars family farm on Sept. 27, 2018. The concert was part of Bryan's 'Here's to the Farmer' series honoring families who dedicate their time and energy to agriculture. All stops on the annual tour, which is sponsored by Bayer, take place on family farms as opposed to Bryan's typical indoor stage. In addition, as part of the campaign, scholarships are given to students studying agriculture at a university level in each of the cities Bryan performs in and Bayer donates a meal to someone in need every time the hashtag '#HerestotheFarmer' is used. 2018 marked the first time one of the tour stops was in Ohio.

NOT YOUR TYPICAL PICNIC

Bonnie Ayars said the opportunity for her family farm to be featured on this level virtually fell into their laps. She explained that Bryan has a huge fan base in Columbus, but concert organizers didn't want it to be right in the city. They wanted it to be on a working farm, and the Ayars farm was close enough but still maintained the setting Bryan was looking for. From there, the concert organizers flew in to interview John and Bonnie and to see their farm firsthand.

Bonnie said they wanted a family who was willing to be open and transparent about their way of life to those who attended. John and Bonnie are no strangers to sharing their

Photo courtesy of Ashley Shaffer, Purebred Publishing

farm with others, as they have hosted several tour groups, dairy cattle workshops and animal science students from The Ohio State University over the years.

"You know you hear the term that it's in your blood…farming is in my blood," John said in an interview with CMT.

Lucinda Miller, extension specialist with Ohio 4-H, is a long-time friend of the Ayars family and was thrilled to hear they were selected for such an opportunity.

"John and Bonnie have always welcomed me to their farm and their family," Miller said. "The Ayars family is absolutely amazing, and so is their commitment to agriculture and youth."

Next came the prep work. For John and Bonnie, this included scrubbing their event center, walking the fields with the crew and fixing the sawdust in the barns after a wet week.

"It was just like we were preparing for a picnic or a graduation party – except we were preparing for 15,000 people," Bonnie said with a laugh.

A TOUCHING TRIBUTE

Unfortunately, the next several months leading up to the concert were tumultuous for the Ayars family to say the least.

"After we signed the contract with them, the rest of the story came out. Our son Austin – that was his 'field of dreams' to break ground for his new dairy on," Bonnie said.

John and Bonnie's son, Austin, lost his life in a farming accident in June 2015. He had been working in Arizona at a private veterinary practice and had recently moved back to Ohio with his wife Adrienne and children. He was a 2003 alumnus of The Ohio State University and went on to attend Ohio State's School of Veterinary Medicine, from which he graduated in 2007.

From that point forward, the Ayars family said they could feel Austin's presence constantly throughout the planning process. Bonnie said everyone from Austin and Adrienne's wedding party attended the concert together, and Bryan paid tribute to their son by dedicating one of his songs to Austin that night. She added that Bryan was extremely kind and empathetic with their daughter-in-law Adrienne and even autographed Austin's hat for her.

Perhaps one of the most special moments for the Ayars family was the scene that unfolded as the concert began.

> ***"To open up our hearts, our home, our lifestyle to so many people in such a positive way – what could be a greater way to advocate with the extremes we have in the agricultural industry today?"***

"It was misting all afternoon, but as the music got underway, the sun came out, and there was this beautiful bright red sunset right behind the stage," said Mark Bruce, communications director for the Ohio Department of Agriculture. "It was perfect and picturesque, and exactly what you would picture with the story we were trying to tell."

Bonnie added that there was a beautiful rainbow right before the sunset, and as the colors wrapped around the stage, she received a flurry of texts and calls from friends about how they could feel Austin's presence there.

HERE'S TO THE FARMER

The impact of the event quickly grew much larger than John and Bonnie had ever planned. They did several interviews that were posted nationally, including with Bayer and CMT, and were featured on CMT's 300th episode, which aired completely from their farm. In addition, on the day of the concert, Gov. John Kasich signed a declaration declaring Sept. 27 'Here's to the Farmer' day in the state of Ohio.

"It's a chance for the state of Ohio to take a moment to recognize the value, the importance, the hard work, everything that farmers do for the other 11.5 million Ohioans," Bruce said about the declaration. "It's a proclamation, but it sends a message that is critically important to all of us."

Bruce and others at the Ohio Department of Agriculture assisted with promotion of the event, as well as working with the governor's office on logistics for the proclamation.

"It's all about recognizing farmers for all that they do and the huge difference that they make," Bruce said. "It was a no-brainer for our department to be involved."

Bonnie said on the evening of the concert, many of the attendees were fascinated by the Ayarses' Guernseys and gathered along the fence to pet the cows. She explained how that simple gesture painted a perfect picture of bridging the communication gaps in agriculture and reaching 'both sides of the fence' in a meaningful way.

"To open up our hearts, our home, our lifestyle to so many people in such a positive way – what could be a greater way to advocate with the extremes we have in the agricultural industry today?" Bonnie said.

Bruce added that Bryan's commitment to working with farmers allowed that message to reach even further.

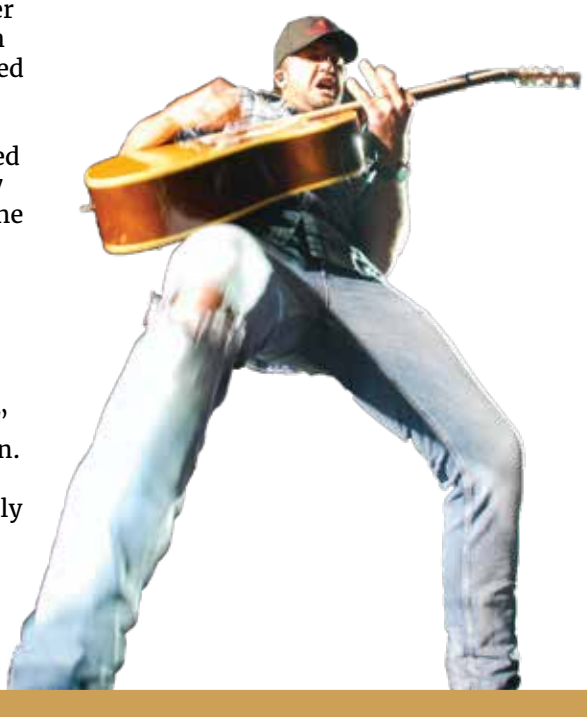


Photo courtesy of Ashley Shaffer, Purebred Publishing

Photo courtesy of Ashley Shaffer, Purebred Publishing

"People in agriculture can always do a better job at telling our story to the greater audience," Bruce said. "In this case, we were very fortunate to have Luke give us a platform to help us do that."

On a personal level, Bonnie echoed her gratitude in having a platform to share not only a snapshot of Ohio agriculture, but also her family farm, and an important message about farm safety. Although it was a difficult time for them, the opportunity to share their story meant so much and the timing of the concert was critical because it allowed them to reach a much larger audience than they would've on their own.

"It allowed us to heal through our continuous story," Bonnie said.

Miller agreed – the evening was nothing short of memorable.

"It was an adventure for them, and a very memorable and touching tribute to Austin," Miller said. "That rainbow gave us chills."

LOOKING AHEAD

Bonnie said she received a call from a number she didn't recognize a few days after the concert, and to her surprise, Bryan himself was at the other end of the line calling to make sure her family was doing well after the big event.

"The one word I use to describe everything about the experience is genuine," Bonnie said. "The people we worked with that had their own little section of the world to work with and make it safe, the people who came out that night were genuine, and Luke himself was genuine."

Although many would've considered hosting such an event in the wake of a tragedy overwhelming, this was not the case for John and Bonnie. They recognized the importance of using the platform they were given to share their story, and when the night of the concert came, they were able to unwind and just have fun with the friends and community members that surrounded them.

"As long as you're predisposed to new adventures, you'll never get old," Bonnie said with a smile.

Tonight, noise and friends filled the normally quiet, empty field, but one thing was the same – the sunset. And tonight's was one of the most beautiful sunsets the Ayars family had seen in a long time.


Photo courtesy of Lucinda Miller

BECK'S

It's our culture and our people that truly makes us different. Experience that culture through our internship program, where you'll get the opportunity to tackle real-world work assignments.

BECK'S IS THE LARGEST FAMILY-OWNED, RETAIL SEED COMPANY IN THE UNITED STATES.

HEADQUARTERED
40 MILES
NORTH OF INDIANAPOLIS.

INTERNSHIP POSITIONS

- SALES
- RESEARCH
- PRODUCTION
- PROCESSING
- PRECISION AG
- EDUCATION
- MARKETING
- FINANCE

Beck's believes in choices. We access the **best genetics and technologies** from around the world, providing superior genetic diversity and trait protection.

CONNECT WITH US!

OUR PASSION IS HELPING FARMERS SUCCEED, AND THAT IS WHY, AT BECK'S, WE ARE AND WILL REMAIN FARMERS AT HEART™.

BECKSHYBRIDS.COM
6767 E. 276 ST. ATLANTA, IN 46031 | 800.937.2325

Putting the "Culture" in Agriculture?

Photo disclaimer: this photo is a dramatization of cultured meat

Researchers at The Ohio State University are looking at a new technology known as "cultured meat" and whether or not consumers will be adding it to their grocery list.

Photo and Story By: Sydney Snider

There's no doubt about it, the majority of American consumers love meat. Whether it's a juicy hamburger, a well-seasoned pork chop or a bucket of fried chicken, we can't get enough. A 2018 United States Department of Agriculture report estimated the average American consumed 222.2 pounds of meat in a year. Talk about plenty of protein!

But how would consumers feel if their meat were grown in a lab? Would you eat meat cultured by the hands of scientists in a petri dish? This technology, known as cultured meat, has piqued the interest of faculty at The Ohio State University.

According to the North American Meat Institute, cultured meat is created when cells are taken from an animal and grown in a controlled laboratory setting. This process is similar to how a scientist might grow tissue for medical purposes.

Cultured meat, sometimes referred to by the media as "clean meat" or "lab-grown meat," is not commercially available and is currently being cultivated only by privately funded companies and groups in the United States. Faculty in the College of Food, Agricultural, and Environmental Sciences (CFAES) have recognized this as a potential trend in the food industry and are exploring the topic from scientific, communication and economic angles.

CELLS, CUTS AND CULTURE

One of those researchers is Ohio native Lynn Knipe, a faculty member in the Department of Food Science and Technology. Knipe first heard about cultured meat while scrolling through articles on Twitter.

"Through Twitter, I'd been saving a bunch of articles because I thought I'd want to read these someday," said Knipe, who facilitates Ohio State extension programs for Ohioans involved in the meat industry.

The first "lab-grown" burger was developed in the Netherlands in 2013, according to Knipe's research. He said one of the largest challenges cultured meat producers face is scaling up production to be both efficient and cost effective.

"It's not at a point where we can produce much at a time," Knipe said. He added it will be challenging for scientists to grow retail cuts of meat, like a roast or sirloin, because the cells will need "scaffolding" to form the desired shape.

Shauna Brummet, president and CEO for BioHio Research Park and adjunct faculty in the Department of Animal Sciences, said the technology used for cultured meat is "based on traditional cell culture techniques."

Brummet said satellite or stem cells are taken from the animal to be grown in a controlled laboratory.

"Right now there are more questions than answers."

"It could take weeks of growth cycles to produce enough material to start to be some kind of meat product—it might even take months," said Brummet. She also mentioned CFAES faculty interested in the development of cultured meat have not yet seen a production cycle or tasted the product.

"Right now, there are a lot more questions than answers," added Brummet.

But Brummet does agree with Knipe—cultured meat producers will have to operate in higher volumes in order to be commercially viable. She said consumers should be aware cultured meat will not be identical to traditionally harvested meat.

"While it is cells originating from an animal, it does not have all of the characteristics of muscle from a live animal," said Brummet.

According to Brummet's research, there are about 25 companies—but possibly more—actively involved with cultured meat development. These companies are supported by hefty investments from venture capitalists and food industry leaders, including agricultural giants Tyson and Cargill.

Knipe said it's these developers and investors who are driving media hype around cultured meat in order to develop a market. He also noted if cultured meat becomes publicly available, there would likely be a large conversation around how to label the product because there are already debates on whether the product can be called meat.

A RUMBLING IN PERCEPTIONS

Ohio native Joy Rumble, a faculty member in the Department of Agricultural Communication, Education, and Leadership at Ohio State's Agricultural Technical Institute (ATI), developed her interest in cultured meat when she was a doctoral student at the University of Florida. She heard about the potential for "meat grown in a petri dish" to become commercially available and wanted to know more about the conversation happening in the media.

Rumble found many media outlets had covered the possible environmental impacts of cultured meat, though she noted the lack of scientific backing in most media mentions, and the "yuck" factor that some consumers feel about meat grown in a lab.

Media outlets and cultured meat supporters are using an emotional appeal to attract consumers, according to Rumble. This product could be an alternative choice for consumers who feel bad about eating traditionally produced meat. However, she added, "taste may overstep the emotional side."

How cultured meat could impact traditional livestock producers remains a mystery. Rumble said there are two trains of thought in the animal agriculture industry: those who think it could be a harmful competitor to traditional meat production and those who feel traditional meat products have developed enough demand to be sustainable in the future.

"We've developed brands and tastes for [traditional meat products] so people will continue to want that," said Rumble, who grew up with livestock and a strong passion for animal agriculture.

HU WILL BUY?

Joining in the research of cultured meat is Wuyang Hu, a faculty member in the Department of Agricultural, Environmental, and Development Economics. Originally from China, Hu has a personal interest in studying the impact of non-conventional food, so cultured meat has naturally made its way to his list of research topics.

As a researcher, Hu specializes in marketing and consumer behavior economics. Hu said consumers have high levels of concern for the food they eat, especially meat.

"I'm very interested in studying how exactly the consumers and the market will respond to this brand new product," said Hu, who began his research into new food products almost 20 years ago with a focus on genetically modified organisms. Hu said the perception of cultured meat "could be a completely different animal"—quite literally.

"It hasn't been really well understood in the terms of economics," Hu said. He added this is because cultured meat is expensive to produce and research.

Many cultured meat companies suggest they may have products on the market in the next three years. But Hu estimates the product may take eight to 10 years to be commercially available and, even then, it won't be affordable for the average American.

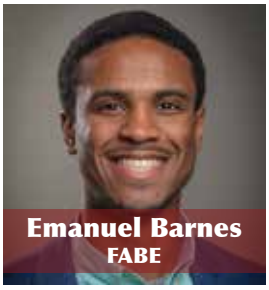
No matter the timeline, CFAES researchers agree – cultured meat will be a niche market, similar to other alternative meat products. Hu believes, "younger people and more variety-seeking consumers" will most likely be the leading purchasers.

A CULTURE OF CURIOSITY

As CFAES faculty look further into cultured meat and the impact it could have as a commercially available product, one can't help but wonder: would they eat meat grown in a petri dish? Unanimously, all four researchers said absolutely! Though none of them think cultured meat will become a regular part of their grocery list, they welcome the idea of a potential new product—as long as the science is sound and the meat tastes good!

2019 DISTINGUISHED SENIORS

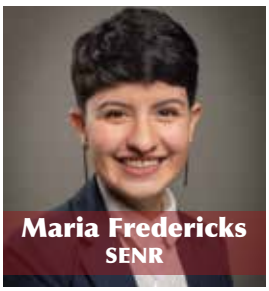

Bryce Axelrod
H&CS

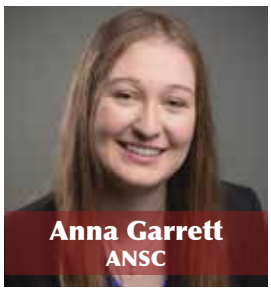

Emanuel Barnes
FABE


Kevin Berkowitz
FDSC


Ashley Besancon
FDSC

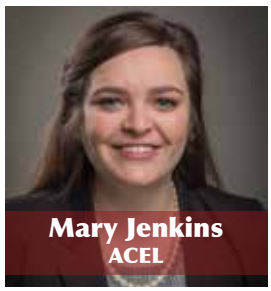

Lindsay Davis
FDSC


Maria Fredericks
SENR


Anna Garrett
ANSC


Matthew Griffin
AEDE & SENR


Justin Haerr
FABE

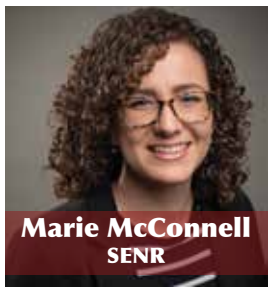

Mary Jenkins
ACEL


Jenna Lee
FABE


Julia Linares
SENR


Heather Pechtl
ANSC


Cody McClain
ACEL


Marie McConnell
SENR


Abigale Motter
ACEL


Andrew Oppliger
SENR


Charis Ramsing
PPTH


Sarah Schuster
AEDE


Joseph Smith
FABE


Sarah Steinbruner
FDSC


Ariel Taylor
ANSC


Megan Whalin
ANSC


Amy Wilber
H&CS


Emily Winson
ANSC

Alpha Zeta Partners

Applications open every spring semester. Membership includes four seminars to develop leadership skills, opportunities to serve the community, and the chance to study abroad in Brazil. Contact Dr. Jeff King.20 or Dr. Graham Cochran.99 for more information.

Character. Leadership. Scholarship. Service.

Hang on, Hoppy

Hops research brings new life to Ohio's craft beer industry

Story and Photos By: Jessica Woodworth

Over clinking pint glasses and a half-eaten basket of mozzarella sticks at The Varsity Club, Brad Bergefurd admired the IPA in front of him. Its pale golden color reflected the dim light onto the worn table of the booth in the far corner. As he held it up to appreciate the flavor, he wondered if he might have grown the hops that were an essential ingredient in the cold beverage.

Researcher, extension educator, Ph.D. student and self-proclaimed craft beer connoisseur, Bergefurd, from Wilmington, Ohio, has been studying the impacts of hop growth in Ohio for the past seven years. Bergefurd has been researching the best growing practices, how to start a hops operation and the local Ohio strains of the specialty crop.

Bergefurd is a two-time graduate of The Ohio State University's College of Food, Agricultural, and Environmental Sciences and is currently pursuing his doctorate in agricultural and extension education.

His interest in Ohio's hop industry started on a late night in 2012, after a full day of extension conference programs. In a hotel bar, he and entomologist Mary Gardiner, Ph.D., questioned the industry's lack of presence in Ohio. In no time, the pair's project was born.

GROWING UP

Hops are considered a specialty crop. They grow vertically on bines, which are similar to vines. The cone is the flower of the plant and contains lupulin, a powder that holds the flavor and determines the brewing characteristics.

During harvest, the bines are cut down and untangled from the wires supporting them and the cones are pulled off. Once the cones are removed, they are either dried or processed for a green brew.

If the brewers want a green, fresh hop, the cones are processed and

Left: Dried hop cones are pelletized and sold

"Mother Nature has done the genetic selection for us."

formed into pellets, which is how they are utilized by brewers. If the brewers want the more common form of hops, they are dried for at least 24 hours.

The tricky part of the process is avoiding over-drying. If the hops begin to get too hot, acids in the lupulin break down and lose their flavor. After the cones are dried, they are pelletized and shipped to brewers, who make the golden ales and IPAs that are enjoyed all over the state.

TAKING ROOT

After receiving a grant from the United States Department of Agriculture in 2013, Bergefurd and Gardiner began test trials of hop yards and found Ohio is the perfect location for the specialty crop.

The research conducted from 2013 to 2018 focused on the viability of hop growth in Ohio, leading to the discovery of Ohio's optimum soil profiles, climate and insect population for hop success.

The research conducted in the early years laid the groundwork for hop production in Ohio. Due to Bergefurd's efforts, there are currently 30 times more hop yards in the Buckeye state compared to 2012, which has dramatically increased locally sourced craft beer available to Ohioans.

Eventually, the developments in the industry led to the conception of the Hop Growers Guild.

According to the Ohio Hop Growers Guild website, the group of hop farmers formed after learning from Bergefurd. The guild serves as a way for cultivators to gather, share information and learn about the potentially lucrative endeavor.

NEXT STEPS

Seven years after the initial research began, Bergefurd is using his findings to study Ohio-specific breeds of hops.

"Before Prohibition, Ohio was a top producer of hops," Bergefurd said. "They would transport hops train cars, so now you can find wild hops growing along old train tracks. Mother Nature has done the genetic selection for us."

The insight gained from working with land-owners to identify native hop yards led Bergefurd to analyze the wild hops for uniqueness.

"Each kind of hop brews a little differently," Bergefurd said. "They give a different taste to the final product. We think we have two new strains that are native to Ohio, but that's not confirmed yet."

THREATS TO HOPPINESS

Hop growers have several hurdles to jump to help their plants thrive, one of which is the infamous spider mite. Celeste Welty, Ph.D., an entomologist and associate professor in the Department of Entomology, worked with Bergefurd to combat this pest.

Spider mites eat the sap from hop leaves, which ends up killing the foliage. Spider mites are too small to see with the naked eye and hide under webs they weave. These factors make them a real challenge.

Welty had a solution. Phytoseiidae, or "fast white mites," as Welty calls them, are natural predators to the spider mite and do not eat hop leaves. When the fast white mites were released into a hop yard, the spider mite population was stunted, but it wasn't worth it.

"We had several grants that covered our project, but if the growers had to pay for it themselves, it would be pretty expensive," said Welty. "If I were worried about anything, I would worry about downy mildew."

Downy mildew is a disease that infects hop plants. According to ohioline.osu.edu, downy mildew is the most destructive and prevalent threat to hops in Ohio. While some varieties of hops are naturally resistant to the tough pathogen, all strains are susceptible to it.

North Carolina State University reports downy mildew is a pathogen transported via air and can lay dormant in the winter by surviving inside the plant's crown, or the stump left after harvest.

The management practices for this disease involve burning infected plants and a regular application of fungicides. For more information on downy mildew, visit the Ohio Hop Disease Management Guide.

The United States Department of Agriculture reports downy mildew grows best in climates with high humidity, heavy rainfall and temperatures between 60 and 70 degrees Fahrenheit. While Ohio isn't known for its consistent weather patterns, it fits the mold to make downy mildew a problem.

Farmers who use the researchers' data to combat these challenges and want to grow Ohio hops are excited to see what comes of Bergefurd's latest project.

HOP TO IT

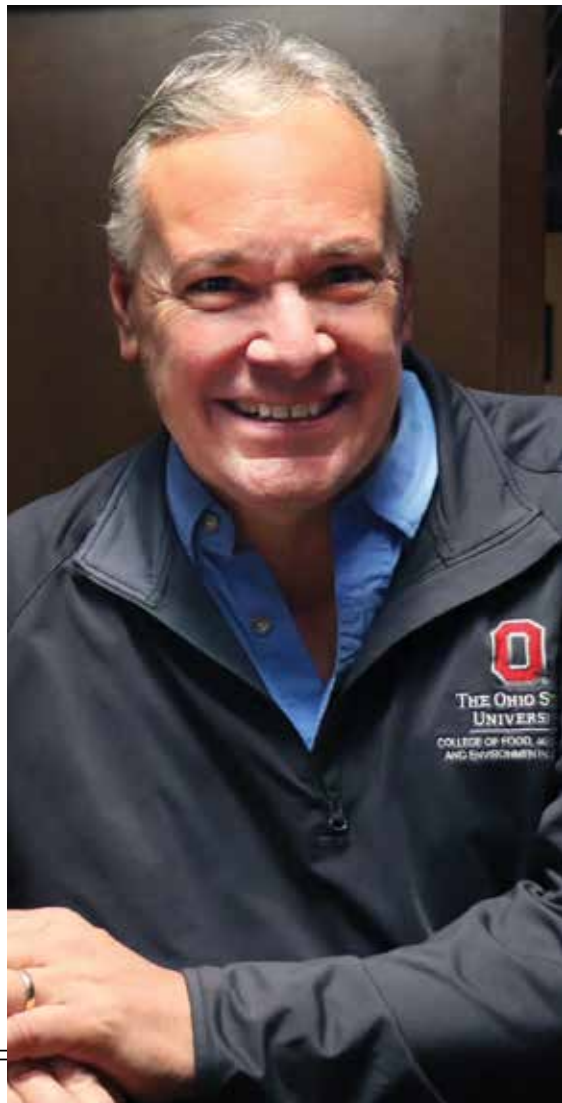
Rubiana Berridge, one of the owners of 3 Chicks Farm in Marion, Ohio, said, "For someone with the 'locally grown' market in mind, an all-Ohio hop would be great. When it comes out, growers will grow it."

Berridge has been growing hops for three years and is anticipating a strong harvest.

"The hops market is growing," she said. "The Hop Growers Guild is great about supporting each other and gave us plenty of resources to expand."

As of February 2019, Ohio has 120 acres of hops planted and in use. To sustain the state's own craft beer

Lead researcher Brad Bergefurd



"That's where Ohio hops really have room to grow."

Dried hops and pellets

consumption, Ohio farmers would have to grow a total of 6,000 acres.

Throughout the years, hops have proven to be an investment that benefits the Ohio economy.

Dan Schaffer, lead brewer at Land Grant Brewing Company, has firsthand experience with Ohio hops, specifically those from Bergefurd's research plots.

"We've done wet, fresh hops with Ohio State," Shaffer said about Bergefurd's hop crop.

When hops are called green, wet or fresh, they were harvested and immediately brewed. Hops are typically dried and pelletized before going to brewers, but in the late summer months, when the days are long and hot, a green hop goes into bright and refreshing beers.

"We are looking forward to more. I was disappointed we couldn't do one this year because it gives a very unique character," Shaffer said. "That's where Ohio hops really have room to grow. To do a green hop, it has to be at the brewery within 48 hours of them being picked."

Transporting green hops from more prominent growing regions like Oregon and Washington to Ohio is expensive and difficult to do in time for fresh processing. Shaffer asserted that Ohio has an opportunity to fill that market.

Bergefurd has done the math for Ohio hops and is presenting promising numbers. While starting a hop operation is costly, the profits are substantial.

An average acre of hops will yield 1,500 pounds of dried hops. Dry hops usually sell for $5 to 10 per pound. With a potential revenue of $7,500 to 15,000 per acre, the crop can turn profit quickly.

One of the most dominant expenses in hop farming is labor. Hops require a great deal of hand labor to maintain and harvest. There is no machinery for hop harvest; only processing.

"It's a lot of bending and physical strain," said Bergefurd. "But it opens up an opportunity to hire FFA and 4-H members to help out. They get agricultural experience and farmers get to teach the next generation. It's a win-win."

Ohio hop farmers have a brand-new market to tap into. Bergefurd's work is making Ohio-grown hops more accessible than ever.

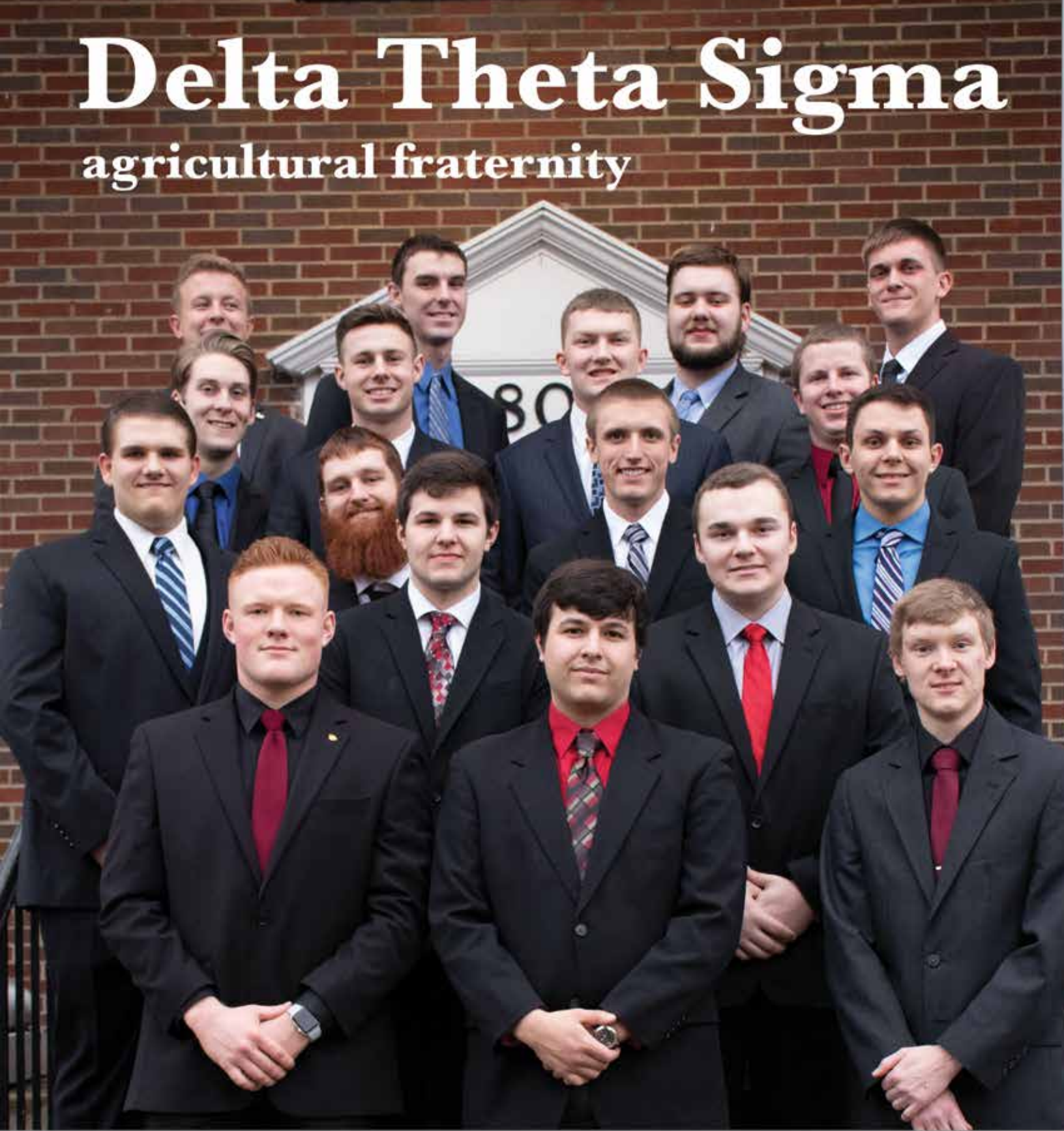
"The market is wide open," Bergefurd said. "There's nowhere to go but up."

LEARN FROM THE RESEARCHER

Information about starting a hop operation can be found online at https://southcenters.osu.edu/horticulture/other-specialties/hops or through county extension agents.

Delta Theta Sigma

agricultural fraternity



Brotherhood in a bond of union

Facebook: Delta Theta Sigma OSU

President: Bryant Bergefurd.22@osu.edu

Twitter: @DTSAlphaOSU

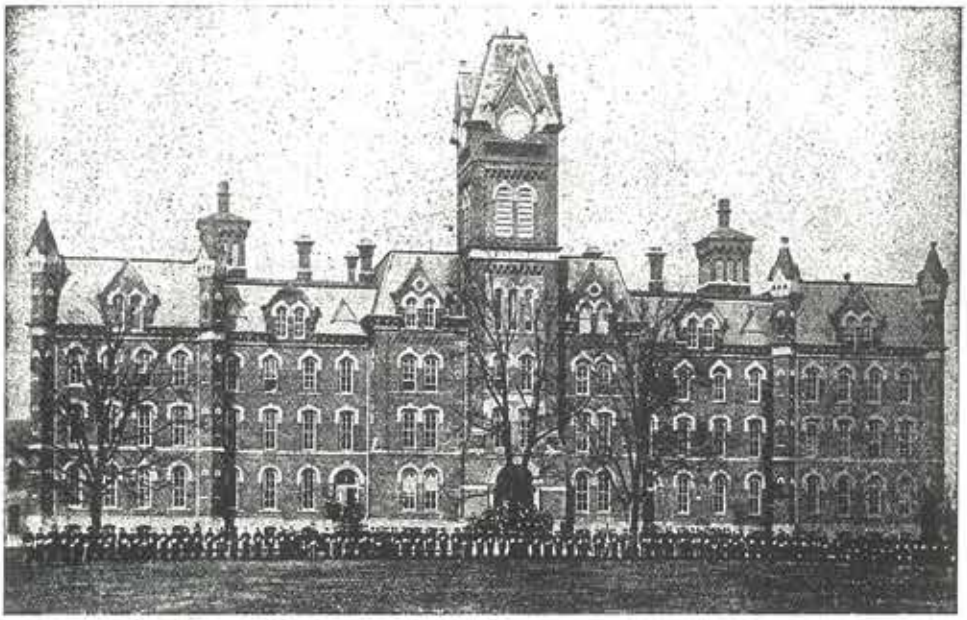
Instagram: @delta_theta_sigma_osu

1st Edition of the Agricultural Student

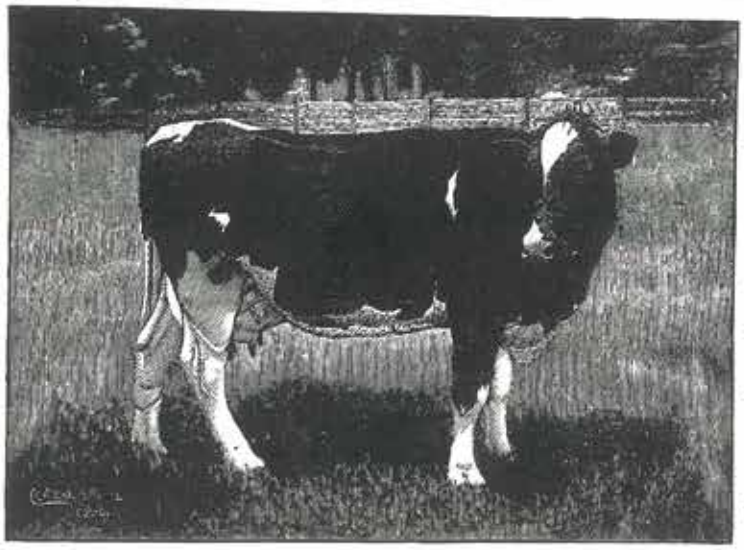
THE AGRICULTURAL STUDENT

A Monthly Journal Devoted to the Interests of Practical Scientific Agriculture and Horticulture. Published by the Students of the [illegible] of Agriculture.

VOL. I. OHIO STATE UNIVERSITY, COLUMBUS, Sept. 1, 1894. No. 1.



University Hall, Ohio State University.



Iolena Fairmont

15544 H. F.

Calved Nov. 25, 1888.

Winner 1st butter prize Ohio State Fair, 1892.
She gave 2110 lbs. 5 oz. in January, 1893. Her best day 75 lbs. 9 oz.
On day of test 70 lbs. 2 oz. Per cent. fat 3.43, lbs. butter fats 24 hrs. 2.44, equa to 2.93 lbs. butter in 24 hours, or 20.51 lbs. in 7 days.
She gave as a two year old 503 lbs in ten days. 55 lbs. best day.

W. B. SMITH & SON, Breeders ..of.. **Holstein Friesian Cattle, Insane Asylum Columbus, O.**

Past Editors of the AgriNaturalist

Where are They Today?

By: Meghann Winters

CELEBRATING 125 YEARS OF THE *AGRINATURALIST*

In 1894, just 21 years after the Ohio Agricultural and Mechanical College opened its doors in 1871, the *Agricultural Student* was published for the first time - making it one of the oldest student-run publications in the country.

For 125 years, agricultural communication students have created what is now known as the *AgriNaturalist*. As readers thumb through the pages of the magazine, they find high-quality work created entirely by the students - from front cover to back cover and everything in between. While production methods, software, class structure and the name of the magazine have changed over its lifespan, the mission of the *AgriNaturalist* remains the same: to provide students with real-world learning experiences within a classroom setting.

Students like Cassandra (Sheaffer) Brown, Dan Toland and Caroline Weihl have worked to keep the rich tradition of the *AgriNaturalist* alive – and as the editors of the 100th, 110th and 120th editions of the *AgriNaturalist*, they have done just that. Years after graduating from The Ohio State University's College of Food, Agricultural, and Environmental Sciences, those editions are still being read by current students. But where are these past editors today?

CASSANDRA (SHEAFFER) BROWN, '95, '00 MS, EDITOR, 100TH EDITION

Brown resides in Ashland, Ohio, with her husband and two teenage children. As program manager at the Ohio Agricultural Research and Development Center, Brown works with researchers to prepare extension outputs for Organic Food & Farming Education and Research. High-quality writing, organization and management, all skills she obtained from the *AgriNaturalist*, are vital to the success of her job.

> *"I was able to use experiences like the AgNat to better position myself for better responsibilities, which led to better jobs."*

"Everyone in my major talked about what a great experience the *AgriNaturalist* was," said Brown. "To get that kind of hands-on learning was just terrific."

From learning to collaborate with others, to completing quality work while meeting deadlines, to maintaining the integrity of a publication with such rich history, Brown can attest to the fact that her skill set blossomed as a result of her involvement in college.

In her editorial entitled "A Little More Talk and a Lot Less Reaction," Brown discussed the importance of educating the public about agricultural issues like animal welfare, pesticides and biotechnology – all topics that are still prominent in the industry today. In fact, former Ohio Director of Agriculture Fred Dailey sent her a handwritten note in appreciation of her editorial.

Upon earning her bachelor's degree in agricultural communication in 1994, Brown spent numerous years working for a nonprofit before returning to graduate school at Ohio State, where she earned her MS in horticulture and crop science. After taking time to start a family, Brown accepted an administrative assistant position at Ashland University. Since writing came naturally to Brown, she was soon promoted to administrative director within the university's Master of Fine Arts in Creative Writing program, where she served as managing editor for *River Teeth: A Journal of Nonfiction Narrative* and *The Ashland Poetry Press.*

"I was able to use experiences like the AgNat to better position myself for better responsibilities, which led to better jobs," said Brown.

Just as she has since college, Brown enjoys communicating information in person or in writing. According to Brown's blog, Branches and Rambles, she has been utilizing her communication skills to create quality pieces of work since 1994.

DAN TOLAND, '05, EDITOR, 110TH EDITION

Since graduating from Ohio State in 2005, Toland has held prominent communication roles within the industry. However, as a freshman in college, Toland had no plans of becoming an agricultural communicator. In fact, Toland originally wanted to become a meteorologist.

Historic editions of the AgriNaturalist highlight the rich history of the publication and the college. With each milestone over the past 125 years, the AgriNaturalist has continuously evolved - and will continue to do so well into the future.

1st Edition

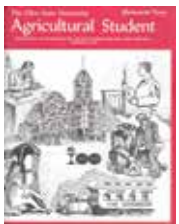
1894

The first edition of the Agricultural Student.

67th Edition

1961

Land Grant Centennial special edition.



76th Edition

1970

College of Agriculture and Home Economics Centennial.

81st Edition

1975

First edition of Buckeye Triune, formerly Agricultural Student.

Going back to his agricultural roots on his grandfather's grain and livestock farm, Toland decided to pick up some agricultural communication classes and immediately found his fit.

Still in the pre-teen stage of technology - just as digital photography and texting were becoming popular - Toland served as the editor of the 110th edition of the *AgriNaturalist* with some of his closest friends as staff members.

"A lot of our bonding came from the late nights spent in the Agricultural Administration building putting the *AgriNaturalist* together," said Toland. "When you have a good relationship with the people you're working with outside of class, it makes everything inside of class easier."

Since his time as a student, Toland has worked for the Ohio Farm Bureau Federation (OFBF) and Shift·ology Communication.

As the communications specialist for OFBF, Toland created content for their print publications: *Buckeye Farm News* and *Our Ohio*. Digitally, Toland played a prominent role, especially in web design and social media. OFBF was one of the first agricultural organizations to utilize social media, and Toland built the organization's social media presence and trained farmers all over the state in social media advocacy.

Fast forward to 2013, Toland received the CFAES Young Professional Achievement Award for his work in agricultural advocacy, specifically through social media.

Currently residing in Findlay, Ohio, Toland works out of his home office as account manager and digital specialist at Shift·ology Communication. There, he holds numerous public relations, marketing and communications roles.

Specifically, Toland manages the Virtual Farm Trips program, which enables students to take a field trip without leaving their classroom. With clients across the country, Toland manages virtual field trips for commodity groups in Ohio such as the Ohio Pork Council, the Ohio Beef Council and the Ohio Soybean Council.

"Fifteen years after working on the *AgriNaturalist*, I'm still working in agricultural communication," said Toland. "It's just a really cool profession to be in."

CAROLINE WEIHL, '14, EDITOR, 120TH EDITION

Through her endeavors in agricultural sales, meal prepping, freelancing and competitive bodybuilding, Weihl has channeled her passions through communication since graduating in 2014.

Starting her career in sales, her path has led her to many destinations throughout the country, but she currently finds herself in Atlanta, Georgia. There, she uses her communication skills through freelance writing, social media management and strategic marketing for her clients.

Much like Brown and Toland, Weihl attributes the success of her work to the experiences the *AgriNaturalist* provided her.

"My efforts as the editor payed off in being able to produce a very professional, well-written magazine especially for the 120th year," said Weihl. "Even now I still use and reference the magazine I helped create in some of my current work."

As the editor of the 120th edition of the *AgriNaturalist*, Weihl helped set the theme of the magazine. In 2014, the staff focused on the evolution of technology at Ohio State and within Ohio agriculture. In unison with the theme, the staff members created the first online version of the *AgriNaturalist*, which is still implemented today.

Weihl utilizes the same web design skills she gained as editor on a daily basis through her online presence as Strong Sweet Caroline – a website and lifestyle she embodies in her journey to help women balance their overall health through holistic approaches.

"My involvement with CFAES and the *AgriNaturalist* didn't necessarily shape my career path, but it created a strong foundation as a young professional with the ability to learn and grow in various skill sets," Weihl mentioned.

Weihl uses Strong Sweet Caroline as a creative outlet to provide life coaching in topics relating to fitness, meal prepping and healthy living through blog posts, social media and even a healthy dessert recipe ebook. Continuing to utilize the skills she gained from the *AgriNaturalist*, Weihl looks forward to expanding upon her skill set as an evolving entrepreneur.

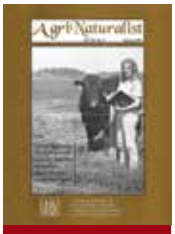
With ever-changing technology and new forms of media, it is hard to tell where the *AgriNaturalist* will be 125 years down the road. However, former students like Brown, Toland and Weihl are a testament of where it has been and the rich history it possesses. ***Cheers to 125 years, AgriNaturalist!***

Photos of editors courtesy of Cassandra Brown, Dan Toland and Caroline Weihl

90th Edition

1984

The newly renamed Agri-Naturalist.



100th Edition

1994

100th edition - edited by Cassandra Brown.

110th Edition

2004

110th edition - edited by Dan Toland.

120th Edition

2014

120th edition - edited by Caroline Weihl.

125th Edition

2019

Our quasquicentennial edition. Cheers to 125 years!

Looking for

Where To Look and What To Do

by RONALD MEIER

Recruitment of agriculture graduates has become big business. One of the nation's leading agricultural chemical companies spends nearly $10,000 in recruitment and interviews for every graduate that it successfully hires.

One method which companies are using to keep costs down and at the same time evaluate prospective employees is summer jobs for undergraduates.

Nearly all of the large companies hire students for various summer positions. In addition, several locally based firms in Ohio offer a limited number of summer jobs.

The Federal and State government also offer summer employment. Job offerings range from staff positions with Congressmen to tour guides for the extensive national park system.

Ohio State offers many sources of information about permanent and part-time job openings. Students may learn of openings through their advisor, the Student Financial Aids office, Ohio State Employment Service, Want Ad Columns of newspapers, the many employment directories, or the College Office in the Agricultural Administration Building.

Companies and organizations in agriculture interview nearly every day. Students may arrange to have an interview with any one of these companies by checking a schedule in the office for interview dates. Also, they must complete a set of forms to aid the College Office in helping find employment and make an appointment with the company's representative.

According to Assistant Dean Kenneth Bader, who is in charge of placement, most students do not begin early enough to explore all of the potential sources of employment available to them. Several times interview dates have been cancelled due to lack of student interest.

Bader recommends that seniors in particular should give serious thought to what they want to do by at least the beginning of their last year in school. "When choosing a career you determine many things which involve your future happiness and job satisfaction," says Bader. "Your wise choice of a job will determine:

- Your friends,
- The home you make,
- The community in which you live,
- The standard of living that you will maintain,
- The environment in which your children will grow up,
- Your happiness and security,
- Your mental and emotional attitude,
- Your sympathies and prejudices and,
- Your outlook on life."

"The most important part of the job placement is the personal interview with a company representative," he says. "Students must realize that they should 'sell themselves' to the company just as much as the company tries to 'sell itself' to the student."

Career Distribution of the 289 Graduates Receiving B.S. in Agriculture, 1965-66:

Agricultural Business and Industry	24%
Graduate School	23%
Armed Services	20%
Teaching and Agricultural Extension	11%
Foreign-Federal-State Services	7%
Professional Study (Law-Medicine-Vet Med.)	6%
Production	6%
Others (Insurance, etc.)	3%

Salaries Offered, 1965-66:

Median annual salary	$6,500
Range in salary	$5,700-7,900

a Job?

Dean Bader suggests that a student being interviewed for a summer or permanent job remember to

- have knowledge of the company's products, background, etc.,
- know why he is interested in the company,
- be able to tell in a few minutes his potentialities,
- practice a firm handshake (women are not expected to extend their hand),
- know the interviewer's name and job title,
- wear a conservative suit that is cleaned and pressed,
- be sure to have a personal data sheet,
- during the interview be himself,
- smile as he enters and give his name distinctly,
- be courteous and cooperative,
- be poised and relaxed,
- be concise and prompt with his answers or questions,
- practice the art of acknowledging introductions,
- practice entering and leaving a room, sitting down and getting up gracefully,
- make certain to be five minutes early, or telephone if unavoidably detained,
- maintain good posture,
- be frank and sincere,
- and show interest in the job for which he is being interviewed.

Livestock Judging Team

Livestock Judging Team members and their coach. From left, Dr. George Wilson-Coach, Terry Reed, Carl Birney, Thomas Lamb, Jay Benham, Sarah Jones, Jack Fisher, Roy Wallace, Charles Frank. The team won thirty awards and twelve trophies during the past year, including first place team at the Northcentral Regional Contest at Michigan State University, and at the Pennsylvania Livestock Exposition Intercollegiate Judging Contest at Harrisburg, Pennsylvania. In addition, they finished third at the Eastern National at Timonium, Maryland, and third at the International Livestock Exposition in Chicago.

Time and Change:
The Evolving CFAES Career Outlook

Photo courtesy of CFAES Career Development Office

By: Mary Jenkins

In 1967, the *Agricultural Student* reported on post-graduate options for students receiving a Bachelor of Science in agriculture and offered advice for those taking their first steps in their careers. Although much has changed over the past 52 years, including a change in title to the *AgriNaturalist*, finding the perfect post-graduation opportunity is still something at the forefront of the minds of graduates of the College of Food, Agricultural, and Environmental Sciences (CFAES).

In the 125th edition of the *AgriNaturalist*, we decided to revisit the job and graduate school search process to see what advice CFAES staff and recent alumni could offer to students and recent graduates.

BUILDING RELATIONSHIPS FOR GRADUATE SCHOOL

Mariah Stollar, a 2018 graduate of the Department of Agricultural Communication, Education, and Leadership, is currently attending graduate school at Pennsylvania State University (Penn State).

At Ohio State, Stollar, a Marietta, Ohio native, studied community leadership with a focus in community and Extension education and minored in youth development and dance. She is an alumna of 4-H and aspires to become an Extension educator, just like her grandfather and two uncles.

As a Buckeye, Stollar said one of her most influential classes was Program Development and Evaluation, COMLDR 3330, with Scott Scheer. She was not only moved by the content of the course, but also loved Scheer's enthusiasm for Extension.

"He was so passionate about teaching this course and its materials," she said. "This was my first official Extension class and we really learned how to develop programs."

Stollar's post-graduation decision was shaped by the relationship she had built with her current advisor, Suzanna Windon, with whom she previously worked as a student assistant and intern with Ohio State Extension Administration. Although Penn State was not on her initial list of potential graduate schools, once Stollar knew she would have a great mentor there, her decision was made.

"I knew that I made the right decision [to attend Penn State] when I knew who I was working with," she said. "I knew that was the most important thing."

Stollar recommends starting to build your resume and establishing connections as soon as you can. Although funding may be a big factor, she recommends focusing on the relationships and people at your prospective school.

"I would start talking with your advisors and start thinking about what you might want to study or who you would want to work with in graduate school," she said. "Start building your connections and getting to know your [graduate school] advisor. They will be the person you spend the most time with so it's good to have a strong relationship with them."

Stollar will graduate in 2020. She is currently working on a thesis about wellness programs for 4-H youth ages 12 to 14.

FINDING YOUR DREAM POSITION

Andrea Kackley, a December 2017 graduate of the Department of Agricultural, Environmental, and Development Economics, began her professional journey as a legal analyst.

"After graduation I already had a job as a legal analyst for an organization in Columbus," Kackley said. "I thought that experience would help me make sure that I really wanted to attend law school."

Kackley later decided against law school (for now). Eventually, she found an opportunity to work for her dream organization, the Ohio Farm Bureau Federation (OFBF).

Kackley works as the organization director for Morgan, Muskingum, Perry and Washington counties in southern Ohio. As a native of Pleasant City, Ohio, this opportunity was close to home. Once this position opened, she knew this was exactly what she wanted to do.

"I really wanted to get back to agriculture and working with the community and being a part of those communities," she said. "I took [the position] because I love that Ohio

Farm Bureau Federation stands for agriculture and its communities. I wanted to be a part of that and be a part of a grassroots organization."

For students who are aspiring to work for their dream company or organization, Kackley recommends building connections and consistently seeking opportunities to engage with the company. She used connections established through an internship with OFBF to stay in the loop about job opportunities.

Kackley made sure to emphasize the importance of having an end goal, but also noted the importance of considering other opportunities or positions. Sometimes, your post-graduation plan won't work out the way you had hoped and it's important to keep an open mind.

"Have the end goal in mind and don't be afraid to take other opportunities that can help get you there," she said. "The path that you want might not be in view, but let your opportunities guide you."

In her position, Kackley works alongside OFBF board members and her community to promote and advocate for agriculture. She hopes to continue to work on behalf of agriculturalists and to someday return to policy.

PRACTICE AND NETWORK NOW, SUCCEED LATER

Mary McLaughlin, career development coordinator for CFAES Career Development, recommends students get a head start in their professional network. Over the past few years, she has noticed that many larger companies are filling positions earlier in the year and she recommends it is best to be prepared to have the most options.

McLaughlin stated attending career expos can be an opportunity to get your foot in the door with employers. Even if you aren't looking for an internship or career, it is beneficial to attend these events as they can be a great networking experience.

"There were a couple of employers this year [at the career expo] that said they had students that had come to a previous expo," she said. "Through discussions with [the students], the employers were able to tell them a couple of areas to work on to be a good fit for the position. Those students came back, and they had worked on some of the stuff and that really stood out to the employer."

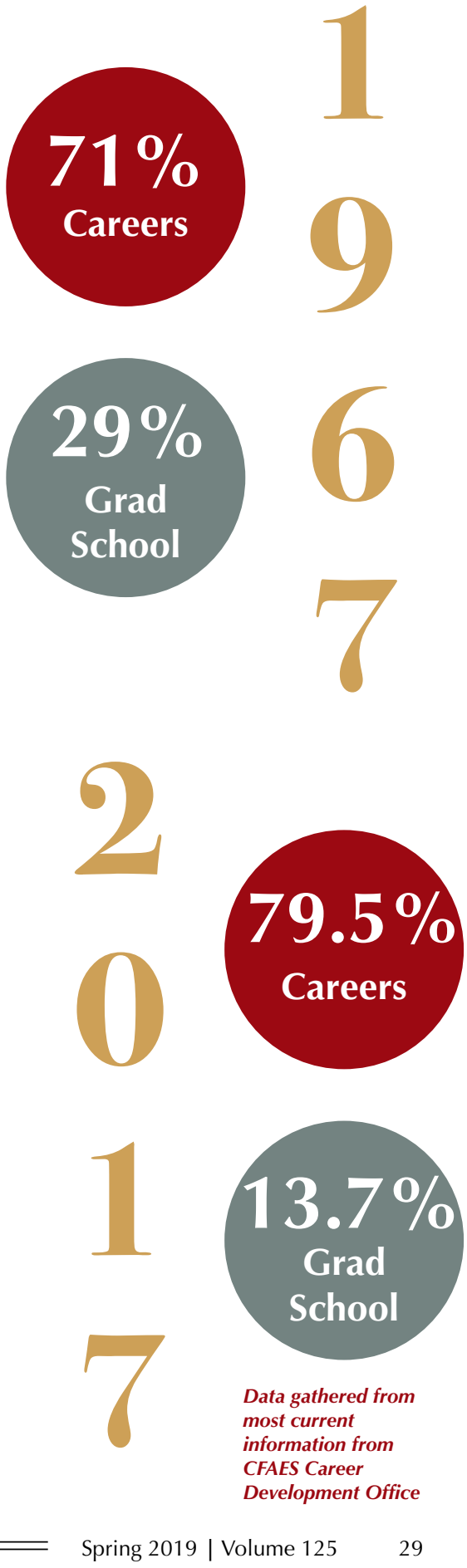
In addition to career expos, McLaughlin suggests for students to take advantage of mock interview opportunities to ensure the initial interview with an employer is not a practice round. Even if a student has a perfect resume, their interview will determine whether or not he or she gets the position.

McLaughlin stated that getting any career practice and building your network is key. After graduation, there is not as much room for mistakes when talking with an employer.

"When you're a student, people don't expect you to know everything and they don't expect you to have years of experience. They will expect you to be polished, but there is a little room for error," she said. "Getting that practice in while you're a student is important."

After graduation, students will have numerous options available to them. Regardless of what path students decide to take, networking will be key. Stollar discovered that the connections she made at Ohio State helped her find the perfect mentor at Penn State. On the other hand, Kackley knew she wanted to work for OFBF and stayed connected with the organization and former co-workers. As shown in these stories and pieces of advice, building your professional network now can set you up for success later.

"Have the end goal in mind and don't be afraid to take other opportunities that can help get you there. The path that you want might not be in view, but let your opportunities guide you."



Sunrise
COOPERATIVE

Success grows here.

A TEAM DEDICATED TO YOU

Agronomy | Energy | Feed | Grain | PCT | Sunrise | Precision

Phone: 419-332-6468
Toll Free: 800-321-5468
Fax: 419-332-7741

sunriseco-op.com • 2025 W. State St. | Fremont, Ohio

THE OHIO STATE UNIVERSITY
OFFICE OF STUDENT LIFE

Access to cultural shows, sporting events and other entertainment opportunities at a discounted rate.

D-TIX

For undergraduate, graduate, and professional students at Ohio State funded by the student activity fee.

Students can get their D-Tix tickets at the Information Center in the Ohio Union. Select ticketed events require online registration through the D-tix Lottery System. For a complete schedule of events and ticket information, please visit our website:
www.dtix.osu.edu

1739 N. High Street, Columbus Oh, 43210
614-688-info (4636)

PBJ Connections offers sessions for those wanting to learn about the experience of equine-assisted psychotherapy.

Photos by Emily Reed

Equine-Assisted Therapy: Not a One-Trick Pony

By: Bailey Pees

The sound of beating hooves on the concrete floor and the smell of fresh sawdust is enough to make any horse lover overwhelmed with joy.

Individuals seeking equine-assisted therapy may have never known that the horse barn would bring them so much solace, but born-and-raised horse lovers have always felt there was something special to be shared with the rest of the world.

Holly Jedlicka, a lifelong horse lover, decided it was her turn to share the love. In 2006, Jedlicka cofounded PBJ Connections, an equine-assisted psychotherapy (EAP) facility in Pataskala, Ohio, that follows the Equine-Assisted Growth and Learning Association (Eagala) model of therapy.

Jedlicka said the Eagala model allows an individual to externalize their problems onto the horse and the environment. These problems may include anything from children dealing with attention deficit hyperactivity disorder (ADHD) to veterans experiencing post-traumatic stress disorder (PTSD). As a prey animal, the horse responds to what the individual is externalizing. These responses may include the horse swatting its tail or walking away completely, but PBJ Connections' mental health specialists help the client process all situations and issues.

"My dad, to this day, will tell you that he's pretty sure horses kept me out of trouble," Jedlicka said.

MAKING AN IMPACT

PBJ Connections has grown tremendously since its beginning and has started partnering with other organizations to reach a wider range of individuals, such as first responders and veterans, through EAP.

"That experience is always powerful," Jedlicka said. "There's so much trauma walking in, but it's an amazing experience to see these men let themselves fall apart and start to deal with their trauma because of some interaction that they're having with a horse."

Katie Fitzsimmons, an equine specialist and mental health specialist intern, graduated from Otterbein University with a degree in equine science and is currently working on her master's degree in social work at The Ohio State University. She has also had the opportunity to experience these incredible breakthroughs.

"Whether I'm a mental health specialist, in the role, or an equine specialist, knowing that we were able to provide a space for that person to make that type of growth is really rewarding and so cool to watch," Fitzsimmons said.

PBJ Connections has also started incorporating new programs like expressive arts groups. These activities have been facilitated throughout the community and in partnership with some schools. Programs like this can reach more individuals, which allows PBJ Connections to take their mission statement to the next level.

"Most treatments that we're doing are very experiential, so the client is actually doing something and not just talking about doing something," Jedlicka said. "Expressive arts [are] just another way to facilitate that."

Even with all of these impactful programs, quantifying the success rate of individual experiences can be difficult. Some individuals attend a few sessions and then never come back or reach out again, which is a common trend for someone seeking mental health therapy, Jedlicka said.

On the other hand, PBJ Connections

PBJ Connections' Equine Specialist, Julie Reiswig, and Mental Health Specialist Intern, Katie Fitzsimmons, help to process the feelings and emotions experienced during equine-assisted psychotherapy.

offers a 10-week school program and a six-week substance abuse program, both of which allow for easier and more obtainable feedback.

Jedlicka said, "That feedback is always very positive."

THE WAY THINGS WORK

Some individuals worry about the risks involved with working so closely with horses, but Jedlicka offers another perspective.

The Eagala model requires a code of ethics and a partnership between a licensed mental health provider and an equine specialist, so no one is working alone during a session. In addition, there is no riding involved. This allows for a very safe way of working around horses, Jedlicka said.

When someone comes to PBJ Connections with a diagnosable mental illness, specific treatment goals are set to fit their needs. The mental health specialists then measure the client's progress throughout his or her sessions with the horses. This information is documented every time the specialist sees the client, Jedlicka said.

As a mental health specialist intern, Fitzsimmons also has a case load of her own.

Fitzsimmons said the goals are specifically tailored to each client based on their presumptive symptoms and chief complaints. A mental diagnosis is a way for mental health specialists to summarize all of the symptoms the client is presenting.

"We don't like to put anybody in a cookie-cutter mold, but instead give more of an individualistic treatment," Fitzsimmons said.

Jedlicka said mental health specialists evaluate clients by asking themselves things like were they more authentic? Was their anxiety lower? Was their demeanor brighter?

As an equine specialist, Fitzsimmons also finds herself reading the horse's body language in order to keep everyone safe.

"The horses can't talk," Fitzsimmons said. "They can only tell us what they're thinking and how they're feeling through their actions, so it's really important, as an equine specialist, to interpret that in the best way possible."

OHIO STATE'S INVOLVEMENT

Before cofounding PBJ Connections, Jedlicka worked in the equine industry, but she didn't feel like she was doing enough to help others. She taught therapeutic riding for two years, until she realized she had a stronger interest in the mental health aspect of equine-assisted therapy.

That's when Jedlicka decided to take a leap of faith. In 2003, she went back to Ohio State to get her master's degree in social work so she could become a mental health specialist.

While Jedlicka was attending Ohio State, she met associate professor Kimberly Cole.

"We don't like to put anybody in a cookie-cutter mold, but instead give more of an individualistic treatment."

Cole teaches an equine-assisted therapy course to undergraduate and graduate students that exhibits an overview of different modalities dealing with this type of experience.

Cole said the course isn't meant for students to focus on a particular modality, but the Eagala model does tend to be a popular topic. Although therapeutic riding is evaluated and discussed, it's more convenient for the course experiences to revolve around ground-based work.

The ground model, or Eagala model, tends to be a common practice because it recognizes that some horses may not be suitable for riding but may have other purposes.

Horses tend to be mirrors for people, in the sense that they reflect emotions, feelings and actions. Cole once heard someone say it's hard to see the mirror when you're sitting on top of it.

Through mock sessions, students have the opportunity to rotate through each role which includes acting as a client, equine specialist and mental health specialist.

"We also discuss different client populations and how equine-assisted activities and therapies can be beneficial for those groups," Cole said.

The experience that has impacted Cole the most came from a researcher in Texas. This specific case study was about a toddler who couldn't walk, due to a physical disability. After experiencing just six 20-minute sessions of equine-assisted therapy, the toddler began walking.

Cole said it's very beneficial for people to hear success stories and to realize that equine-assisted therapy isn't just utilized from a therapy standpoint, but also as a team building and leadership training experience.

A company based out of Albuquerque, New Mexico, has previously rented Ohio State's facility and horses for their corporate leadership training.

PBJ Connections also works with The James Cancer Center, about once a quarter, to facilitate equine-assisted activities for cancer patients, survivors, families and those who have lost loved ones.

These sessions allow people to experience situations and emotions they may never experience otherwise.

Cole said, "I think utilizing [equine-assisted activities] in that way will also help promote its value as a potential therapeutic activity."







Raise your glass to OHIO'S DAIRY FARMERS

Ohio's hardworking dairy farm families do more than just produce real milk — they create jobs, contribute to their communities and help drive Ohio's economy.

More than 95% of U.S. dairy farms are family-owned. In Ohio, there are about:

- **2,000 dairy farms**
- **264,000 dairy cows**
- **131 cows per farm** on average
- **650 million gallons** of milk produced annually

Ohio ranks nationally in the production of dairy foods.

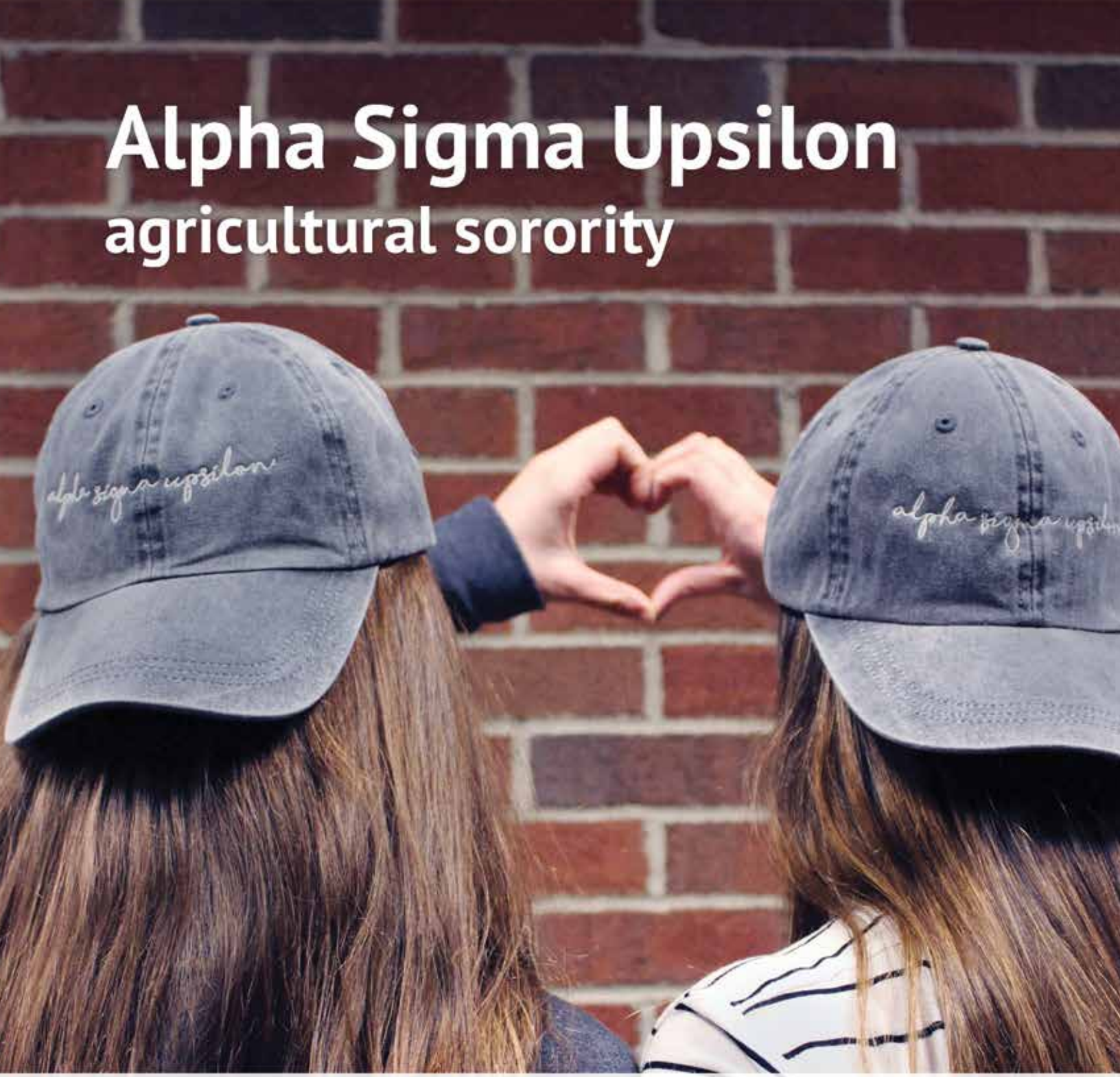
- **1ST in Swiss cheese**
- **5TH in hard ice cream**
- **10TH in all cheese**
- **11TH in milk**

Ohio's dairy farms are the ultimate local businesses, generating:

- **114,053 jobs** for Ohioans
- **$23.44 billion** for Ohio's economy

American Dairy Association MIDEAST

Alpha Sigma Upsilon
agricultural sorority



leadership, citizenship, fellowship, scholarship, and sound character

Alpha Sigma Upsilon

@alphasigmaupsilon

Alpha Sigma Upsilon

Parks and Adaptation

Government shutdown inspires changes in SENR

By: Paige Hamrick

As he shouldered his hiking gear and listened to his guide describe the impact humans have on natural landscapes, Tim Ascher's gaze landed on the stagnant waters of the Everglades. He had been to dozens of national parks, and by this point was well-versed on the public land management curriculum—his students could attest to that— but this trip was different.

The trash receptacles overflowed with weeks' worth of trash, and a random food truck pulled up to serve an unsolicited lunch menu, showing a once well-regulated and preserved ecosystem now turned wild and unrestricted.

As he listened to his guide's snippets of facts and stories about the park, Ascher's thoughts were on the dedicated students he taught every day, and the passion they have for this line of work. He imagined them going weeks without a single paycheck.

"I'm taking out a full lecture and replacing it with the changing face of public land management... I feel like the students need to know that this is more of a reality than it used to be."

The prolonged partial government shutdown sparked uncertainties for students at The Ohio State University planning projects and positions with federally-funded agencies like the National Park Service.

As a lecturer, Ascher teaches for the School of Environment and Natural Resources in Ohio State's College of Food, Agricultural, and Environmental Sciences. Ascher has taught the management of public lands for six years at Ohio State, and many of his students share his love and enthusiasm for national parks.

Having previously worked for the federal Forestry Service, Ascher visits national parks regularly, his love for wildlife extending into his private tree nursery.

PREPARING FOR THE WORST

The shutdown has forced Joanna Edge, a graduating senior in natural resource management and forestry, fisheries, and wildlife, and her classmates, to look into new skillsets. Edge dreams of working in the National Park Service. For her, working for the service would mean she would have to be prepared for another shutdown.

For those working in national parks, this means being prepared to take on another job temporarily.

"A lot of us are just trying to get out of that wildlife bubble... we want to have enough skills to go to other places, just in case," Edge said.

The income of the average employee in the National Park Service is not high, and a second missed paycheck could be detrimental.

According to Ascher, "no one is rich in the National Park Service."

The government shutdown resulted in unmanaged national parks and public lands. Thousands were not paid for the first 35 days of the shutdown.

People who work to maintain and preserve these spaces were not showing up to work. Trash piled up, restrooms were not cleared out and no one was available to enforce safety and preservation regulations.

In response to the issues that arose in the national parks and public land areas, Ascher is changing his course curriculum to incorporate circumstantial possibilities like a government shutdown.

"I'm taking out a full lecture and replacing it with the changing face of public land management, and this shut down has forced my hand on that a little bit. I feel like the students need to know that this is more of a reality than it used to be," Ascher said.

In this new lecture, Ascher wants to focus on the ramifications government shutdowns can have on his students' future careers. He plans to include his own experiences from his trip to the Everglades National Park during the shutdown.

IMPACT BEYOND PUBLIC LANDS

Ascher described his trip to the Everglades as shocking and eye-opening. He spoke with locals about how the shutdown has affected their area and found out that a large part of the surrounding community was impacted as well.

"A lot of people don't go to the Everglades when it's a thousand degrees in the shade—mosquitoes everywhere. They go in the winter. That is their busy season. So, for local outfitters that supply that area... that's a large chunk of change that they're not getting," explained Ascher.

Shops that make a majority of their income from what is supposed to be

Tim Ascher in a national park. Photo courtesy of Tim Ascher

peak tourism seasons are now being hit by the decrease in park attendance.

Tour guides spoke to Ascher about federally funded research projects being put on hold during this period. A month-long gap in research can be detrimental to projects which have taken years to put together. Safety concerns of the visitors arise as well, since programs that relocate dangerous animals were not running. Animals such as ball pythons and alligators were now invading popular hiking places.

These federally funded factors are going to be added to the course material for Ascher's class.

MISSED OPPORTUNITIES

For graduating seniors, the job application process starts long before graduation. December graduates faced the real possibility of their new federally-funded position being cut.

"A lot of people graduated last semester as the shutdown was hitting. How does that influence someone coming right out of college?" Ascher asked with genuine concern.

Nobody knows exactly what the future holds for students graduating in these areas.

Tierney Gannon, a graduating senior in fisheries, forestry, and wildlife, applied and interviewed for a park ranger position in the National Park Service—right before the shutdown began. The shutdown put a long pause on the process, and in the meantime, she accepted another job.

"It took so long to get a response from my interview that I interviewed for a different job and had already accepted it," Gannon said.

With all of the current uncertainties in the field surrounding the government shutdown, Ascher said this is how he knows students working in those areas are dedicated to what they do.

"This is why I like teaching this class— because you all are going into jobs that you know you're not going to get paid a lot of money, and you still want to do it. You're going into it because you're passionate about it," said Ascher.

The government may shut down temporary funding, but it cannot shut down the passion residing in the future graduates of the School of Environment and Natural Resources.

Forestries, fisheries, and wildlife club students enjoying the outdoors. Photo courtesy of JoAnna Edge

PRIZE WINNING SCIENCE

Ohio State Soil Scientist Mitigating Climate Change

Photos and Story By: Mariah Morris

The lights turn on, you take a step inside and look around and you see Rattan Lal's livelihood. You can see the twinkle in his eyes as he walks into the lab. The lab is filled with soil samples, equipment and writing on the boards from experiments. Lal smiles with pride as he walks around the lab. This is his reason for coming in from 5 a.m. to 5 p.m. every day, rain or shine, Christmas or Thanksgiving, you will find him doing what he loves most—soil science. His dedication to soil science recently paid off as he had the honor of receiving the Japan Prize.

THE PRIZE

Lal's journey to the Japan Prize has been five decades in the making. The Japan Prize is awarded to scholars whose original, outstanding achievements in science and technology are recognized as having advanced the frontiers of knowledge and served the cause of peace and prosperity for mankind. The Japan Prize Foundation presents the Prize.

"Dr. Lal is one of the most influential scientists of our generation."

"I got a call from the Japanese embassy. They had me confirm who I was, and if I had heard of the Japan Prize before, then they told me I had won. I couldn't believe it, I was very excited!" said Lal.

Lal will be seated with the emperor and empress of Japan at the award banquet in April.

To be considered for the Japan Prize, recipients must be nominated. Lal remains uncertain who nominated him, but he believes it was one of his colleagues because his Japan Prize clearly stated his contribution to research in Africa.

Christian Feller was a reviewer of nominees and sent a letter of congratulations to Lal. Feller said the first time he met Lal was in Buea, Cameroon, in 1974 during a presentation on no-till agriculture. Lal was proposing that no-till agriculture was the best thing to do for African soil.

"The African soil is eroding and degrading. The soil became depleted. I linked no-till with carbon sequestration to improve soil health and to mitigate climate change all while improving the nutritional quality of food," said Lal.

Many countries in Africa had French governments wanting to implement different methods of farming.

"I had an opposing view of the French and was disliked," Lal said.

Feller listened to the dialogue between Lal and the French countrymen. He expressed to Lal, "this is one of your greatest jobs, the no-till study, I really felt it was something

"With his dedication, it was no surprise he won the Japan Prize."

very new and very important."

The French government eventually adopted this recommendation, and the French minister of agriculture came to The Ohio State University in 2015 to meet with Lal and recommend soil carbon sequestration to mitigate climate change.

The Japan Prize has been awarded for 35 years. This is the first time a soil scientist has won the award.

"The prize gives importance to agricultural professions, increases the precedence of the soil science profession and highlights agriculture can be a solution to the problem," said Lal, who has donated the monetary prize to the Carbon Management and Sequestration Center at Ohio State.

THE JOURNEY

Lal's interest in agriculture started during his childhood as he came from a farming family in Punjab, Pakistan.

"I grew up on a farm. The soil was dry and hard, dust storms would come through the area, so I had an interest in soil from childhood," Lal said.

Lal attended Punjab Agricultural University to study soil science. Punjab University was founded on the premise of land grant universities in partnership with Ohio State.

Lal came to Ohio State in 1965 to pursue his doctorate. He graduated in 1968 and was offered a job in Australia to research soil management in wheat production. When he was in Australia, he was offered a job in Nigeria. It was a difficult decision, but he chose to go and work in Nigeria for 18 years researching sustainable soil management systems. After 20 years of being away from Ohio State, Lal's doctoral advisor retired, and Lal was appointed in his place.

"I was back to the same lab and office where I started," said Lal.

THE SCIENCE

Soil is dark because it has carbon in it, the carbon is depleted when you plow. When you plow, the soil is oxidized and washed away by erosion. No-till agriculture keeps carbon in the soil. The Japan Prize noted Lal linked soil not just for food production and plant growth, but also for the environment and climate change.

"I recently published an article that soil can either be a source of carbon, like fossil fuel combustion, or soil can be a sink for carbon," said Lal. "Soil as a sink is good soil management; it takes carbon dioxide from the atmosphere."

Since agricultural practices such as plowing began, we have lost 135 gigaton of carbon into the atmosphere from soil.

"What I'm proposing is if we manage the soil properly, climate change can be mitigated," said Lal.

"Dr. Lal does impactful global research on issues impacting people all over the world, not just here in Columbus," said Nall Moonilall, an environmental science graduate student at Ohio State.

"He is an extraordinary person and scientist to work under. All of his research has led up to the Japan Prize," added Moonilall.

PERSONAL RESPONSIBILITY

Implementing his research and work in the lab into his daily life is something Lal strives to do.

"If we are to truly mitigate climate change, our way of life has to change," said Lal.

Lal teaches two classes, one on soil and climate and one on environmental physics—spreading his knowledge to younger generations. He also has visiting scholars from other countries who participate in research projects with him.

"Dr. Lal has so much passion and love toward soil. With his dedication, it was no surprise he won the Japan Prize," said Basant Rimal, employee for the School of Environment and Natural Resources.

WHAT'S NEXT

Lal is currently working on a new book about soil fertilizer, urbanization and climate. Lal has published 94 books related to soil science as well as the encyclopedia of soil science, now in its third edition. The majority of literature worldwide on these topics comes from Lal. In 2018, he had 1,220 publications.

Scientists are recognized by the citation index, which lists the top 2,000 scientists in the world from all subjects. In 2018, Lal was number 563. The citation index puts Lal in the top 1 percent of scientists in the world with 90,731 people citing his work collectively as of January 2019.

"Dr. Lal is one of the most influential scientists of our generation," said Moonilal.

Winning the Japan Prize was unbelievable for Lal.

"When the Japanese embassy called and told me I had won I wasn't sure whether I was awake or sleeping," said Lal. "It's unreal- and that's when I feel God must be there somewhere."

Lal has no plans of stopping his research anytime soon. Winning the Japan Prize reminds him that coming in every day, 5 a.m. to 5 p.m., does not go unpaid. It may take some time, but hard work is always rewarded.

Dr. Lal in the lab

CROPS AND SOILS CLUB

The Crops and Soils Club provides members with agronomic experiences, knowledge, connections, and professional development to obtain a successful career as industry leaders.

OHIO STATE
AGRONOMY
Crops and Soils Club

Agricultural Systems Management Club

Professionals of tomorrow

The Ohio State University ASM
Agricultural Systems Management

CHADWICK ARBORETUM & LEARNING GARDENS
at The Ohio State University
CFAES

Arbor Day Celebration of Trees
April 26, 2019, 10:00 a.m.
Kottman Hall

Join us for our annual Arbor Day Celebration of Trees on Friday April 26 at The Ohio State University, west entrance of Kottman Hall, 2021 Coffey Road, Columbus, OH 43210.

Details at: **ChadwickArboretum.osu.edu/events**

Spring Plant Sale & Auction Fundraiser
Open to the public May 10 – 11, 2019
Corner of Lane Avenue and Fred Taylor Drive

Many new and unusual annuals and perennials as well as gift items. Unique tree and shrub auction daily.

Details at: **ChadwickArboretum.osu.edu/events**

May 9 is our exclusive, Members-only Presale Preview Party with a unique tree and shrub auction at 6:00 p.m. Become a Member at the gate or today at:

ChadwickArboretum.osu.edu/become-member

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

CFAES

Master in Plant Health Management

Department of Plant Pathology - Department of Entomology

- Online and in-person classes
- Open to applicants from all majors
- Designed for working professionals
- Can be pursued full- or part-time
- Professional Science Masters affiliated

More Info

mphm.osu.edu

614-247-6876 Phone
mphm-grad@osu.edu E-mail

The **Master in Plant Health Management** (MPHM) program is designed to provide advanced knowledge in plant health management.

For those who want to advance their career or pursue new opportunities with a graduate degree, this program was created with the working professional in mind.

MPHM is part of a growing trend in graduate education, with an interdisciplinary curriculum that integrates science and professional development. The degree can be pursued full- or part-time and completed full-time in as little as 1.5 years. For more information, visit **mphm.osu.edu**

THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

DEPARTMENT OF PLANT PATHOLOGY
DEPARTMENT OF ENTOMOLOGY

Federal Farm Bill Effects in Ohio

By: Hailie Cassady

Any country that is unable to feed, shelter or clothe itself ends up in massive turmoil," said John Torres, director of government affairs for Ohio Corn and Wheat Growers Association. With a steady decline in commodity prices and increasing input costs, legislators must carefully revise the farm bill every five years to balance risk and add predictability to the agricultural industry and give a sense of security to farmers.

Though the price tag is typically the frightening factor for the farm bill, there is generally overwhelming bipartisan support from Congress and the House of Representatives. The $867 billion Agriculture Improvement Act of 2018 passed legislation on Dec. 11, 2018 and was signed by President Trump on Dec. 13.

In the 1920s and 1930s, farmers were suffering through decreasing crop prices after World War I, a massive drought crippling the center of the country and the Great Depression setting in. The farm bill, which originated as a part of The New Deal, a series of programs and projects instituted during the Great Depression, was created in hopes of rebuilding pride across America. This bill was passed in 1933 and included a program to raise prices in the agricultural industry by compensating farmers to limit their production of commodities. After realizing the success that came from the bill, Congress elected to establish the program permanently with a renewal every five years.

Although the economy has become steadier and Congress made changes to the federal finance system to ensure that our economy will not end up in another Great Depression, the government still realizes the value of America's farmers and must work to provide them with some predictability when commodity prices are plunging.

After several years of revisions and renewals, the farm bill now consists of 12 titles that are prominent in the industry. The first title, representing why the farm bill originated, focuses on commodities. Commodities are defined as a raw material or primary agricultural product that can be bought and sold. As a staple of the legislation, this title works to incentivize the production of crops that are essential to society and the economy.

CROP PROGRAMS FOR PREDICTABILITY

In the 2014 farm bill, two programs were authorized to assist farmers working with decreasing commodity prices. Farmers have the option to enroll their crops into one of these programs through their local Farm Service Agency. Due to the success of the programs in the previous bill, the 2018 farm bill will reintegrate these programs and allow farmers to enroll their crops from one program to the other more often to benefit them.

Agriculture Risk Coverage (ARC) is a program that provides revenue loss coverage to farmers at the county level. Price Loss Coverage (PLC) is a program that kicks in when the effective price of a covered commodity is less than the reference price for that commodity. With these programs, the government is able to offer farmers a decreased risk in their livelihood to make their job less ambiguous.

According to Torres, lobbyists and lawmakers worked together to keep the overall structure for the new farm

bill. He explained there weren't a lot of major changes necessary—just some fine-tuning.

"The 2018 farm bill was meant to be evolutionary, not revolutionary," said Torres.

NUTRITIONAL ASSISTANCE

Along with assisting farmers, the New Deal offered programs aiming to help Americans with nutrition assistance, commonly known as food stamps. The food stamp program, implemented in 1939, helped 20 million Americans over four years and cost the government $262 million.

Fast-forward a few years and the economy was successful enough to end nutrition assistance in 1943. Twenty-years later, President John F. Kennedy launched a pilot program to experiment with the feasibility of food stamps. The 1964 Food Stamp Act was made permanent by Congress and President Johnson. In 1977, the food stamp program and farm aid were combined as the Food and Agriculture Act and since then, the two have always been discussed in tandem.

Today, the nutrition assistance program makes up 80 percent of the farm bill. Millions of Americans affected by the 2018 farm bill have never set foot on a farm. As of 2018, more than 40 million Americans receive an average of $127 per month in nutritional assistance through the Supplemental Nutrition Assistance Program (SNAP), according to the United States Department of Agriculture. The original version of the 2018 farm bill, drafted by the House, featured new requirements for SNAP, formerly known as food stamps. Those requirements included able-bodied adults between 18 and 59 with no young children to work at least 20 hours per week or pursue job or educational training opportunities in order to receive food stamps. This recent version of the farm bill was consistent with the 1996 welfare reform law signed by Bill Clinton.

"Work requirements were removed from the final version of the 2018 bill as passed by Congress," said Rep. Jim Jordan, a Republican representing Ohio's 4th District. "In fact, the final bill contained no meaningful food stamp reforms at all."

"In recent farm bills, spending on the food stamp program has grown at an unsustainable rate, increasing by 283 percent since 2001," said Jordan.

NEW HEMP LEGISLATION

Senate Majority Leader Mitch McConnell (R-KY) strongly supports the hemp legislation that was integrated into the final version of the farm bill. Hemp, which is defined as the cannabis plant, has one key difference from the cannabis plant that produces marijuana. Hemp cannot contain more than 0.3 percent of THC, the substance associated with getting a person high.

Hemp is legal in the United States with some stringent restrictions, but the 2018 farm bill is more expansive on cultivation and allows hemp-derived products to be moved across state lines for commercial or other reasons. Each state can dictate whether or not it will be legal to grow the plant.

"The onset of hemp as a potential cash crop in Ohio provides new and interesting opportunities for farmers here," Torres explained. "Any time that we can diversify our production, we mitigate risk."

Although it is uncertain how Ohio will implement laws surrounding hemp, the Ohio Corn and Wheat Growers Association is excited about the new federal legislation.

"For me personally, as a full spectrum hemp consumer and distributor, the Drug Enforcement Agency no longer has any claim to interfere with the interstate commerce of hemp products," said Angie Martin-Lotz, independent Zilis consultant. "This is exciting because the cannabidiol products that I use regularly will likely become more affordable and easier to get ahold of."

The 2018 farm bill had minor changes compared to previous versions and there is excitement for an opportunity to grow a new agricultural commodity. Depending on state legislation, farmers could potentially begin growing hemp on their land within the next two years. Mitigating risk across more commodity types can help farmers work against decreasing commodity prices.

Farmers of all types are affected by the Farm Bill - grain farmers included

Join AmericanHort for FREE!

Use promo code **OSUAgNat**
Sign up by June 30.

Where do you *go to grow?*

If you want to perform better, grow stronger, and be positioned for whatever the future brings, there's no better place to belong than AmericanHort.

For more than 220 years, we've been the green industry's leading association, answering your questions, representing you in government, and connecting you with other horticultural professionals at our annual trade show, Cultivate.

Join us today, and see how we're better together.

AmericanHort

Get Connected

AmericanHort.org/Join

it's okay to not be okay.

How Ohio State University Extension is Normalizing Mental Health

Photo courtesy of Pexels photographer Carl Larson

By: Lexie Nunes

Stress is inevitable. There are bills to pay, errands to run and not enough time in the day to do it all. The effects stress can have on our physical health are well-known, but rarely do we acknowledge the impact it has on our mental health. Tending to our mental health is an issue that is often left to secrecy, but the truth of the matter is, one in four adults in the United States is diagnosed with a mental health disorder.

The Ohio State University Extension (OSUE) has recently made efforts to acknowledge this startling statistic, and they are paving the way in getting the conversation started.

A FARMER'S MENTALITY

It's no secret that farming is a stressful occupation. With many uncertainties including weather and commodity prices, farmers have little control over factors that directly impact their livelihood.

In 2018 alone, 172 Ohio dairy farmers called it quits on their farms, some due to profit loss. Soybean and other crop farmers also barely held on after tariffs were enacted this year by the United States. Working at a continual loss makes it hard to stay positive.

Another factor related to farm stress is the pressure to protect a family legacy. 97 percent of all farms in the United States are family-owned and operated, being passed down from one generation to the next. If a farmer loses his crop or is forced to sell his herd, it can lead to overwhelming feelings of guilt and failure.

Concern about suicide and mental health treatment for farmers has risen in part because a report released in 2016 from the Centers for Disease Control and Prevention found that when compared to other occupations, farmers and ranchers have the highest rate of suicide.

In another recent study released by the Bureau of Labor Statistics, farmers and ranchers were ranked third for riskiest occupation in terms of mental health.

Talking about mental health is habitually seen as taboo amongst the farming community. This stems from the hardworking, grit attitude that farmers possess.

From a very young age, farmers and ranchers have a mindset to shake it off and get the job done.

"In the agricultural field, we think of ourselves as strong people. And sometimes there's a stigma associated with asking for help," said Roger Rennekamp, associate dean and director at OSUE. "We pull ourselves up by the bootstraps and we believe that we can take care of everything ourselves but that's not the truth."

RISING ABOVE THE STATISTICS

In 2016 OSUE began its mental health first aid training, which was originally introduced in the United States by the National Council of Behavioral Health (NCBH) in 2008. The training

originated in Australia and is aimed to help Ohioans recognize and respond to signs of mental health disorders.

"We are not training mental health professionals, but anyone can learn to watch for the early warning signs," Rennekamp said.

OSUE is part of a nationwide movement to normalize conversations surrounding mental health. More than 1 million people in the United States have already undergone certification training provided by the NCBH.

Currently, there are seven nationally certified educators on staff at OSUE. The long-term goal is to have at least one extension professional trained in every county, not necessarily to teach a course, but to arm each county with a person who has the conversation skills and knowledge to be able to help clientele.

The certification training includes the ALGEE method, which is a five-step model used as a response strategy for nonprofessionals. This method teaches people to assess risk of suicide or harm, listen non-judgmentally, give reassurance and information, encourage appropriate professional help and encourage self-help and other support strategies.

OSUE offers two specialized courses to choose from: adult mental health first aid® and youth mental health first aid®. The adult course teaches participants to recognize signs and symptoms of mental health disorders like depression, anxiety and substance use disorder. The youth course is geared to train adults working with adolescents and teaches others to recognize the difference between typical adolescent development and an emerging mental health problem, said Amanda Raines, 4-H youth development educator at OSUE-Hardin County.

At this time, OSUE is working more extensively with Ohio schools to get all school staff trained and certified in youth mental health first aid. This is in response to the shocking statistic that suicide is the leading cause of death for ages 8 to 10 in Ohio, Raines said.

The Hardin County educator is no stranger to mental health first aid conversations as she spends much of her time advocating for mental health through trainings and presentations. Raines is nationally certified to instruct mental health first aid® and youth mental health first aid® through the NCBH.

"We pull ourselves up by the bootstraps and we believe that we can take care of everything ourselves, but that's not the truth."

In March 2018, Raines and colleague Jami Dellifield, family and consumer sciences educator at OSUE-Hardin County, gave a presentation at the Agribility National Training workshop in Portland, Maine. The presentation focused on farm stress and reducing the stigma that comes with mental health disorders.

"When it comes to mental health, we really want to stress that it's important to take care of yourself and it is okay to talk about it. You don't have to be ashamed," said Raines.

The 8-hour course is open to anyone interested in becoming certified and is offered in all 88 Ohio counties. Raines suggests, "anybody who loves another person should take the course."

There are several public trainings held throughout the year at Ohio State University regional campuses as well as local training sessions by request.

A HOPEFUL FUTURE

While we can't eliminate all sources of stress, like fluctuating prices and inadequate weather, we can change the way that farmers handle stress.

The educators at OSUE are hopeful that the mental health first aid training is a stepping stone to help those dealing with stress see there is hope.

"People think of Extension as just helping farmers achieve greater yields but there are so many peripheral things, like farm stress, that affect both the farmers and their families," said Rennekamp.

"We really feel it is our obligation to provide them with resources to get them the help they need."

For more information or to find a course near you, visit mentalhealthfirstaid.org or call your county OSU Extension office.

Ohio's 2,200 dairy farmers are facing an uncertain future in the industry, which can lead to stress and depression. Photo by Lexie Nunes

Playing Their Hand

By: Madeline Bauer

A farmer's life is never easy. Complications can arise at any point during the harvest season. Weather conditions dictate almost everything farmers need to accomplish in order to harvest their crops in the fall. Farmers across the state will remember the 2018 fall harvest for years to come, because the weather conditions were harsh, fields remained saturated and farmers' chances to harvest their crops diminished as the season continued.

Sean Nolan is the co-owner of New Legacy Farms in Wakeman, Ohio. Nolan is a crop producer and has diversified his operation by custom farming for more than 25 different customers. The variety of his job includes applying anhydrous ammonia across 6,000 acres and custom farming 5,000 acres across six different counties, allowing him to see a great variety of land and crops this year.

"It was the wettest fall and most drawn out. Worst I've seen in the last 20 years since I've been farming on my own," said Nolan.

At the end of the harvest season, every farmer looks forward to parking their machinery in the shop when crops are finally reaped. However, Nolan and New Legacy Farms repeated this process three times before harvest was complete.

RULE OF THUMB

No growing season or harvest is ever the same. For Nolan, this was apparent when planting first-crop beans. Nolan reported beans planted early held a worse yield than his first-crop beans planted in June. So what happens when those general rules of thumb go out the window?

Laura Lindsey, an assistant professor of horticulture and crop science at The Ohio State University, focuses on soybean and small grain crop production. She is primarily responsible for extension in areas of the state lacking a planting and harvesting plan.

"All of agronomy is generalizations," Lindsey said. "The rule of thumb is you should plant in May and not June. That's the guideline, but it's just based on experience and models, and sometimes they don't work."

HARVEST LOSSES

Not only does a challenging harvest have an affect on machinery and man hours, but also affects the soil structure and the crops that haven't been harvested on time.

When soybeans sit in a field for a long period of time, many times harvest losses result, Lindsey said.

"Sometimes, even under normal conditions, if soybeans dry down and the pods get re-wet ... those wetting and drying cycles can weaken the pods themselves," said Lindsey.

When farmers attempt to harvest the beans, the weakened pods cause a 'shattering' effect. Shattering happens when pods shatter and seeds fall to the ground, which is considered a harvest loss and reduces the yield.

Jeff Hattey, a soil science professor in Ohio State's School of Environment and Natural Resources and a state extension specialist in soil management, explained that compaction of the soil is one of the most imposing problems facing farmers entering wet fields.

Compaction of the soil can be a long-term issue. Even if farmers till and loosen their soil in the spring, there is a risk of creating a compaction layer beneath the plow layer.

"If it's six inches or eight inches below that [plow] depth, there can be this compacted layer that impedes water flow, [root] growth and the ability for nutrients to be taken in by the plant," Hattey said.

When the soil is dry and the plant roots attempt to grow deep to get the water and nutrients they need, the compaction layer created can prevent the plant from reaching nutrients.

"Compaction zones caused by traffic during wet seasons, or tillage when it's wet, actually can impede and keep

the roots from growing. So, the year they need to penetrate and get down deep into the soil, they can't because that compaction zone can set up as hard as concrete," said Hattey.

FROM HIGH TO LOW

Moving from one of the northernmost points in Ohio to one of the southernmost, father-son duo Chris and Andrew Waymire from Cedarville, Ohio experienced a similar challenge as Nolan.

"All of agronomy is generalizations."

In addition to wet fields, Waymire Family Farms also dealt with down corn. This can be a result of wetter-than-normal conditions, high-pressure winds and excessive rainfall. The farmers dealt with a field of approximately 40 acres of down corn. Fields that normally take them five hours to harvest took almost three days. Harvesting down corn is a daunting task, but the Waymires were as cautious as possible.

"We went in to get the down corn at the times we knew it wouldn't affect our ground. We didn't rut up the fields," explained Andrew Waymire, son of Chris and an agronomy student at Ohio State.

Soybeans are usually the first crop to be harvested, followed by corn. The Waymires experienced an abnormal task, as they were unable to finish soybeans first and then their corn. Switching combine headers often, the duo did their best to finish the season.

DETESTABLE CONDITIONS, EXCEPTIONAL YIELDS

Since this year's harvest was drawn out, presenting undesirable working conditions and challenges, one might think the crop yields would bring the same effect. This was not the case.

"Our beans were actually the best bean yields we've ever had. A lot of our customers had some of the best bean yields they've ever had," Nolan said.

Chris and Andrew Waymire experienced above-average corn yields, some fields doing better than they ever had before. Lindsey also confirmed the exceptional yields this past year's harvest brought.

"Looking at the average soybean yield for the state this year, it was 59 bushels an acre. Last year, it was 49 bushels an acre," Lindsey said.

Part of Lindsey's job is observing the test plots planted throughout the state of Ohio. Looking at all of the trial areas, yields were slightly higher than the previous year. The one exception was in northern Ohio, where yields were massively higher. The southern and central locations didn't deviate much from 2017, as southern Ohio usually brings higher yields.

"It's just kind of crazy because it looks bad, and it didn't seem great, but the state yield was really good," Lindsey said.

WEATHERING THE STORM

No matter the trials and tribulations Ohio farmers faced this harvest season, many were still able to come out on top. Where there are hardships, there is reward. Conditions may not have been ideal, but perseverance and determination allowed Ohio's notable agriculturalists to end the drawn-out season with remarkable yields. The saying, "play the hand you're dealt" comes to mind when reflecting on this harvest season, which is exactly how Ohio farmers weathered the storm.

Sigma Alpha
SORORITY

Sigma Alpha Sorority was founded right here at The Ohio State University in 1978. It has since spread across the country, but its roots have remained strong within the Alpha Chapter.

Join our sisters in agriculture and develop yourself through **scholarship**, **leadership**, **fellowship** and **service**.

72 • Chapters

42 • Alumni Chapters

16,000 • Members

For more information, contact Lea Kimley, recruitment chair, at kimley.1@osu.edu

Follow us!

CFAES *Champion* on the Track and in the Classroom

By: Nick Rainey

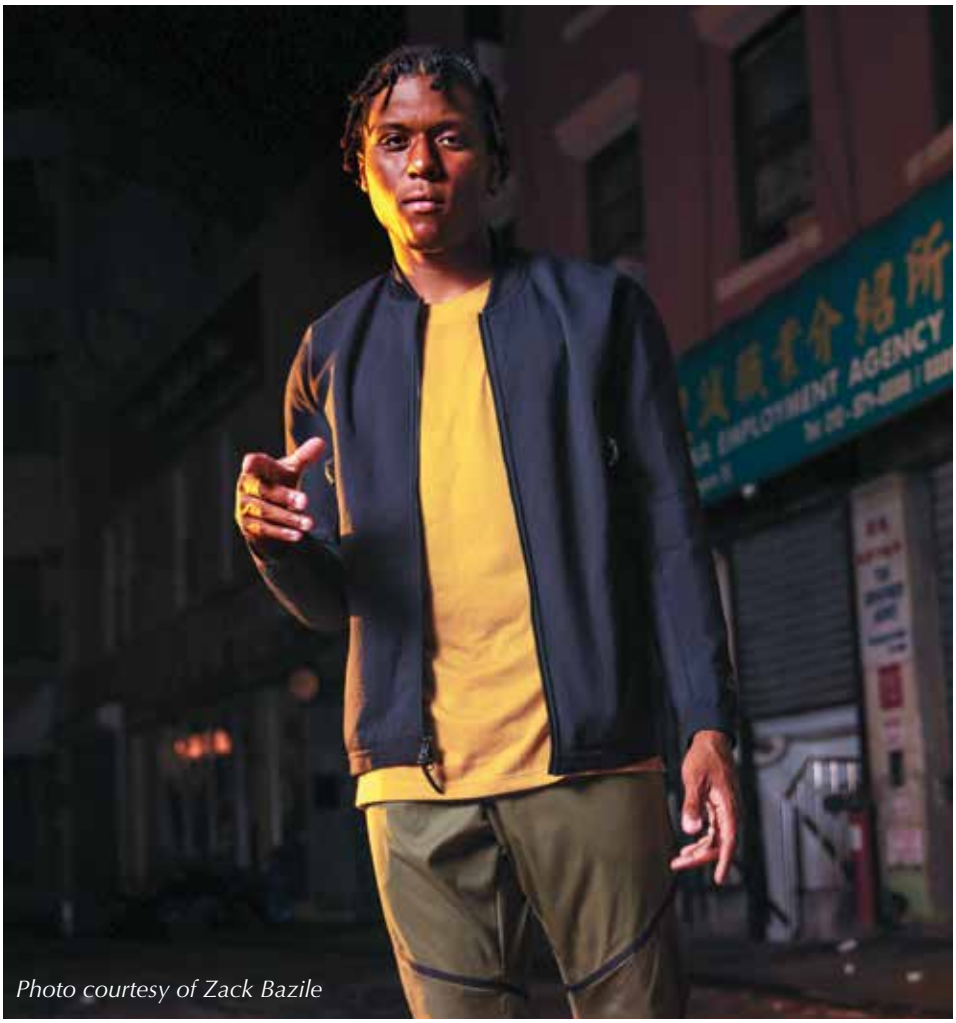


Photo courtesy of Zack Bazile

Think about decorated champions from The Ohio State University's College of Food, Agricultural, and Environmental Sciences and you might think about someone who has earned honors for 4-H, ribbons at the Ohio State Fair or grand champion at the Quarter Horse Congress. You might not immediately think of NCAA track and field. Setting the Ohio State record for the long jump is NCAA champion and recent CFAES graduate, Zachary Bazile '18.

EARLY YEARS

Bazile, a Montvale, New Jersey, native, had an interest in athletics from an early age. He played every sport from soccer to football. As an adolescent, Bazile's main interest was soccer, and it wasn't until his junior year of high school that Bazile even thought about track and field. Bazile's high school coach saw great potential in him and realized he could do something impressive for his high school team in the long jump. At Bazile's first meet, he jumped 18 feet, 11 inches.

"That was about average for a high school jump," reminisced Bazile.

Average wasn't good enough for Bazile, so he worked harder. As a senior, he won the New Jersey state long jump championship.

BAZILE THE BUCKEYE

During his senior year, Bazile received a scholarship offer to the University of Rhode Island for long jump. Bazile visited the campus and considered going, until he heard from Ohio State and was offered a spot on the Buckeyes' track and field team. Bazile, knowing nothing about Ohio, committed after his first official visit.

"I had never even been to Ohio before," Bazile said when asked if he had any ties to the state. Initially, Bazile was not offered a full scholarship, but this didn't deter him from putting forth more effort than ever before.

"I knew I needed to prove myself in the financial standpoint of scholarships. I really needed to step up and prove my worth," Bazile said.

And prove his worth he did.

As a freshman, Bazile won the Big Ten indoor long jump title and placed third for outdoor long jump. He was named an All-American.

"Freshman year was a good year—especially in my situation," he said.

Bazile's sophomore year was also filled with success. He was named All-Big Ten and placed third in the Big Ten Championship. However, Bazile was faced with adversity when he had surgery on his knees.

"My freshman year, I got a taste of what it was like to win the conference, but I had some bumps here and there," he said. Throughout his time at Ohio State, Bazile had three surgeries on his knees and groin.

"There was always something going on, but I managed to pull through."

Bazile described his senior year as a hectic year. His coach for the previous three years left the program, and this change really affected him.

Bazile started to work with track and field coaches Rosalind Joseph and Joel Brown. Joseph and Brown decided it would be beneficial for Bazile to work with the sprint team to help him with his long jump.

"They took me under their wings. It was a lot of change," Bazile said.

On top of coaching changes, Bazile had another surgery. However, Bazile overcame these challenges. He placed first at both the indoor and outdoor Big Ten Championships. His tenacity impressed his teammates.

One former teammate, Terry Johnson, said, "Zack was a great teammate mainly for these two reasons- his competitiveness and his bluntness. He went out of his way to be better than anyone he competed with

"Zack is an extremely hardworking and determined individual. He does extra when no one is looking."

in any event he trained for. If he lost a rep at practice, he would find ways to do extra exercises so it wouldn't happen again."

To earn the title of national champion at the NCAA Outdoor Track & Field Championships in June 2018, Bazile jumped farther than any Buckeye—including Jesse Owens—had ever jumped: a total of 27 feet, 5.5 inches. Hitting the 27-foot mark had been a goal of his since his days as a freshman at Ohio State.

To put this into perspective, the world record jump is held by Olympic jumper Bob Beamon, who jumped 29 feet, 2.5 inches in 1968. Bazile's jump was only two feet away from the world record. If he would have made this same jump at the 2016 Olympic games in Rio De Janeiro, he would have placed second. If he would have made that jump in London in 2012, he would have taken home gold by a considerable margin.

Less than 20 days later, Bazile jumped again. This time it was at the USA Track and Field (USATF) outdoor championship in Des Moines, Iowa. Bazile placed second with a jump of 26 feet, 6 inches. Over the summer of 2018, Bazile represented his country and competed in London at the Athletic World Cup. Seven countries had their best track and field athletes compete for gold. Bazile, the only American long jump representative, placed second.

"I'll be honest. I was a little bit nervous. It was the first time going overseas and my first international meet, so it was definitely a learning experience," Bazile said.

JOINING CFAES

When Bazile came to Ohio State, he originally wanted to be an animal sciences major. However, he has a real passion for videography, photography and marketing. He enjoyed it so much that he eventually switched majors to agricultural communication.

"The electives that I took were what I was interested in doing," Bazile said.

Bazile not only receives high praise on the track, but also in the classroom.

Emily Buck, Bazile's professor in several of his agricultural communication courses, said, "He was just as competitive in the classroom as he was out on the track, sometimes turning in multiples of the same project trying to better his skills."

As a contributor to the 2018 *AgriNaturalist* (Vol. 124, "#Farmtownstrong Goes to Battle with the Opioid Crisis"), Bazile has demonstrated his journalistic talent.

Though Bazile has a love for journalism, he explained, "I'm not sure if I'm ever going to be a journalist one day, but what I learned from the classes definitely helped me build a portfolio. So, once I'm done with track and things like that, I have ground I can take whenever I'm applying for whatever industry I choose. I know it's going to be something along the entertainment industries, whether it be photography or marketing."

FUTURE PLANS

Bazile is now officially a professional athlete residing in Jacksonville, Florida, with a group of 15 other athletes, all hailing from different countries. Bazile is just one of two Americans training with this group. He trains six days a week.

"It's real serious down here," Bazile said. "Right now, the biggest goal is just to get adjusted to the new group and training."

If anyone thinks he can do it, it's his former coach, Rosalind Joseph.

"Zack is an extremely hardworking and determined individual. He does extra when no one is looking. He's a student of the sport, and he pays attention to detail in training and preparation. He sets high goals and allows himself little room for error in achieving them," Joseph said.

Bazile keeps a journal about the people who helped him get to where he is today. One day, he hopes to turn it into a book. Hopefully, some day that book will mention his quest to win an Olympic gold medal at the 2020 games in Tokyo, Japan.

Saving Lives with Farm Safety

Photos and Story By: Jane Hulse

A lot of times, one small mistake is going to cost you your life," said Jed Bookman, safety and risk coordinator at Sunrise Cooperative, an Ohio grain storage facility. "This is a life or death situation."

When a worker enters a grain bin, the situation can become dangerous very quickly. Grain can get stuck to the walls of the storage unit and trap workers when it falls or can form a crust that hides air pockets. These air pockets will suck a worker down and entrap them if walked on.

"It could be almost instantaneous," said Bookman. "Once it starts happening, there's not a lot someone can do to get out." If they do not get out, the worker could easily suffocate in the grain.

THE HAZARDS FARMERS FACE

Working in grain silos is just one of many hazardous jobs a farmer does on any given day. This makes it clear how farming is statistically one of the most dangerous occupations in the U.S. This danger is often compounded by hazards, such as weather or livestock, that cannot be fully controlled or guarded against.

Lisa Pfeifer, educational program manager with The Ohio State University Extension's Agricultural Safety and Health Program, explained, "there are a lot of factors that contribute to hazards on the farm that people don't see in a typical job; even a typical job that might have a high rate of injury or fatality can't really compare to the farm life."

Agriculture ranked as the eighth-most dangerous job based on rate of fatal work injuries according to a 2018 report by the U.S. Bureau of Labor Statistics. The National Institute for Occupational Safety and Health, a sub-agency of the Centers for Disease Control and Prevention, reported 417 farm workers died from work-related injuries in 2016 – a fatality rate of 21.4 deaths per 100,000 workers. According to the Agricultural Safety and Health Program, Ohio had 128 fatalities over the past decade but hit a low of six fatalities in 2016.

These deaths and injuries can be caused by a variety of risk factors. Farmers perform physically demanding labor in all weather conditions. Depending on the farm and season, farm workers do risk-laden activities such as operating heavy machinery, driving vehicles on dangerous terrain, handling livestock, working in grain silos and working with hazardous chemicals. On top of these immediate risk factors, there is also the risk of cumulative damage, such as hearing loss or skin cancer from long-term exposure to loud equipment or the sun, respectively.

However, the most dangerous piece of equipment on the farm is the tractor. Pfeifer explained, since almost every type of farm operation has a tractor and tractors are driven over every type of terrain, including the edges of roads, riding a tractor is one of the leading injury agents on the farm. Between 2007 and 2016, there were 66 tractor-related deaths in Ohio. In comparison, equipment, machinery and wagons, the next highest-ranking fatality factor, caused 12 deaths in the same amount of time. Of these 66 deaths, 59 percent were due to tractor rollover.

Given how dangerous farm work has the potential to be, making sure farmers are educated about farm safety practices is extremely important.

HOW OSU EXTENSION HELPS

The Agricultural Safety and Health program strives to make sure necessary education on farm safety is accessible to people involved in the agricultural world, even if safety may not seem as exciting as some other topics.

"Lots of farmers are interested in new precision technology that we can incorporate into our farms, but to also get them to step back and focus on safety is our ultimate goal," said Pfeifer.

One of the difficulties the Agricultural Safety and Health program faces in its Extension work is making sure farmers understand these injuries and fatalities can happen to anyone. She explained, "farmers tend to grow up...

being part of a farm, so many of them have reached a certain point in their life and never had any kind of injury incident or faced the aftermath of fatality on a farm."

One of the biggest programs the Agricultural Safety and Health program does is their Grain C.A.R.T. (Comprehensive Agricultural Rescue Trailer). The Grain C.A.R.T. is a mobile unit that can simulate a grain entrapment situation which is taken across the state and used to educate first responders about how to respond to a grain engulfment situation if they are ever called to a farm to address such an emergency.

The training with C.A.R.T. "allows them to put a person in that victim role and then rescue them from that grain environment and go through the steps and the tools that they would utilize to do those types of rescues," said Pfeifer. The cart is also used to educate farmers on prevention mechanisms they can take on the farm to keep themselves safe and to keep from becoming engulfed in grain.

With tractors causing the most injuries and fatalities on the farm, the Agricultural Safety and Health program also focuses a lot of outreach education on tractor safety. They run a Tractor & Machinery Certification Program, which is a 25-hour educational course on how to operate farm machinery safely. The Agricultural Safety and Health program also educates farmers about rollover protection systems (ROPS), which are structures that protect drivers in the event of an overturn, and the importance of wearing a seat beat while driving a tractor so the ROPS can be effective. This education is important because although the use of both a ROPS and a seatbelt is 99 percent effective in preventing a tractor rollover death, not everyone uses them.

Other outreach programs include safety talks in conjunction with the Ohio Farm Bureau Federation, and farmers who attend these two-hour training sessions receive the added benefit of reduced insurance rates. The Agricultural Safety and Health program does these training sessions on a wide variety of safety topics including tractor rollover, the necessity of hearing protection and dangers of sun exposure. In the future, the program may include even more topics.

"The university is gearing up to focus on farmer stress as well," said Pfeifer, since the "national implication is that the farming population is seeing more and more effects of stress."

"If we don't know what we need to improve, we won't improve."

"We try to listen to feedback of our farmers and do our best to stay out and present in front of them so that they're not sidelining safety," Pfeifer said. "We try to follow the emerging trends and needs of our population."

KNOWLEDGE IS POWER

The Extension service works to stay on top of those emerging trends through research. Much of OSU's Agricultural Safety and Health Program is informed by research done by Dee Jepsen, state leader for agricultural safety and health.

Jepsen's research is primarily in surveillance research, meaning she keeps track of injuries and fatalities that happen on farms in Ohio, as well as what caused them and who the victims are. This allows the Agricultural Safety and Health Program to get an idea of what the risk factors on farms actually are so they may be addressed.

As Jepsen said, "If we don't know what we need to improve, we won't improve."

The data is collected through a combination of the Bureau of Labor Statistics, coroner reports, public record and the personal testimony of farmers. Once the data is collected, the Agricultural Safety and Health program partners in research with undergraduate and graduate students and epidemiologists to help analyze the data and make it accessible. The data can be found on the Agricultural Safety and Health Program's website, agsafety.osu.edu.

Jepsen's other major area of research is on the effectiveness of safety solutions.

"We're always looking for ways to improve quality of life," she said, and, "we really want to make sure that what we recommend is effective," especially because it is sometimes difficult to get farmers to accept changes they have not grown up around.

For Jepsen, knowledge is empowering. The statistics she collects sometimes paint a bleak picture, but as she says, "the good thing is we can actually make a difference and change the statistics if we acknowledge [the dangers inherent in farming and the importance of safety practices] and work to make a difference."

"Historic Landmark of Agricultural Engineering" - a plaque commemorating the development and use of the SMV emblem.

DID YOU KNOW?

The slow-moving vehicle (SMV) emblem was developed by the Department of Agricultural Engineering at Ohio State.

After several years of research into the causes of highway tractor collisions, researchers in the Department of Agricultural Engineering found most fatal tractor accidents were rear-end collisions due to the approaching vehicles not having enough time to slow down. Their solution was to develop a unique emblem to denote SMVs and warn approaching vehicles ahead of time to slow down to avoid collision.

The emblem made its debut in 1962 and was dedicated to the public in 1963. It is now used all over the world.

ALPHA GAMMA RHO

Beta Chapter | The Premier Agricultural Fraternity at The Ohio State University

Enhance brotherhood through intramurals, social events, philanthropy and community service.

For young men preparing for a career in agriculture & agri-marketing, engineering, biotechnology, food science, and more!

- 900 living Ohio State AGR alumni
- Largest agricultural fraternity in the world
- $2.5 million STEP approved AGR house
- Social and professional environment

Nathan Morlock, President | (419) 806-7073 | morlock.23@osu.edu

www.betaagr.com | 1979 Iuka Ave. Columbus, Ohio 43201

AGR HOLIDAY CLASSIC

DECEMBER 6-8, 2019

For more information, contact Devin Coon at coon.139@osu.edu or (740)-418-3929, or Mike Anadell at anadell.1@osu.edu or at (440)-714-2095.

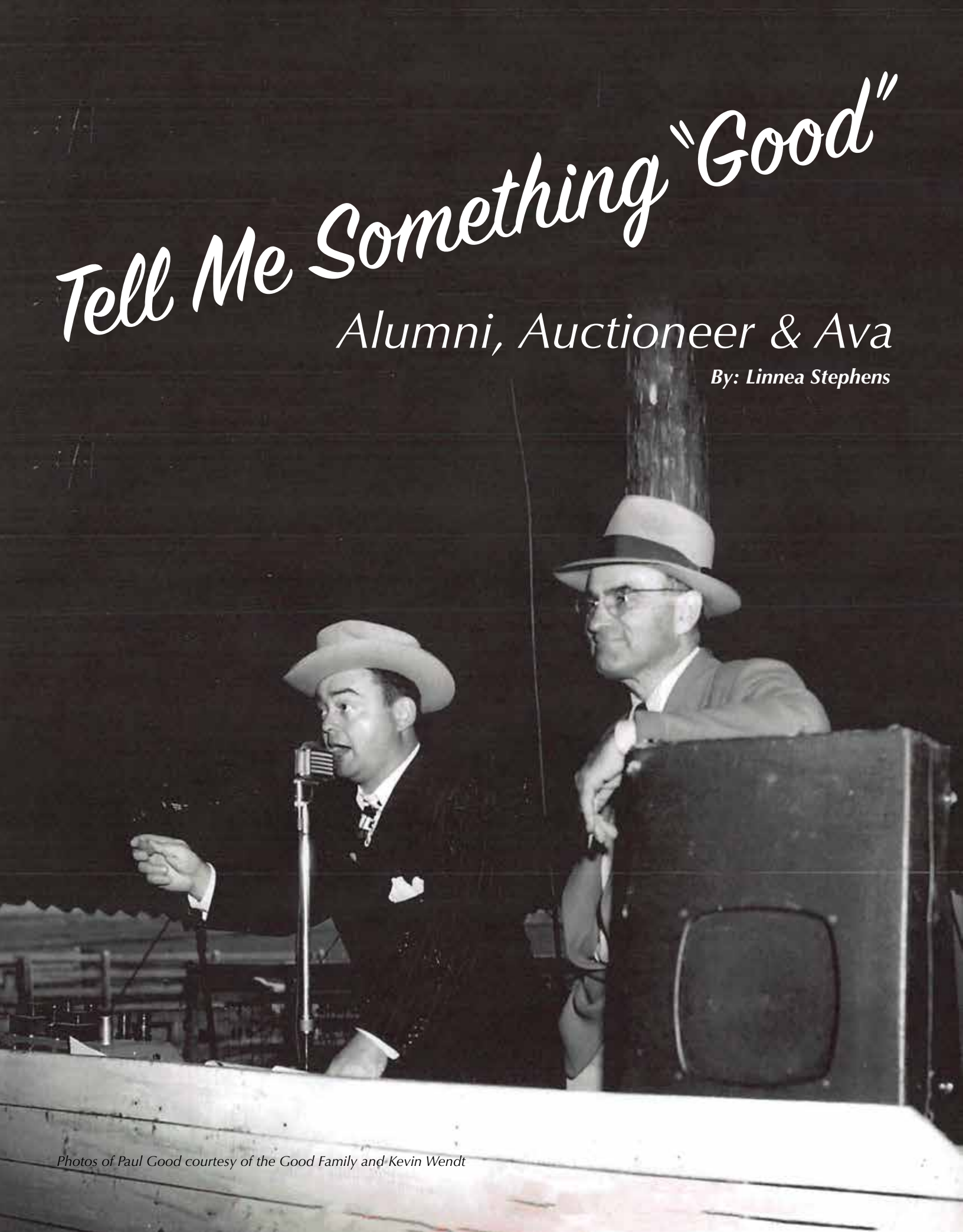
AGR

Holiday Classic

Tell Me Something "Good"

Alumni, Auctioneer & Ava

By: Linnea Stephens



Photos of Paul Good courtesy of the Good Family and Kevin Wendt

Sitting in an exotic wallpaper-lined room filled with mustard-colored carpet and delicately worn, blue-flower-printed furniture, Ava Good's emotions somersault in her stomach. The untouched white snow outside the house reflects into Ava's warm hazel eyes as they light up when reminiscing over her chromatic childhood. The chilled air outside the Goods' family farm is a sharp contrast to the warm living room filled with the smell of musty, old papers of Ava Good's parents, the only remnants of their lives she can look to other than her own memories.

A SIMPLE START

Two hours north of Columbus on an 80-acre farm, Paul Good's childhood began with hardship and adversity. During the 1920s agricultural depression, Paul's father lost value in his prized polled shorthorn heifers and began working in the beet fields with his two children, Byron, 6, and Paul, 4.

"I have never seen my father cry until he mentioned topping beets with Hungarian immigrants...you always hear about how hard the Great Depression was, but this was worse, especially on our family," said Ava.

Consequently, Paul's love for agriculture spurred from hardship into hard work. Striving to become a student at The Ohio State University just like his older brother Byron, sacrifice and dedication paved the way for Good to become a Buckeye. During high school, Paul drove a school bus, trapped animals and worked on the family farm, which consisted of polled shorthorns, Chester white hogs, Oxford sheep, poultry and grain that was planted by two draft horses.

After being accepted to Ohio State, Paul could not afford to live on campus when moving to the city of Columbus.

"My father would stay in the hog barns at Ohio State. This allowed him to live for free while going to school," said Ava.

Paul was sold on the idea of getting involved on campus when he arrived in Columbus in 1935. He exercised his knowledge of the agricultural industry by joining the livestock judging team in 1937 and the meat judging team in 1938. Exercising outside the classroom was a priority as well. Paul joined the wrestling team and became runner-up for the Big Ten wrestling meet during his college career.

A TRUE LOVE AFFAIR

During his time as a Buckeye, Paul's high-school sweetheart and future wife, Alice, was at Bowling Green State University, majoring in education.

"My mother would hitchhike down to Columbus from Bowling Green just to see my dad and she would stay in the hog barn with him," said Ava.

After graduation, Paul and his wife moved to New Hampshire, Ohio, where Paul managed a Berkshire hog farm. However, he always aspired to become an auctioneer. Although Paul had a full-time job, he was barely making enough money to support his family and they were on the verge of going hungry.

"My parents were newlyweds and had a baby, but they were starving to death. My mother's sister came to visit with her husband and when it came time to have dinner, they each only had one hot dog; that's all my parents could afford to eat at that time," Ava recalled.

Paul and Alice moved back home so he could attend Reppart's Auction School in Decatur, Indiana, but the young family continued to struggle.

"My parents would have to bounce from house to house, living with a different family member just to have somewhere to stay. It was hard on my parents," said Ava. Nevertheless, Paul's love for Alice and the auction industry never faded.

"My mother never got the credit she deserved for supporting my father and raising us while Paul was out on business," said Ava.

Furthermore, no obstacle—or person—could get between Alice and Paul's love for each other.

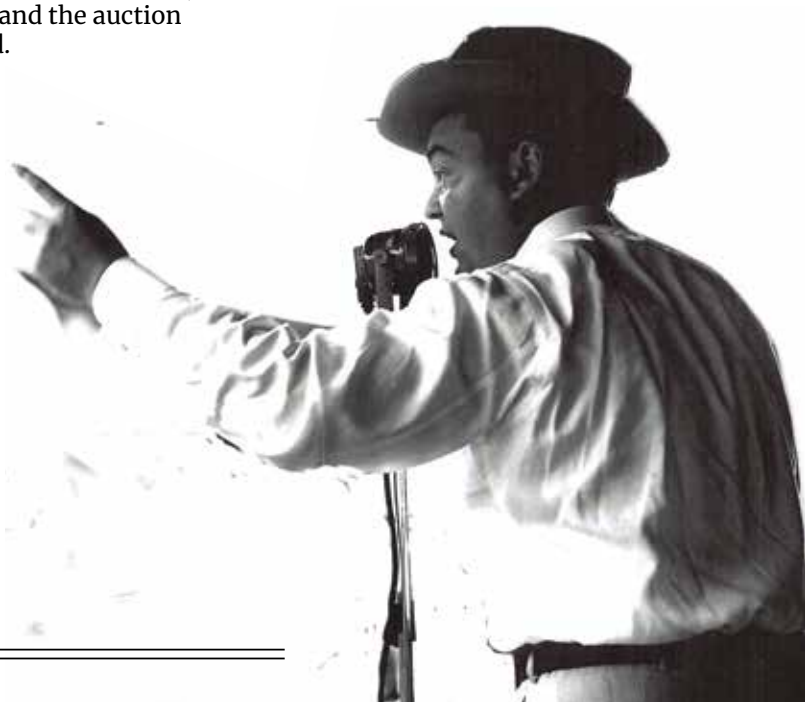
"My parents were united, they never let anyone get in between them and believe me, I tried!" said Ava.

FAST TALKING AND FIRST APPEARANCES

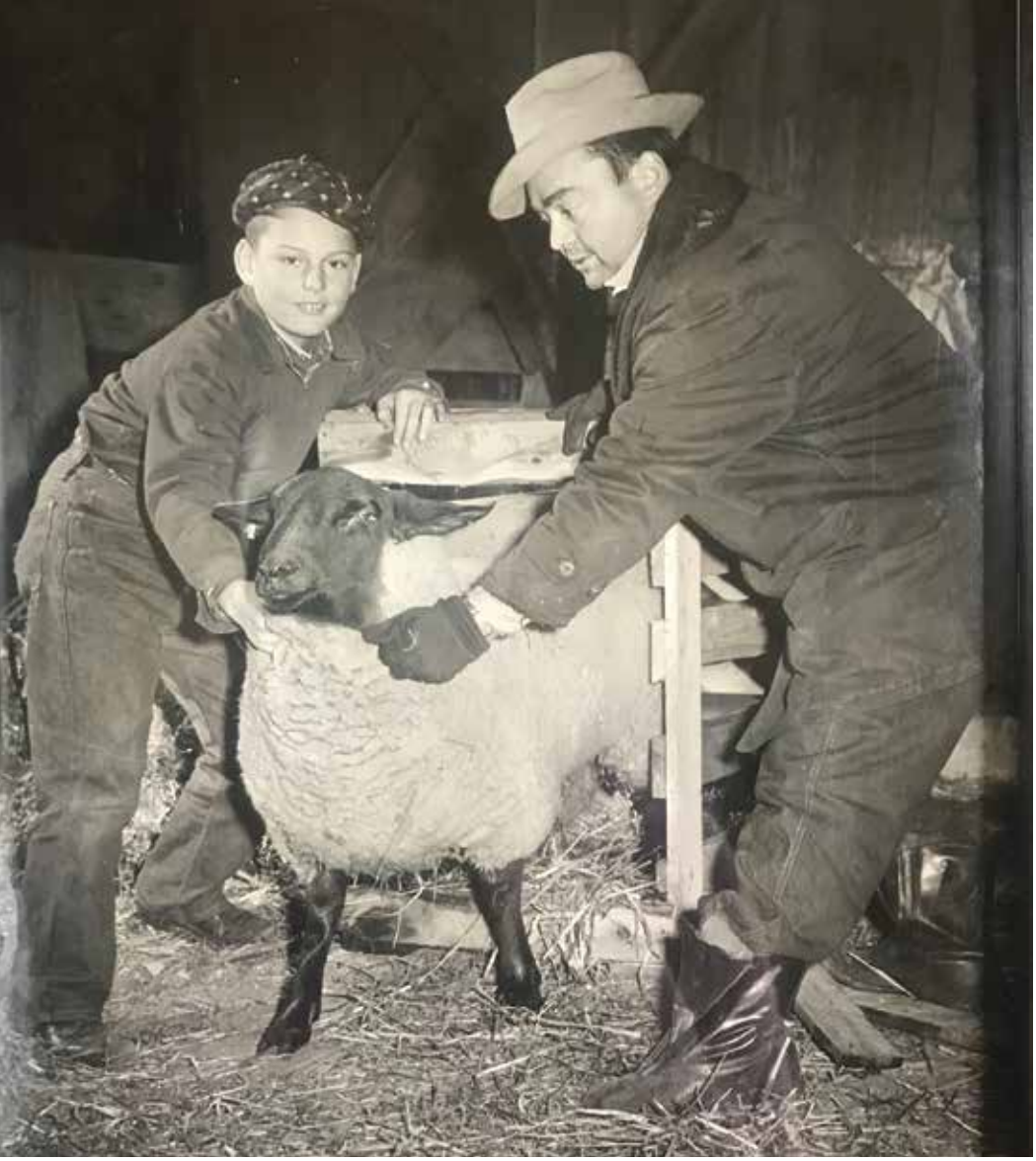
After auction school, Paul's career as an auctioneer and an agriculturist took off. He worked as a ringman, an individual who calls out bids for the auctioneer, and record keeper for the Drover's Journal in Chicago, Illinois. Paul struggled to get any microphone time considering he had little experience bid calling outside of auction school. Fortunately, Paul got his lucky break, grabbed the microphone and never let go.

"But then everyone gets a lucky break. The auctioneer got sick, which meant my dad got to cry a hog sale. From there, he got to work at the stock yards in Chicago during World War II because he was supplying beef to the war effort," said Ava.

Time with the microphone was all Paul needed to launch his career as an auctioneer specializing in pedigreed livestock. Traveling throughout the Midwest with Drover's Journal allowed Good to build a reputation that reached paramount heights. Becoming one of the most sought-after purebred auctioneers in the business, Paul performed auctions for J. C. Penny, President Dwight D. Eisenhower and Sen. Albert Gore.



"Good exemplified the tried and true method for anyone who wants to be successful in the agricultural industry."



Paul Good unloading a purebred Suffolk ram with his son Art Good. Photo courtesy of the Good Family

Coming home to his own farm and family was always the number one priority for Paul, especially during hay baling season. Alice Good would host a feast for her husband, children and all the farmhands who baled hay during the hot summer months.

"My mother would fill us up with so much homemade food. Mashed potatoes and gravy, homemade pies, jams, butter, bread, chicken...ugh," said Ava, with an eye roll and a hand on her stomach. "It was nirvana. It was beautiful, absolute paradise."

Paul Good's career abruptly ended when he underwent open heart surgery in 1978 at the Cleveland Clinic. Paul left the surgery in a coma that lasted 8 weeks and when his wife Alice woke him, they discovered he was paralyzed. Alice worked with him daily, as did his daughter Ava, who cared for him after her mother's passing 11 years later.

"He told me at the end of his life, 'If you are so lucky to live as long as I have, you are going to find out if you are treated kindly how dear every day becomes, and you are just going to want another one,'" said Ava. Paul Good passed away in 2005.

THE VOICE THE LIVES ON

During the spring of 2003, a young agriculture student from Van Wert, Ohio attended The Ohio State University. His name was Peter Gehres. During his time at Ohio State, Gehres decided to attend the Ohio Auction School on a "fluke." Post college graduation, Gehres decided to pursue a full-time career in the auction industry.

Although Gehres was gaining auction experience, he relied heavily on his wife's income as a nurse as he struggled to become a full-time auctioneer. Eventually, Gehres got his lucky break by winning the National Auctioneers Association championship in 2015, propelling him to work for auto auction companies like Barrett-Jackson. Mike Brandley, Gehres' mentor and instructor at the Ohio Auction School, knew the potential Peter had as an auctioneer.

"[Peter] was born to be an auctioneer. He quickly became immersed in not only the 'fast-talking' chant but was eager to learn everything he could about all aspects of our business," said Brandley.

Although Gehres was from Van Wert, Ohio, he had never heard of Paul Good until he entered the auction industry. After researching Good's legacy, Gehres inducted him in to the Ohio Auctioneer's Association Hall of Fame in 2019. The voice that went quiet in 2005 was reignited by a man from the same small town who, years later, picked up a microphone.

"Good exemplified the tried and true method for anyone who wants to be successful in the agricultural industry. Being successful does not come by just knowing all the aspects within the industry; it is about experiencing hard work, struggle and grit and taking that knowledge with you every day in your life," said Gehres.

Ava Good holding photos of her parents Alice and Paul on top of the suitcase her mother hitchhiked with when visiting Paul during his time at Ohio State. Photo by Linnea Stephens

ATI Isn't Foalin' Around

By: Nicole Strouse

Breeding season can be one of the most stressful yet most rewarding times of the year. The cold winter temperatures make the hours at the barn seem longer, especially overnight on foal watch. Students come bundled up in their Carhartt coveralls and muck boots ready for a long, cold night—ready and alert for a new baby to arrive at any time.

The Ohio State University's Agricultural Technical Institute (ATI) Equine Center breeds both quarter horses and racing standardbreds. ATI also brings in client horses, which could be studs for the breeding season, mares to be bred or horses at the facility for training.

The equine center is home to a group of 65 to 100 horses and is overseen by barn manager Aspen Adams. Her main job is to maintain the health of the horses and oversee all activities at the farm.

Adams, an alumna of the program herself, said, "Bringing in outside studs allows the students to experience more and helps grow our yearling program."

The horse program at ATI offers students hands-on experience in the standardbred racing culture. In the horse marketing class, students prepare for the sale and then get to see the horses being sold. At the 2018 Buckeye Classic yearling sale, ATI had the highest-selling horse bred at the farm, which sold for $11,000. Students were able to participate in every part of the process.

NEW DRIVING PROGRAM CREATES NEW FRIENDS

In addition to building the breeding program, last fall the ATI Equine Center added a driving program. Driving is when a horse is hitched to a cart, wagon or any other horse-drawn vehicle by a harness.

Karen Wimbush, the technology coordinator of horse production and management, said, "I always try to innovate, and I was seeing more less experienced riders coming into classes and we don't have enough beginner horses for riding. So driving is the perfect opportunity to team up students with the horse and carts."

The ATI Equine Center is placed in the perfect location to get the most experience with driving and cart horses given its proximity to the local Amish communities. Ohio, especially

Photo courtesy of Aspen Adams

The 2018 Spring Advanced Breeding Class. Photo courtesy of Aspen Adams

the northeastern part of the state, has a large Amish population. Over the years, ATI staff members have been able to create a positive relationship with local Amish communities.

Wimbush said, "Since we are working more with the Amish now than we ever have before, we are able to bring draft horse teams out to the farm to educate the students and allow them to drive the team."

OUTSIDE THE CLASSROOM

"The most valuable things to learn are outside of the classroom," said Wimbush, who provides hands-on learning opportunities for students.

Students have the opportunity to experience trips to draft horse auctions and visit other farms to expand their knowledge of the horse industry. Many horse classes go to the Mt. Hope horse auction. The auction takes place over a six-day period in early March.

One of the most popular classes is the horse judging class. In the classroom, students learn about the ideal physical makeup of a horse, such as having a balanced conformation. Students go to the auction to observe the sales and animals. Students are then able to test their judging skills in a real-world experience beyond pictures shown in the classroom.

The advanced breeding class takes a trip to Kentucky to visit breeding farms. At the farms, students see working breeding operations and what types of jobs are available in the breeding industry.

LASTING IMPACT

"The professors and program structure at the Ohio State ATI horse program taught me discipline, independence and passion," said Nicole Churilla, a current Ohio State student who started at the Ohio State Equine Center.

Churilla found a love for horses and animals at a young age. She never thought she could engage with a career that would allow her to work with horses every day, but when she was looking at universities to attend, she came across ATI.

Churilla is pursuing a bachelor's degree in animal sciences, specializing in animal industries, with a minor in production agriculture. She has already received an associate degree in horse science from ATI.

Some students leave ATI's horse program with an associate's degree in horse science or horse production and management and go right into the horse industry. Others transition to the Columbus campus to pursue further education. Everyone finds their niche.

Churilla was happy to find her perfect fit at ATI. She added, "ATI taught me that I truly have a passion for our equine friends."

About ATI Equine Center

ATI, located in Wooster, Ohio, has 1,725 acres of land dedicated to farming. The equine center has a 46-stall barn that includes a tack room, wash rack and foaling stalls. The barn also consists of a full breeding laboratory, where students have everything they need to learn about breeding and artificial insemination. ATI breeds standardbreds and quarter horses.

Standardbred: These horses are used in harness racing, pulling a two-wheeled sulky cart. The racing has two categories based on the horse's gait, where the horses will either race at a trotting pace or a racing pace. They are also used as the Amish buggy horse.

Quarter Horse: These horses are the most common horses. They are known for cattle ranching and events such as barrel racing, cutting and reining.

Photo courtesy of Aspen Adams

Bacon Takes Over Campus

By: Lesley Shanahan

The Ohio State University College of Food, Agricultural, and Environmental Sciences has many ways to engage students with the agricultural industry: internships, career fairs, immersive curricula, to name a few. Bacon, however, doesn't always come to mind.

The most buzzworthy effort to tie CFAES students to the industry has been a joint project between the Meat Science Club and the Ohio Pork Council: the bacon vending machine.

A LEGENDARY CAMPAIGN

Meghann Winters, communications coordinator at the Ohio Pork Council, discussed the vending machine, which was designed to serve as an educational tool while also serving as a fundraiser for the Ohio State Meat Science Club. According to Winters, the idea came about as the staff discussed new promotional projects.

The Ohio Pork Council uses checkoff dollars for their educational promotions. Once they found a machine, they knew they had the centerpiece for a legendary campaign.

Photo courtesy of the Ohio Pork Council

"I managed donor relations, and made sure it functioned correctly while also making it aesthetically appealing," Winters said. She served as the students' lead contact for the machine while it was under their care.

Sarah Page, an Ohio State senior studying meat science and president of the Meat Science Club, and Jacob Parkinson, a senior meat science major and club member, managed the machine once it was placed in the Animal Science Building.

"Our job was to restock the machine when it was low and help promote it around campus," Page said.

According to Page, the Ohio Pork Council approached the club with the bacon vending machine idea. When they mentioned the project, club members were completely on board and believed the project was "just really fun."

Four students volunteered to manage the machine and work with the Ohio Pork Council. The machine was stocked with donated packages of bacon from Smithfield, Hormel and Sugardale. The bacon was prepared and ready to eat as packaged and sold for $1. All proceeds of bacon sales were returned to the Meat Science Club to be used for future projects.

BACON TAKES CAMPUS

After weeks prepping for its release, the Ohio Pork Council dropped the machine off at the Animal Science Building. Winters said they had been conducting digital advertisements in the campus area to spread the word, so they were anticipating engagement from students. The machine officially launched Dec. 4.

Page was shocked by the attention the vending machine drew.

"I figured the ag kids would love it, but there were tons of people that came over from central campus to check it out!" Page said.

According to Page, students planned on checking in three times each day, but it turned out the machine would need restocked twice as often. The bacon was so popular, they completely ran out by the weekend.

The students contacted Winters and shared the predicament on Friday, which led to a chaotic bacon shipment. Winters made last-minute arrangements to pick up product and then met the students for a late-night stocking session.

This project was led by an optimistic team, but no one predicted this level of success and popularity. Retrieving more bacon was worth it to Winters because it proved how beloved the machine was becoming.

MORE THAN JUST MEAT

Throughout this project, Ohio State students had the opportunity to actively work with the Ohio Pork Council and the three bacon donors, as well as Meat Science Club advisor and Ohio State professor, Lyda Garcia.

"As a meat science major, we try to find a niche of what people want and will pay for," Page said.

Parkinson, like Page, worked closely with Winters and Garcia to maintain the machine.

"This project was a great transition from undergrad to graduate," Parkinson said. "I was crazy busy with the bacon vending machine and now I'm crazy busy with grad school."

The bacon vending machine was the perfect project for a graduating senior to manage. It was fun, unique and definitely reached a niche market of bacon lovers.

The Meat Science Club plans to utilize these relationships with industry professionals to bring guest speakers to club meetings, allowing members to develop professional networks and learn more about potential future careers. Page said working on this project has provided her a new understanding of how she can make her meat science knowledge easily digestible for the public.

Meat science students had the experience of developing a campaign and managing the campaign funds, and they can use this experience to shape their future careers.

Not only did they gain experience, they were also able to participate in a fun and unique project that will remain a discussion piece for years to come. Hopefully we have not seen the last of the bacon vending machine, and Parkinson agrees.

"I hope it comes back, it's a cool kitschy thing for finals!"

OHIO STATE AGRICULTURAL

COMMUNICATORS OF TOMORROW

SERVICE • PROFESSIONAL DEVELOPMENT • OUTREACH

AGRICULTURAL EDUCATION SOCIETY EST. 1882

Practicing skills important to how people interact and learn about food, agricultural, and environmental sciences

Love WHAT YOU DO
DO WHAT YOU LOVE

These OSU alumni do what they love and it is part of what makes the COBA/Select Sires family so successful!

COBA

SELECT SIRES INC.

Since 1946

No one is successful by themselves. We all need others around us who believe in the work we do and our mission. COBA/Select Sires has been very fortunate to work with the outstanding students, staff and faculty at The Ohio State University and OSU-ATI for many years. The mutual respect and shared learning benefit all involved. Thank you for your continued leadership, involvement and support. COBA is excited about the future and working with you to get there!

YOUR SUCCESS *Our Passion.*

Advancing Ohio Grains

Ohio Corn & Wheat

New Crop Membership is only $10. This entitles you to many opportunities like Scholarships, Exposure to Lobbying and Policy Development, Networking, and Industry Updates and Information.

ohiocornandwheat.org | 740.201.8090

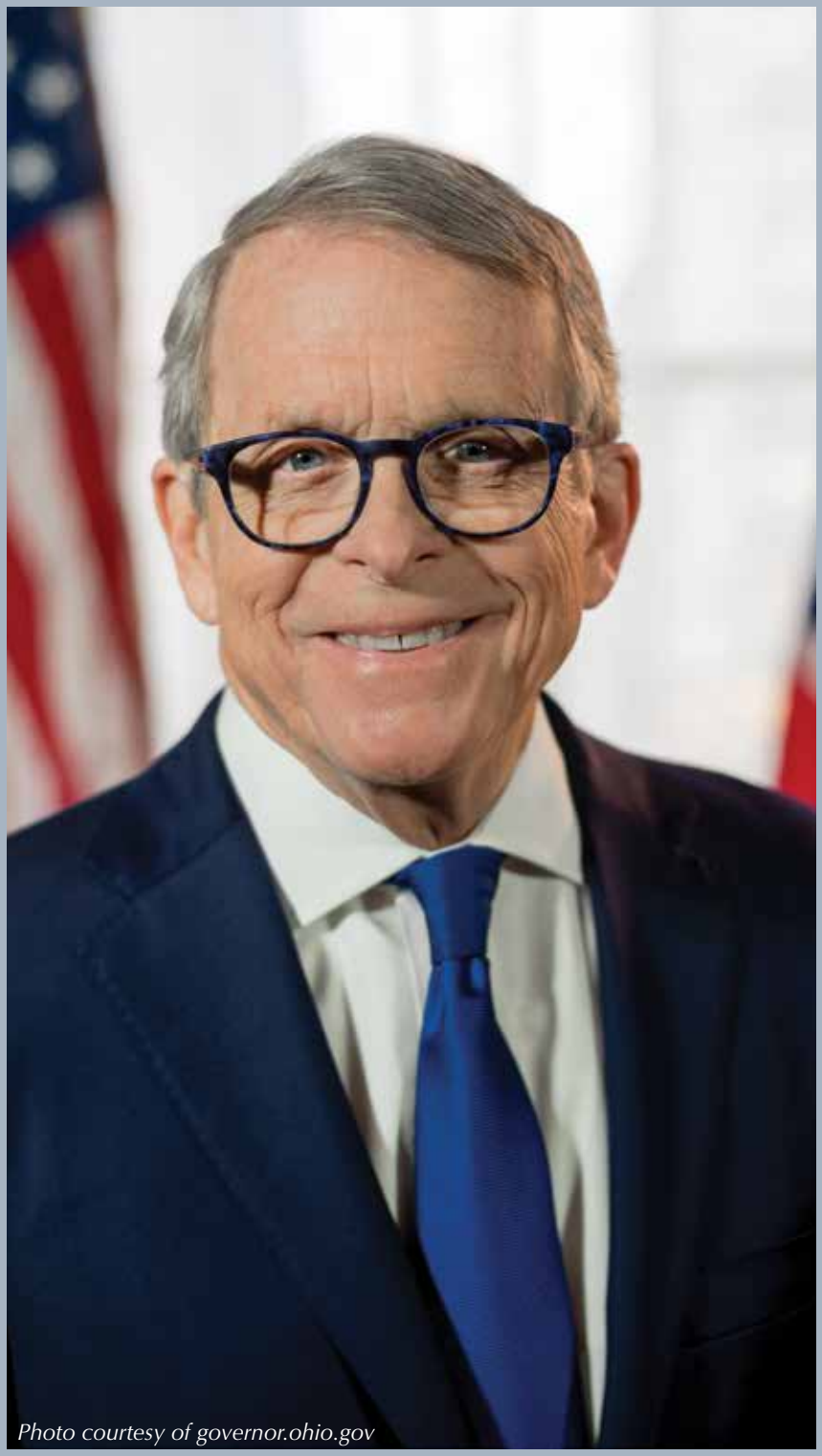


Photo courtesy of governor.ohio.gov

DeWine Advocates for Agriculture

By: Haley Plahuta

As Bill Morris watches the sky fade from orange to purple and finally faint pink on his wheat farm in Gomer, Ohio, he can't help but think about the three generations before him who watched the same sunset and farmed the same land he stands on now.

"The colors are brilliant; there's a certain reverence about being there and being part of the earth," said Morris, who farms in Allen, Putnam and Adams counties where he grows wheat, soybeans, corn and popcorn.

Anyone involved in agriculture knows being on the farm isn't always as peaceful as the sunset Morris described, and the sun going down doesn't always signal the end of the day's work. Complex issues arise all the time that demand farmers' attention. With Gov. Mike DeWine in office, farmers like Morris feel major agricultural concerns will be dealt with.

"DeWine is a farmer, so he will be a friend of agriculture," said Morris. "He'll be good for Ohio ag."

A BACKGROUND IN AGRICULTURE

The governor grew up in Greene County, where he worked at his family's seed business, DeWine Seeds, and the Ohio Twine Co.

"I worked in the fields and loaded bags onto boxcars. It taught me the values of hard work, personal responsibility and of honoring my word," DeWine wrote in a column.

"Our agricultural economy is benefitting from a return to regulatory sanity. God knows farming is hard enough without the added burden of having to worry if someone from the government is going to come knocking on the door," said DeWine.

Tony Seegers, state policy director for the Ohio Farm Bureau Federation (OFBF), expects DeWine's experience in agriculture will be a unique asset.

"It's that work ethic that you get working on a farm," said Seegers.

"It's getting up at all hours of the morning and just taking that risk every year when you plant your crops or you get your livestock, what the market's going to be and having that appreciation when the farm economy isn't doing as well."

Seegers foresees having a voice for agricultural under DeWine.

"DeWine is going to be more

receptive to hearing what agriculture needs and what we want to work with him on. We will have more of an ear there with Gov. DeWine," said Seegers.

Director of the Ohio Department of Agriculture, Dorothy Pelanda, shared that DeWine has tasked her and the directors of the Ohio Environmental Protection Agency and Ohio Department of Natural Resources to study existing data and to propose soil management based on the data.

"To that end, I have created an immediate 'listening tour' spanning the state to meet with farmers and experts to hear their histories, perspectives and ideas on the subject," said Pelanda.

DeWine's priorities are to end the opioid epidemic in Ohio, close the education gap and prepare young people for 21st century jobs and improve economic development efforts throughout Ohio.

"The great thing about Gov. DeWine is that he has a long history with agriculture."

WATER QUALITY

Throughout the last 15 years, harmful algal blooms have increased in frequency and severity in the Lake Erie western basin impacting fisheries, recreational industries, property values and causing serious risks to local residents including 'do not drink' advisories.

Many other Ohio lakes continue to battle blooms, keeping water quality at the forefront of policy.

"We're all working together and trying to work toward a solution. We've got to find a better solution to the nutrient runoff that we're facing so everyone is working toward it," said Sen. Bob Hackett, chair of the Ohio Senate Agriculture Committee in the 132 General Assembly.

DeWine plans to keep working toward cleaner water throughout the state.

"We're still working out the numbers, but when you see our budget, you will see a real commitment to the Great Lakes—to water quality," DeWine said during the Ohio Farm Bureau's annual Ag Day, the Columbus Dispatch reported.

The Ohio Farm Bureau will also continue to work toward solving the water quality issue.

"We're all excited to work on water quality together and finding solutions for Lake Erie, Grand Lake St. Mary's, and frankly improving all of our water throughout the state," said Seegers.

DeWine supports current research into water quality. Based on the research, a $1 billion bond issue to improve water quality throughout Ohio will potentially be introduced.

Hackett is confident that the bond issue will aid farmers across Ohio. "Not just in the western basin, the dollars would go all over the state to improve and help farmers. The state- wide bond issue may be an outstanding solution," he said. The bond will go through the resolution process and eventually go to the ballot to be voted on.

ECONOMIC DEVELOPMENT

DeWine plans to address economic development through innovation and trade with Ohio's number one industry, agribusiness.

This economic development includes value-added businesses such as wineries and breweries popping up throughout Ohio. Farmers, like Morris, look forward to seeing more agricultural businesses throughout the state, applauding DeWine's "entrepreneurial spirit."

In order to continue building economic development throughout the state, it is important for Ohio State and other academic institutions to educate students and prepare them for the agricultural industry.

"As they are looking more holistically at the workforce, and how we educate our students for that workforce, that's critical for us, so giving students more experiential learning," said Adam Ward, director of government relations for the College of Food, Agricultural, and Environmental Sciences.

One of DeWine's top priorities is to prepare young people for 21st century jobs. The Ohio Farm Bureau lists workforce development for young farmers as a top agricultural priority.

"It's really hard for those folks to get into agriculture, so we're looking forward to working on that issue, helping young farmers and beginning farmers get started," said Seegers.

Hackett also feels it is important to attract more young people to the agricultural industry. "We're trying to get more and more young people into agriculture but not always in the traditional jobs," said Hackett.

Students studying agriculture at Ohio State learn the latest in technology, including precision agriculture, to prepare for jobs after graduation. Ward said it is critical for people who are studying agriculture or environmental programs to understand in the future, there will be a lot of land changing hands.

"There's a ton of opportunities for young farmers to get started when those lands begin to change hands and making sure that they have the right tools to be able to start their farm and understand the investment that it takes is kind of our role in helping them," said Ward.

Gov. DeWine on "Town Hall Ohio." Photo courtesy of Ohio Farm Bureau Federation

While in office, DeWine plans to address water quality, a major issue in Ohio, as well as continue to promote economic development and help young and beginning farmers start successful agricultural operations. From growing up working on his family's farm, DeWine understands the importance of the agricultural industry and also the risk involved with agriculture.

"The great thing about Gov. DeWine is that he has a long history with agriculture," said Hackett.

"Mike understands that today, tomorrow, way in the future - there's not going to be a more important industry than agriculture because we feed the world."

WHETHER YOU'RE PLANTING YOUR FIRST SOYBEAN CROP OR YOUR FIFTIETH, THE CHECKOFF WORKS FOR YOU.

Photo Courtesy of the United Soybean Board

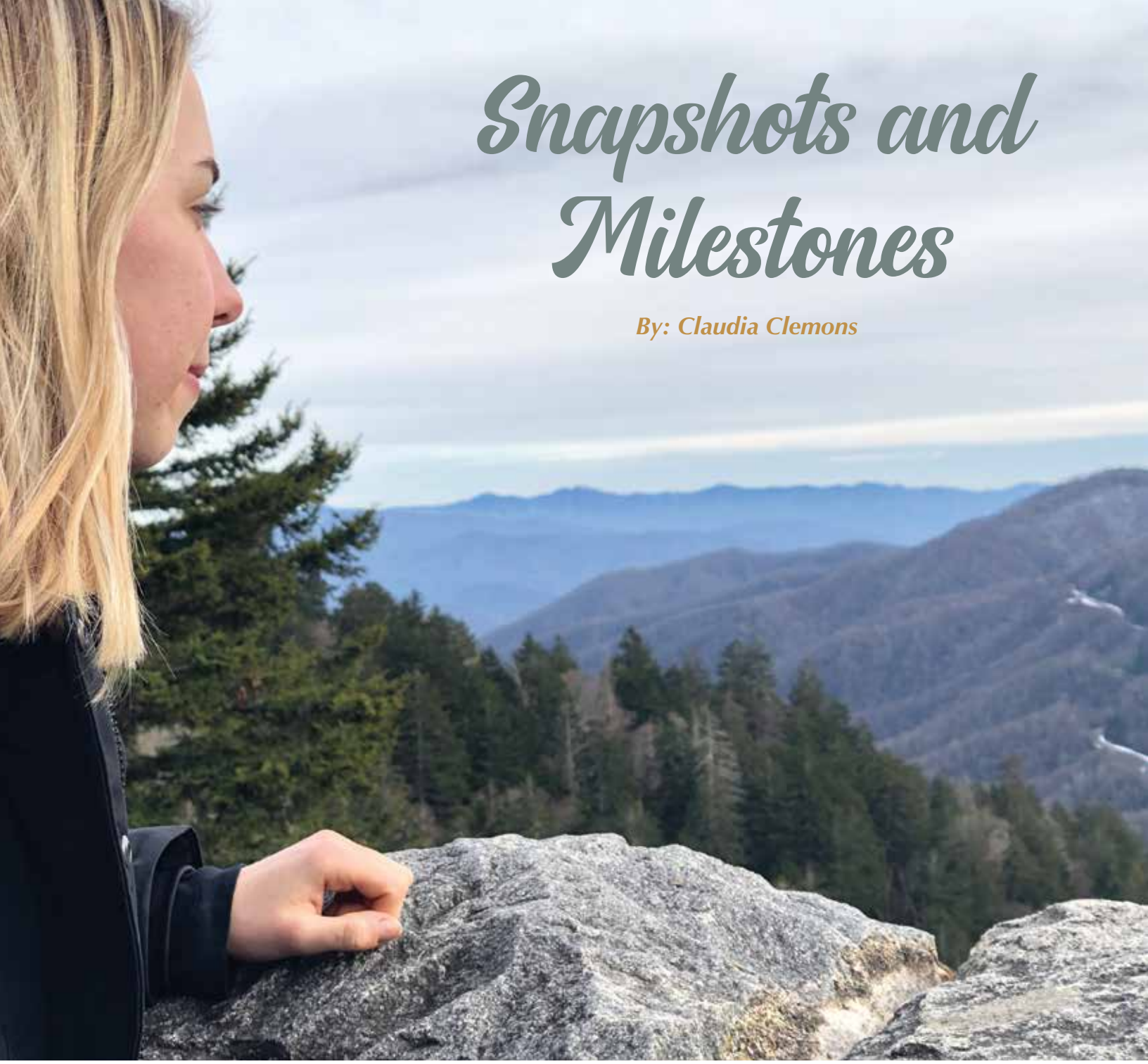
Whether you've been planting soybeans for years, or you're just starting out, the Ohio Soybean Council is investing in projects designed to help you maximize earnings on your farm now and for generations to come. From yield research to creating demand, your checkoff dollars are working hard for you. To learn about what the Ohio Soybean Council is doing for you, visit **soyohio.org**.

OHIO SOYBEAN
COUNCIL

Brought to you by Ohio soybean farmers and their checkoff.

Snapshots and Milestones

By: Claudia Clemons



Left: Student Rachelle Love looking over a mountain on a Buck-I-SERV trip in Tennessee. Photo courtesy of Rachelle Love

The path was covered with leaves and branches, making it difficult to climb. The group passed a pink ribbon tied to a small tree trunk along the path. Grace Brott, a third-year architecture major and trip leader on this Buck-I-SERV trip, started to feel a sense of uncertainty among the group. The climb was getting more difficult because the higher the group climbed, the steeper the hill became.

They passed another pink ribbon. Brott felt overwhelmed as she thought about how the group was being affected by the climb and she wasn't able to do anything to help anyone. As they neared the top of the mountain, a third pink ribbon was spotted along the path.

The markers served as milestones to lead travelers along the covered path. We all have milestones that create significant change at different points in our lives. These milestones continuously alter our paths and life journeys. Brott experienced physical, mental and emotional milestones as she led the group up the mountain during her last Buck-I-SERV trip.

While the pink ribbons were literal milestones, her Buck-I-SERV experience served as a major milestone in her life and was merely the beginning to an exciting journey she was about to embark on.

"The best way to find out who you are is by immersing yourself in service and learning what hits your heart—what makes you think about what you want to do for the rest of your life."

WHAT IS BUCK-I-SERV?

Buck-I-SERV is a program that offers students at The Ohio State University opportunities to participate in service projects around the world during school breaks. Trips last one week and are available during winter, spring and summer breaks to all students accepted to the program.

According to Connor Jones, program coordinator for Buck-I-SERV, the experience is designed to create social change in communities around the world. Buck-I-SERV continually returns to the same communities in order to build strong relationships.

Recurring trips are essential in building and maintaining a foundation of trust. Jones said the program has an impact, "[on] so many different places and [is] so connected to communities that are so far outside the state of Ohio and I think that's really wonderful."

Buck-I-SERV's motto: Travel-Learn-Serve, focuses on social change. Each trip provides new opportunities and experiences for students to learn about topics including empathy, diversity and identity.

Buck-I-SERV provides students many opportunities to create long-lasting friendships while building important skills needed to become active citizens in their communities.

CFAES STUDENTS SERVE

Students from the College of Food, Agricultural, and Environmental Sciences, Olivia Pflaumer and Lexie Shumaker spent spring break 2018 on a Buck-I-SERV trip. A few Agricultural Education Society members, including Pflaumer and Shumaker, joined other Ohio State students on a Buck-I-SERV trip to the North Dallas Food Bank.

Shumaker, a third-year agricultural communication major, had a humbling and reflective experience serving in food sustainability for the first time.

"Volunteering at food banks or any small activity related to food humbles you and reminds you what is important. Food isn't always just given," said Shumaker.

During this trip, she had the opportunity to not only interact with the local people of Dallas, but also with her peers. This was her first time experiencing such diversity. Shumaker thinks you should be learning just as much as you're volunteering on a service trip.

Pflaumer, a second-year agriscience education major, already had a unique understanding of the food system before the trip. As a high school student, Pflaumer worked in her school garden and had a relationship with a local food bank.

She said, "Food is the one thing that ties us all together and having access to nutritious and sustainable foods is one of the number one things I value for human equality."

Shumaker and Pflaumer both felt misconceptions about the application process and cost are the two largest aspects that keep students from applying to Buck-I-SERV. With a laugh, Pflaumer said, "The application takes like two seconds."

Pflaumer added there are opportunities for students to receive sponsorships and scholarships to go on trips. These resources helped bring one of her past trips down to only $100. Both students said the experience is worth the cost. Shumaker encourages students to learn their passions by looking into Buck-I-SERV trips.

Both students agreed Buck-I-SERV offers opportunities for students to get involved with community service from a broader perspective so they can carry the knowledge back home to their own communities.

BUCK-I-SERV AS A MILESTONE

Grace Brott's experience is one example of Buck-I-SERV serving as a milestone in a student's life. Buck-I-SERV was one of the most impactful experiences she has had that has driven her to realize her passion.

Brott said, "I want to work toward social change whether it's career-based or passion based."

She was hesitant to attend her first trip to Biloxi, Mississippi. Due to her job and personal circumstances, Brott debated whether to even show up for her first trip. The trip had 50 participants in attendance, so she assumed it wouldn't matter if she didn't show up.

"I decided to go anyway and I felt much more inspired coming out of it," said Brott.

She got to know the program coordinator from Biloxi and said he was one of the main motivators for her returning to serve for a second year.

Brott focused on environmental issues during her second Buck-I-SERV trip to Tennessee. She transitioned from participant to trip leader. As a trip leader, she felt responsible for the members that attended. Taking a group to the middle of nowhere and having members trust her was a good but scary feeling.

Attending those two trips further sparked Brott's interest and she decided to apply to be a part of the Buck-I-SERV board.

"I felt really inspired to get more involved so that others could have an impactful experience like I did on my first trip," Brott said.

Brott encourages Ohio State students to join Buck-I-SERV and start partaking in service learning.

IT IS ALL WORTH IT

After the last pink ribbon, Brott's Buck-I-SERV group reached the top of the mountain. Brott knew the frustration and hard work was all worth it. She saw an amazing view that was almost unreal. It was then she understood the importance of her Buck-I-SERV trip.


ROD'S
TRUE WESTERN LIVING
Clothing • Boots • Home • Tack
/RODSWESTERN
/RODSWESTERN
RODS.COM • 866-326-1975
3099 SILVER DRIVE • COLUMBUS, OH 43224
CAREER, PART TIME & SEASONAL EMPLOYMENT OPPORTUNITIES AVAILABLE

cru
OHIO STATE

RealLife AT THE NEWPORT

WEEKLY MEETINGS
Sundays at 7pm
Newport Music Hall
1722 N High St

Find ways to get involved at **cruohiostate.com**

@cruohiostate

Dreams on Horseback

Horse-partnered learning

Dreams on Horseback is a therapeutic riding center located in Blacklick, Ohio.

Opportunities available include: therapeutic riding for adults and children, military connections for veterans and active military, volunteering, corporate training and internships.

THE STEAM FACTORY

THE OHIO STATE UNIVERSITY

Welcome to The STEAM Factory – an academic community at Ohio State that fosters interdisciplinary collaboration and innovation in research, education and outreach. Visit us to learn more about our outreach programs.

Franklinton Fridays - Columbus Science Pubs - Saturdays with a Scholar - Themed Podcasts

Located in the Franklinton neighborhood (second floor, 400 West Rich), the STEAM Factory enables Ohio State's research community to engage the Columbus public with scientific discourse by connecting art, science, technology and community. Events are free to the public and cover a wide range of fascinating topics accross all disciplines with hands-on activities, posters and micro lectures that give you a glimpse of new and ongoing research. You are invited to attend our events and learn something new!

Check out our events at steamfactory.osu.edu and @theSTEAMfactory on social media

Photo by Taylor Day

Renewed Interest In Renewable Energy

By: Taylor Day

In the shape of The Ohio State University's iconic "Block O," the structure is clearly visible from several surrounding buildings. The structure is a solar panel array on the west end roof of the Student Life Recreation and Physical Activities Center (RPAC).

Installed in 2014, the unique design was proposed and donated by AEP Energy, a subsidiary of American Electric Power (AEP). It's approximately 10,000-square-feet and made up of 367 panels. This array is the first solar energy project located on university property and is a step toward a more sustainable campus.

THE START OF SOLAR

For the celebration of Woody Hayes' 100th birthday, AEP Energy was asked by the university to sponsor an event or program. However, instead of donating money they decided to donate a $400,000 solar array. The roof of the athletic center needed reinforced before it was ready for solar, so the search was on for an installation site.

AEP Energy and Ohio State identified the RPAC as the best location, and it just happens to be right next to the Ohio State Football Stadium.

Scott Potter, senior director, comprehensive energy management at Ohio State, said, "We looked at 39 roofs before we decided the RPAC would be the best place to put the O."

The angle and location of the roof were vital to maximize the sunlight each panel would receive, and the roof needed appropriate infrastructure to support all of the weight of the array frame, the panels themselves and if the roof was covered in snow.

Mike Shelton, associate director of the Sustainability Institute at Ohio State, explained, "Since the array generates energy, it saves the university – and RPAC building managers – about $5,000 in energy costs on an annual basis."

Eventually, we will be able to accommodate renewable energy for the entire campus, which is the size of a small city. As an added bonus, there are almost no maintenance costs after installation– only scheduled cleanings and regular checks of the infrastructure.

"The solar array gives the RPAC access to energy that otherwise would have been supplied by the general energy grid, which has a much higher impact environmentally and financially," said Potter.

"So, the array is helping the university toward its sustainability goal and reducing the cost of energy to the university," Potter said.

Photovoltaic technology, the type used on top of the RPAC, was out of reach when the concept first came to Ohio State. More efficient materials were discovered, new ways of storing excess energy were found and technology continued to advance. The installations then become more common, causing prices to drop significantly. Rooftop panels cost about 1 percent of what they did 35 years ago.

MORE SOLAR, PLEASE

The university's ongoing commitment to education about renewable energy allowed for opportunities to incorporate solar energy, and for many student organizations to become involved.

"Ample opportunities exist for all types of individuals and there is capacity for nearly all majors to become involved with solar and renewable energy," said Kate Bartter, director of the Sustainability Institute at Ohio State.

One proposed concept is the potential for the pay-to-park kiosks to become solar powered. Another idea has been to install solar vehicle charging stations, led by the Center for Automotive Research.

"There is capacity for nearly all majors to become involved with solar and renewable energy."

A potential project would be a solar array on top of new construction that would operate at net-zero. This happens when the array is generating more energy than is needed.

In February, Ohio State held the Smart Campus Challenge. A project to install a Solar Bus Stop was presented during the competition. In addition to collecting solar energy, the project would provide an interactive educational experience for riders to learn quick facts about renewable energy while waiting for the bus. The Smart Campus Challenge was a way to introduce more sustainable solutions to the campus.

Bartter, who judged the challenge, said the interest in converting our campus to a sustainable one has exploded in the last several years.

"Smart energy usage is a responsibility shared by all individuals that make up campus, so it's great when the students step up to reach out to us about wanting to become more involved," said Bartter.

FOR THE GREATER GOOD

"This partnership with AEP Energy has helped achieve Ohio State's sustainability goals, but more importantly, will provide real and meaningful data to fuel energy education," said Bartter.

In addition, new construction around campus is held to a higher standard to incorporate options to enable new solar energy opportunities.

Shelton reiterated, "This is especially true now ... as the cost of solar arrays continues to fall, the university has plenty of opportunity. So, the future looks to be a bright one!"

Block O Solar Array on top of the RPAC. Photo courtesy by AEP Energy

Saddle and Sirloin Club

Meetings are the 1st and 3rd Tuesday of every month.

Dinner is served at 7 p.m. and the meeting begins at 7:30 p.m.

Contact President Jamie Gothard at gothard.9@osu.edu

OHIO STATE LIVESTOCK JUDGING TEAM

Are you interested in building excellence through livestock judging?

Contests attending in 2019-2020:

National Western Stock Show - Denver, CO | Dixie National - Jackson, MS
Houston Livestock Show and Rodeo - Houston, TX | All East - St. Charles, LA
National Barrow Show - Austin, MN | Keystone International Livestock Exposition - Harrisburg, PA
Stockman - Frankfort, IN | American Royal - Kansas City, MO | NAILE - Louisville, KY

If you have an interest in joining the team and gaining recognition for yourself and your school, please contact the coach, Mr. Hank LeVan at LeVan.27@osu.edu.

Subscribe to Biobased Radio

A podcast promoting a more sustainable future.

Listen on Apple Podcasts, Google Play, Stitcher, or your preferred podcast platform.

OBIC

Ohio Bioproducts Innovation Center

Committed to working towards a more sustainable future, OBIC supports initiatives that create opportunities for students and young people and raise awareness of biobased products.

OBIC is currently leading a student-focused, 20-university consortium focused on leadership development in the bioeconomy. Learn more about CABLE, the Consortium for Advanced Bioeconomy Leadership Education, at **u.osu.edu/cable**

Our Education & Outreach initiative aims to bring bioproducts into classrooms, meet and exceed STEM objectives, develop workforce skills, and inspire future innovators to develop sustainable solutions to global problems through hands-on, experiential learning.

If you have a sustainable project and are seeking an education and outreach partner, please let us know how we can help!

Contact Shannon Hollis • hollis.69@osu.edu

Generation Buckeye

By: Emily Reed

Photo courtesy of The Ohio State University

The connection The Ohio State University Buckeyes share is irreplaceable. Whether it's singing the alma mater, "Carmen, Ohio," at a football game, refusing to acknowledge the letter "m" or screaming "O-H" in a crowd of Buckeyes, Ohio State is rich in history and tradition. Ohio State's College of Food, Agricultural, and Environmental Sciences (CFAES) is home to many Buckeyes – some who are not the first from their household to set foot on campus.

Mike and Jill Nolan graduated from Ohio State with degrees in agriculture. They enjoy life on their homestead in Wakeman, Ohio. Their two children, Patrick and Mikal Nolan, also attended Ohio State and are CFAES graduates, making the Nolan family a second-generation Buckeye family.

Ray and Colleen Jackson and their daughter, Ella King, are also alumni of Ohio State. The Jackson family owns a dairy farm and a creamery business in De Graff, Ohio. Over the past 25 years, Ray and Colleen have built a life together raising calves and kids. They have four children and milk about 70 Holstein cows on their 150-acre farm in rural Logan County.

The Nolan and Jackson families feel that their time at Ohio State prepared them well, and are thankful for the opportunity to share many of those same memories and lessons with their children.

THE SEASONS PASS, THE YEARS WILL ROLL

Ohio State's alma mater "Carmen Ohio" states, "time and change will surely show," but no matter how much has changed, some traditions will always remain the same.

"Even 40 years between when we were there and when our children were there it's changed, but it hasn't changed all that much," Mike Nolan said. "You have the same experiences, you walk through the same campus, you see the same Mirror Lake, you visit the same football stadium."

Agriculture is a way of life for the Nolan and Jackson families. They grew up with it and quickly developed a passion for the field, which they later passed on to their children.

Jill Nolan said, "You don't look at the university as a whole necessarily, but you see that small portion you fit into." The Nolans loved their time at Ohio State. "I was able to meet many people with different backgrounds and I valued that," said Jill.

In Ray Jackson's case, he knew when he was four years old that he wanted to be a dairy farmer.

"I decided that I should get a degree just so I had something to fall back on," he said. He has spent the last 20 years in the cattle breeding and artificial insemination (AI) industry and today he continues to do what he loves.

Colleen Jackson was the first in her family to go to college and she still uses the skills and experiences she learned at Ohio State to run their dairy operation and creamery business.

Mike, Jill, Ray and Colleen boldly began the Buckeye tradition that stands two generations strong in both of their families.

TIME AND CHANGE WILL SURELY SHOW

Ray and Colleen's daughter, Ella, decided to follow in her parents' footsteps to become a second-generation Buckeye.

"For as long as I can remember, what I wanted to do was dairy farm. Mom and Dad definitely encouraged me that it would be a good idea to get a degree," said Ella. "Ohio State pretty much was the natural choice."

For Patrick and Mikal Nolan, organizations like 4-H and FFA played a major role in their decisions about their future.

"Both of our children were involved with 4-H and FFA. They began to meet people who were either at Ohio State or going to Ohio State, so that helped make the decision as well," said Jill.

The Nolan family also spent a lot of time on campus while their kids were growing up. These visits offered fun experiences for Patrick and Mikal and allowed them to become more familiar with Ohio State.

"I think what really persuaded them was when we took them to football games when they were eight or nine," said Mike.

HOW FIRM THY FRIENDSHIP, O-HI-O

Attending Ohio State has benefited both the Nolan and Jackson families tremendously, each in their own way.

Ray and Ella gained a great deal of knowledge during their time with CFAES, which they now use to work together in bettering their business.

Photo courtesy of The Ohio State University

"You have the same experiences, you walk through the same campus, you see the same Mirror Lake, you visit the same football stadium."

Colleen noted the great networking they were exposed to as well.

"The connections that he [Ray] has made when he was in college have just been far-reaching," Colleen said.

Recently, the family has taken on a new endeavor: the creation of Indian Creek Creamery. They have built this business from the ground up and are anxious to see where it takes them.

The Jackson family has shown their success over the years with their dairy farm and creamery business. Earning degrees from Ohio State has provided them with knowledge, skills and confidence to own their own business.

Similarly, the Nolans have had a great amount of success in their careers. They have found themselves connected to Ohio State throughout the years and remain big supporters. They sponsor an international studies scholarship through CFAES, called the Mike and Jill Eversole Nolan Family Study Abroad Scholarship, to give back to a program that has made such a great impact on all four of them. Mike noted how Ohio State has benefitted him and his family during their time on campus: "You will have all the basics to be successful in life and that's what I think Ohio State has always focused on."

Jill applauded CFAES for the continued support of its students.

"The faculty and staff know the students, and in many cases know their family, so they are very committed to making sure students are successful," she said.

There's more to being a Buckeye than just graduating with a degree from The Ohio State University. It's the experiences you gain, the culture you adopt and the tradition you share with fellow students, faculty and alumni. Some Buckeyes are lucky enough to share this experience with relatives who came before them.

The property is your canvas. This is your 100-horsepower brush.

There are fences to mend. Hay to put up. Wagons to pull. Bales to haul. Out here, the work never ends. The versatile M5 utility tractor can do it all the right way. And turn your place into a work of art. Visit us today.

KubotaUSA.com

Kubota®
Shape your world.

"You couldn't do what we do without them."

The Best Employee on the Farm

Photos and Story By: Mary Kate Waitkus

As Kia, a 7-year-old Australian shepherd, refused to move around a hay bale feeder to push the remaining sheep outside the barn, Karen Wimbush walked around the feeder to see why her experienced working dog wouldn't move into the corner. A newborn lamb lay in the straw, and Kia told Wimbush in the only way she could. Kia helped push the sheep back inside and went in search of the new mother.

For centuries, dogs have assisted farmers in agriculture, from herding and livestock guarding to protection. There are about 30 herding breeds recognized by the American Kennel Club Association. Popular herding breeds include Australian shepherds, Australian cattle dogs, border collies and German shepherds. Another type of working farm dogs are livestock guardian dogs, also known as LGDs. A few popular LGD breeds are Great Pyrenees, Tibetan mastiffs, Anatolian shepherds and Pyrenean mastiffs.

Herding breeds work directly with livestock, often helping move them from different pastures, holding them in certain locations and protecting the farmer. Livestock guardian dogs protect farm animals. They live out with the livestock to protect them from predators such as coyotes, dogs, black-headed buzzards and humans.

Although agriculture is an ever-changing field, the critical role that working dogs play has not changed. Wimbush, associate professor at The Ohio State University Agricultural Technical Institute, said her dogs are a critical part of her farm.

"I would have to spend so much more on facilities to be able to handle stock. And I think there would be some days I couldn't do what I wanted," Wimbush said.

AUSTRALIAN SHEPHERDS

Aussies are one popular herding breed used frequently on farms. Wimbush received her first Aussie, Rue, as a gift from a close friend in 1985. After purchasing their farm in Millersburg, Ohio, Wimbush and her husband began acquiring livestock and bought sheep in 1998.

Now with 30 sheep, six cows, three chickens, four goats and one mule on seven acres, her seven Aussies help with many of the chores.

Karen Wimbush and her Australian Shepherds, Gem and Kia.

"I use my dogs almost daily…In the winter I have the dogs usually hold livestock off feed pans and that kind of thing so I am able to safely go in to grain the livestock. I need that dog or else I'd get knocked down," Wimbush said. Other working-dog duties on the farm include gate sorting, fetching livestock for vet care assistance in pasture rotations and trailer loading.

AUSTRALIAN CATTLE DOGS

Sharon Winter, her husband Jim and their two daughters Christina and Caroline have used Australian cattle dogs on their farm for years. Every member of the family vouches for the importance of their dog on the farm.

Their current cattle dog, Tuff, is just over 2 years old and particularly bonded to their 19-year-old daughter, Christina. The family has an 80 cow/calf operation, a few donkeys, horses, pigs and lambs.

Like Wimbush, the Winter family uses Tuff for chores such as getting the cattle to the wash rack, checking their health, bringing them in from outside lots, moving herds for pasture rotations and keeping them away from round bale feeders.

"When you're alone, his help is very, very important.... I used to feed hay by myself, so to have that dog there to keep the cows back, it really helps," Christina said.

Having a dog to help on the farm is like having another employee there according to Jim and Christina. Butch, Jim's first cattle dog, helped him on a previous cattle operation he managed when he had no other help and fences were still being built.

"Me on a horse, and him. I could bring 80 cows in out of the field to the barn with just me and him," Jim said.

GREAT PYRENEES

Krista and Joshua Long, owners of Windy Ridge Livestock, currently have 17 Great Pyrenees actively working on their farm. The Long family owns 375 acres and leases another 150 acres to keep their 175 goats and 30 sheep. Their sheep flock will be increasing to 400 head by the end of the year. When the family switched from cattle to sheep and goats about six years ago, they also invested in Great Pyrenees as LGDs to protect their livestock.

"If the dogs come from generations of actively working dogs, it's instinctual. They know what they're to do. But also, they have to be raised with the livestock," Krista Long said. Raising an LGD with livestock is a critical part of creating a good guardian dog. The dog needs to be bonded more to the livestock than the humans.

The Long family breeds and sells Great Pyrenees primarily for livestock guardian work. Krista encourages other farmers to use guardian dogs since they protect their livestock and, in turn, their profit.

"You couldn't do what we do without them," Krista Long said.

Belle, a Great Pyrenees works as a livestock guard dog on Krista and Joshua Long's farm. Photo courtesy of Long farm website

No matter the breed or type of work, dogs play a crucial role in agriculture. From herding to guarding, their role on the farm makes a difference for many farmers across the world. They help with everyday tasks, making chores easier and ensuring greater safety for livestock and farmers.

Left: Tuff with his owner, Christina Winter.

Buckeye Dairy Club

We meet every other Thursday @ 7:15
in the Animal Science Arena

We are an active organization with a passion for the dairy industry. Members engage with industry professionals along with advocating to the surrounding community.

Follow us!

buckeyedairyclub.osu.edu

KEEPING AGRICULTURE ON TARGET

The Ohio Agribusiness Association works on behalf Ohio's agribusinesses to continuously improve and advance the industry through advocacy, education and training.

Ohio AgriBusiness Association

oaba.net /OhioAgriBusinessAssociation @OhioAgriBiz

Is GMO food safe?

Is natural food better for my health?

What's so special about organic?

Are there antibiotics in my milk?

[Citation Needed]

Join us to learn how to effectively communicate the science of food and agriculture!

Why did Subway remove the yoga mat chemical if it's so safe?

Will bacon give me cancer?

Why are there chemicals in my food?

VISION

A community of Ohio State students actively engaged in the conversation on food and science.

MISSION

To provide students with opportunities to learn and practice effective communication skills for a modern dialogue on food and agriculture.

Kavin Senapathy, Science Writer

Dr. Cami Ryan, Monsanto Company

facebook.com/OSUcitationneeded @OSUNeedtoCite citationneededosu@gmail.com u.osu.edu/citationneeded

A New Milestone

Celebrating 125 editions, the *AgriNaturalist* staff would like to commemorate the year 2019 for coming generations to enjoy, just as we enjoy the nostalgia of previous decades.

AG IN THE NEWS

- Flooding in Nebraska, Iowa, South Dakota and Wisconsin
- Dorothy Pelanda named Ohio's new Director of Agriculture
- Ohio Farm Bureau Federation centennial celebration

CFAES EVENTS

- New ACEL suite unveiled
- Dr. Lal wins Japanese prize for soil science
- Nationwide Foundation provides $7 million grant

MOVIES OF THE YEAR

- "Black Panther"
- "Bohemian Rhapsody"
- "Aquaman"
- "Bird Box"

POP CULTURE

- Milk doesn't come from almonds, coconuts or soy
- Jonas Brothers reunion
- Ariana Grande's album, "thank u, next"

#TRENDING

- Egg breaks world record for most "likes" on Instagram
- Ohio State closes for a day
- Bud Light sparks corntraversy among agriculture with Super Bowl commercial

AG TECHNOLOGY

- Tudder- Tinder for cows app launched
- Underground filters developed to fight phosphorus run-off into Lake Erie
- Field Application Resource Monitor (FARM) app produced

Q & A with Associate Deans of 1989 and 2019

Roller coasters and ice cream

Reisch reveals all

interviewed by
Bernadette Bruening

Name: Dr. Kenneth W. Reisch
Occupation: associate dean of the College of Agriculture, 1972 -1989
Birthplace: Connecticut
Family: Wife, Jan; two daughters, Karen and Laura; and two sons, Mark and Eric.
Favorite Ice Cream: Swiss chocolate almond
Describe yourself in one word: Caring
Least favorite subject in college: Chemistry
Favorite subjects in college: Landscape design and speech
Alma Mater: University of Connecticut
I am happiest when: I'm singing.
Hobbies: Gardening, traveling, redecorating
Most embarrassing moment: I was stopped for speeding when I had just bought a radar detector.
Favorite singer: Luciano Pavarotti
I want to be remembered for: Having accomplished something good in life
Greatest fear: Roller coasters
Favorite author: Robert Ludlum

file photo

Dr. Reisch retired at the beginning of 1989 after serving as the associate dean for the College of Agriculture for 16 years.

If I could have dinner with anyone living today it would be: My wife
Favorite sports: Football, basketball
Favorite vacation spot: The east coast
What I will miss most about the College of Agriculture: Working with the students and faculty.

Rocky Mountains and Graeter's Ice Cream

Knowledge of Neal

Interviewed by:
Meghann Winters and Jessica Woodworth

Name: Dr. Steven M. Neal
Occupation: Associate Dean and Director for Academic Programs
Birthplace: Mansfield, Ohio
Family: Wife, Lisa; two children, Ben and Stephanie; two grandsons and one foster grandson
Favorite ice cream: Graeter's vanilla with butterscotch topping
Describe yourself in one word: Dedicated
Least favorite subject in college: Chemistry
Favorite subject in college: Animal physiology
Alma Mater: Bachelor's and Master's at The Ohio State University, Ph.D. at University of Nebraska–Lincoln
I am happiest when: I am spending time with family
Hobbies: Woodworking, traveling and fishing
Most embarrassing moment: Getting a speeding ticket soon after getting my license
Favorite singer: The Eagles (favorite song is "Hotel California")
I want to be remembered for: Being a servant leader and as a person of high integrity
Greatest fear: Heights
Favorite author: John Maxwell, who wrote *The 21 Irrefutable Laws of Leadership*
If I could have dinner with anyone living today it would be: My family

Photo Courtesy of CFAES Communications

Dr. Neal, a former student of the above pictured Dr. Reisch, is now the Associate Dean for Academic Programs. Years after Reisch's retirement, Neal steps into the shoes of his former professor.

Favorite sports team: OSU football
Favorite vacation spot: Rocky Mountain National Park
Favorite thing about the College of Food, Agricultural, and Environmental Sciences: The emphasis on student success

classes you don't want to miss!

By: Sydney Snider

The College of Food, Agricultural, and Environmental Sciences (CFAES) offers plenty of engaging and exciting courses within its 22 majors. You may have heard of classes like Chocolate Science and B-B-Que Science, but did you know CFAES offers classes like Beekeeping and Livestock Evaluation?! Check out the following list to learn about some of our favorite unique courses. You never know – you may find yourself enrolled in one before you even finish reading!

1 Data Visualization and Scientific Storytelling (AGRCOMM 5535)

This course is a perfect fit if you're interested in telling stories with data! You'll walk away with the ability to produce charts, graphs, infographics, posters and other data visualizations. By the end of the course, you'll comfortably be able to share key messages with any type of audience!

2 Environment and Natural Resources Management Capstone (ENR 4900.01)

CFAES is proud to have Chadwick Arboretum's presence spread throughout campus! This capstone class will allow students to work side-by-side with environmental experts to restore and enhance areas of the Arboretum. If you're already a part of the School of Environmental and Natural Resources, then check this course out!

3 Beekeeping (ENTMLGY 2200)

If you've ever wondered how bee hives work or how honey is processed, then check out the beekeeping course! Students work with live honey bees to learn about the biology, behavior and management of honey bee colonies. By the end of the course, you'll be the queen bee of beekeeping knowledge!

4 Livestock Selection and Evaluation (ANIMSCI 3300)

Whether you grew up raising, showing and evaluating livestock or are just interested to know more, this class has a seat for you! Students develop knowledge of current standards of animal excellence while learning about cattle, sheep, swine and goats.

5 Grain Handling, Drying and Milling (ASM 3330)

Want to grow your skill sets in grain operations, milling management and supporting roles? You should consider this new, hands-on course! Throughout the semester, students will gain insight and confidence in their ability to identify, solve and evaluate typical grain handling systems.

6 Salesmanship in Agribusiness and Agriculture (AEDECON 3121)

If you've considered going into sales or a related field after graduation, you should be sold on taking this course! Students learn from industry professionals and develop their own sales presentation on an agricultural product – all while learning how to navigate a business environment.

7 Soil Science (ENR 3000)

If you aren't afraid to get your hands a little dirty and have an interest in soil, then we've got a class for you! This course allows you to dig up knowledge related to physical, chemical and biological properties of soil. Students also learn how soil impacts land use, the environment and crop production.

8 Molds, Mushrooms, and Mankind (PLNTPTH 2000)

Oh my! This course takes an in-depth look at the influence fungi has had on human health, migration and nutrition throughout history. If you think you may have an interest in plant pathology, then add this to your class list!

GET CONNECTED
with the
OHIO BEEF COUNCIL

OHIO BEEF COUNCIL

BECOME A BEEF INDUSTRY ADVOCATE

Masters of Beef Advocacy

Learn how to answer tough questions about how beef is produced from pasture to plate through this free, self-paced online program.

To take the course, visit www.beef.org/mba.

BECOME A BEEF INDUSTRY LEADER

Young Cattlemen's Conference (YCC)

August 8-10, 2019: YCC features many exciting and educational opportunities for beef industry leaders and cattle producers alike. Participants are challenged to think outside the box, as they practice their public relations skills and learn the best ways to present their operations and the beef industry as a whole to consumers.

For more information, email beef@ohiobeef.org.

BECOME A BEEF INDUSTRY TEAM MEMBER

Ohio Beef Council Internship Programs

Gain excellent experience in communications and promotions through the coordination of numerous events and activities. Successful candidates will help with the planning, coordination and execution of consumer-focused marketing programs and events.

For more information, visit www.ohiobeef.org.