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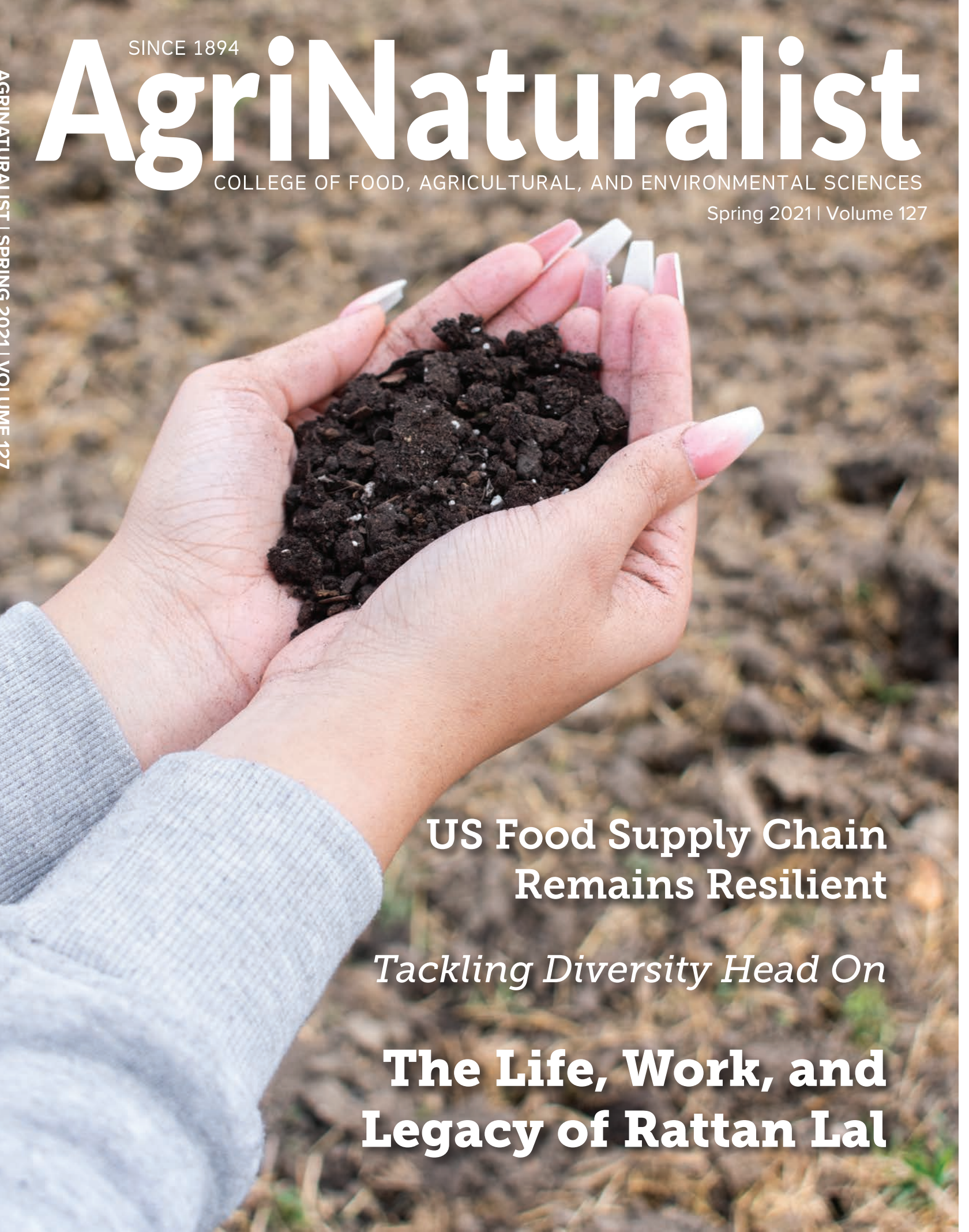
AgriNaturalist

COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Spring 2021 | Volume 127

AGRINATURALIST | SPRING 2021 | VOLUME 127



US Food Supply Chain Remains Resilient

Tackling Diversity Head On

The Life, Work, and Legacy of Rattan Lal

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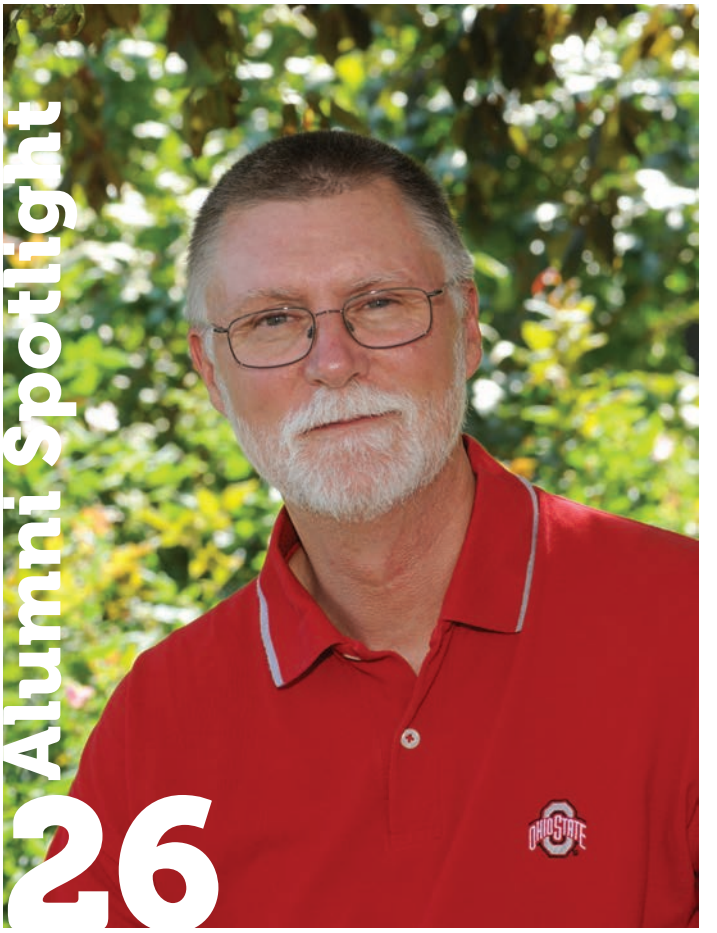

Content Highlights

On the Cover

Amid an unpreceded year, there are a lot of great stories you'll read about in this edition of the *AgriNaturalist*. The staff decided early on we didn't want the "COVID *AgriNaturalist*." The team wanted a cover in line with our theme of overcoming. It's representative of the good we've seen in our community this past year – against all odds. The hands of a person of color signify the outcry for change following racial injustice. Ethan Keller has the story of the College of Food, Agricultural, and Environmental Sciences taking strides toward improved Diversity, Equity, and Inclusion efforts. Our cover subject is Breanna Battle, president of Ohio State's chapter of MANRRS, a student organization focused on empowering minorities in agriculture. Jessica Crook catches up with Battle later in the publication about the important work they're doing.

Soil is the foundation of all agricultural pursuits. From the soil in which we sow our crops to the Distinguished University Professor of Soil Science Rattan Lal, PhD, who won the World Food Prize this year for his work in carbon sequestration. Maddy Schupp and Lexie Schumaker report on Lal's life legacy, and world-renowned work. Keeping with that theme, Shae Leeper helps explain the carbon market and its impact on production agriculture. Check out these stories and more in the 127th issue of the *AgriNaturalist*.

Cover photo by Josie McDowell | *AgriNaturalist*

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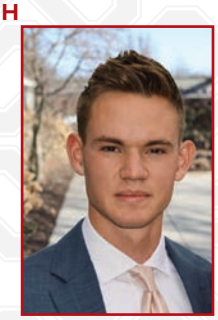

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What's Crackin' with Kolt

Overcome.

It's the start of something new. It's turning the page. It's also our theme for the 127th edition of the AgriNaturalist. In unprecedented times, we knew it would be easy to find everything wrong with the world. We wanted to find the good on our campus and in our community to share with you all. In these pages, you'll find stories about COVID-19, sure. It would be irresponsible not to mention it. However, you'll also find stories of overcoming.

Speaking of overcoming, I must thank our fearless leaders Annie Specht, PhD, and Kane Kinion. I also have to thank Shannon Washburn, PhD, and Emily Buck, PhD, as well as the entire ACEL Department for their support of this program. They were with us every step of the way. Even in such uncharted waters, they made this experience possible.

Lastly and most importantly, I couldn't be prouder of the AgriNaturalist team. With the exception of a few designers during production week, this magazine was put together completely virtually. They camped out in apartments and dorm rooms across the state (and, in cases, across the country) as they learned new software, how to sell advertisements, new writing skills, and much more. We taught each other lessons about class content, but also about life. I'm fortunate to call this group of people my teammates and friends.

On behalf of the entire team, thank you for reading. We're so exited to share the product result of this team overcoming this past year.

Kolt

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CFAES

"It's clear that these are challenging times, but our college is ready. Our people are dedicated, productive, and engaged. We're aligning our systems, processes, and facilities. We prepare students and solve challenges impacting us locally, statewide, nationwide, and globally. We are living our mission: ***We sustain life.***"

Cathann A. Kress

Vice President for Agricultural Administration and Dean, College of Food, Agricultural, and Environmental Sciences

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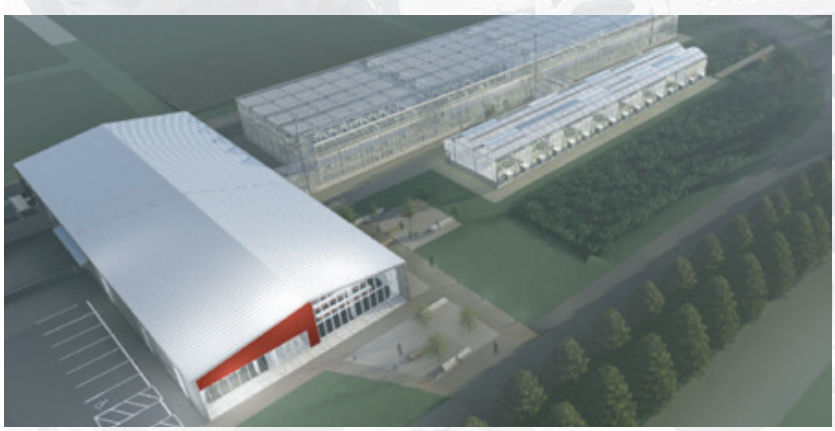

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We increased our podcast series on agriculture, and we offered 200 virtual programs ranging from water quality to improving soil health.

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WATCH THE STATE OF THE COLLEGE ADDRESS:
cfaes.osu.edu/stories/state-the-college-2021

A new dawn rises over the Agricultural Administration Building – symbolic of a new era of inclusion for the College of Food, Agricultural, and Environmental Sciences. Photo by Ethan Keller.

Tackling Diversity, Equity, and Inclusion Head On

CFAES Appoints New Director of DEI

By: Ethan Keller • Sharon Springs, NY

Across the United States, prejudice, hate, and social injustice have plagued communities at an unimaginable rate throughout the last year. With the continued murder of men and women like Breonna Taylor and George Floyd becoming what seems to be a regular occurrence, as well as many marginalized communities being treated as if their rights are not valued in the same way as others, the need for change has become more prevalent than ever. Protests line the streets of many major cities, social justice reform is demanded by many, and the need for diversity, equity, and inclusion has become a key priority for organizations across the board. With Columbus being a site with many different protests, this cause hits especially close to home for many of the members of the Ohio State community.

A NEW LEADER FOR CFAES

While it may be a year marked by many struggles, 2020 has sparked new hope for the diversity, equity, and inclusion efforts of The Ohio State University's College of Food, Agricultural, and Environmental Sciences (CFAES)—all thanks to the appointment of a new assistant dean and director.

Kathy Lechman, PhD, now bears this top title for the college, but her appointment was far from ordinary. Over the course of 2020, CFAES leadership has been hard at work to chart a path toward a more diverse, equitable, and inclusive environment within the college. Lechman, however, was not directly involved with this work until her appointment in early October. Up until her transition into her current role with CFAES, Lechman held the role of Associate Director for the Kirwan Institute for the Study of Race and Ethnicity at Ohio State.

The role of assistant dean and director of diversity, equity, and inclusion unexpectedly became vacant within the early weeks of the

fall semester, and so CFAES had to work quickly to find the perfect person to fill the role and lead the charge once again—it was only a matter of time before the momentum gained by the last few months would be lost altogether. Tracy Kitchel, PhD, senior associate dean and director of faculty and staff affairs for CFAES, believes that it is for this reason that the college chose to go in the direction of an internal appointment versus selecting someone to serve in an interim capacity and then hiring someone else full-time through the use of a selection process.

"We had a lot of really good momentum during that time," said Kitchel. He went on to describe the unexpected vacancy of the role by saying, "It felt like the air had left the room a bit." He said that the college's solution to immediately appoint a replacement showed a dedication to the urgency of the situation. This would also hopefully return that air to the room and propel the efforts further toward where they were hoping to have them.

In an announcement sent out on the CFAES email server, Dean Cathann Kress stated that "Dr. Lechman's return will minimize any loss of momentum and provide quick stability to our CFAES DEI efforts." It also was made abundantly clear by the online press release from the college that the diversity, equity, and inclusion efforts required the "utmost importance and that it required immediate and not deferred attention." CFAES is looking forward to Lechman's return to the college, as she holds many of the same values as the college and is set to establish a framework that will create an environment on inclusivity that welcomes and encourages all differences through creating an equitable experience for all.

Lechman laid a substantial foundation for the current DEI efforts when she first held the role after starting her time with OSU Extension as a Leader in Diversity in 2001. Kitchel stated that this was among many reasons that the college's choice was clear when deciding who to appoint. "We're excited to have Dr. Lechman come home," shared Kitchel.

THE WORK STARTS NOW

As the new leader of the diversity, equity, and inclusion efforts, Lechman will have a great deal of work on her plate. This type of work is well within her wheelhouse, though. In addition to previously holding this title, Lechman has also spent the last two years working within the Kirwan Institute for the Study of Race and Ethnicity. As a champion for justice and equity among the college, Lechman will be diving headfirst into her work as she spends her time assembling a diversity advisory council of faculty, staff, and students, as well as outlining and implementing an internal audit of the college.

In a meeting with the CFAES Ambassador Team, Lechman set clear priorities for the direction she wants to head in now that she has officially taken the lead in the efforts towards making CFAES for equitable and inclusive for all. She tasked the student ambassadors with identifying areas of weakness and working to strengthen the inclusive culture from the beginning of their interactions with potential students and stakeholders through the end of their time with Ohio State.

"I do not want advice," said Lechman. "I want people who are going to step up and make change."

When speaking about her immediate charges, she was thrilled to share about the recent closing of nominations for the college's diversity advisory council – as she will soon be making her selection of students and staff to stand by her side as they make changes and policies that will ultimately better the entire CFAES community. In regard to the selection of this council, Lechman specified that there was one very important factor that she would be looking at while making her decision. "I do not want advice," said Lechman. "I want people who are going to step up and make change."

To learn more about Dr. Lechman and all that CFAES is doing to create a more diverse, equitable, and inclusive experience for all, please visit equityandinclusion.cfaes.ohio-state.edu. *

Kathy Lechman will work to create a more diverse, equitable, and inclusive college atmosphere for all students. Photo courtesy of Kathy Lechman.


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FROM STAYING HOME TO TAKE-OUT MEALS, THE RESILIENCY OF THE US FOOD SUPPLY CHAIN


Photo by Dan Hamill

By: Carley Coppler • Carey, OH

Food manufacturing and supply chains became a commonplace topic of conversation for Americans when COVID-19 hit the United States. Well, maybe the conversations weren't directly about the supply chain, but consumers were certainly talking about the empty shelves at grocery stores when the pandemic struck.

Increased prices at the store during a time when many are without work can leave one feeling hopeless and unsure of what is to come. While that may be the case, several individuals at The Ohio State University have a better understanding of how our food supply chain functions, what happened when it was strained during the pandemic, and how it is positioned moving forward.

THIS TIME, IT'S PERSONAL

Dathel Nimmons, lecturer for AEDE 3105 Principles of Agribusiness and Food Supply Chains and the senior vice president of Protein Sales Solutions, explains that the pandemic was the first time our entire country felt food insecure.

"Typically, the people who feel insecure about food are the very young, the very old, and the immunodeficient, or the very poor. In this case the entire country felt a little of that," Nimmons explained.

Between 85% and 90% of Nimmons' students come from an agricultural background. She noted that, "they have first-hand knowledge of how they were impacted personally. What they didn't really understand is what was happening across the country and how those things were impacted."

"They knew two things," she said, "They knew how their family was impacted and they knew that when they went to the grocery store that things weren't right." This was true for the majority of consumers.

A SHIFT IN CONSUMPTION

From the outside looking in, understanding every facet of the food supply chain can be quite challenging.

Todd Peterson, a fourth-year agribusiness and applied economics major, enrolled in AEDE 3105, shared they have learned that, "the economics industry pushes toward having three or four large packers, where that might not be the best in terms of food security and supply chain stability."

Peterson noted that this is a situation in which we have to figure out how to balance those two aspects.

What set this year apart in terms of impact on the supply chain, was the fact that there were many moving pieces and parts that contributed to the shift in demand according to Ben Brown, assistant professor of professional practice in agricultural risk management.

Nimmons explained the societal shift in food consumption that occurred, stating, "we consume about 50% of our products in a food-service setting and 50% of our products in a retail setting... demand shifted that whole 50%." She emphasized the importance that people still needed to eat, despite this major shift.

The shift from eating out to eating at home was one of the main stressors on the supply chain, but this isn't the first time in recent years that the United States has experienced a shift like this. "We saw this right before the recession in 2008," Brown explained.

Other shifts within the agricultural supply chain occurred due to school closures and the need to repackage and redirect transportation for products like eggs and milk. Brown expressed that having to transition from individual cartons of milk and packages that hold five dozen eggs into portions that were suited for the grocery store became the biggest challenge in delivering goods to consumers.

Beef carcasses ready to be broken down into retail cuts for consumers. Photo by Carley Coppler.

LOGISTICS ARE KEY

Logistics are incredibly important, and the U.S. was able to keep the supply chain open, which is the most important thing Brown noted. "Part of the reason we were able to keep our supply chain open is because global trade was still happening."

From an economic standpoint he explained that "allowing product to flow to the highest bidder sends a signal down the economic supply chain to make adjustments and we did that."

Each commodity is interconnected, and all were impacted differently by the pandemic, but Brown explains what those relationships looked like.

"Corn was the linchpin in the entire grain complex," Brown explained, "Corn prices fell completely out of bed for a couple of reasons: one, there was uncertainty about feed, we were slowing down the livestock supply chain... the other part was ethanol consumption."

Ethanol consumption is about 40% of total corn use and makes up a big part of corn demand according to Brown.

Society shifted, impacting ethanol consumption. Brown said, "When the pandemic started and states and regions began implementing restrictions on mobility, we weren't driving as much. People were staying home."

THE STATE OF THE SUPPLY CHAIN

Brown shared that an important thing to note is that, "our supply chain is global... logistics are very important. It's impressive when you think about how vast it is."

To some, it could look like the agricultural supply chain failed when the pandemic hit, but Brown says otherwise. "I would push back and say that we adapted extremely well given the circumstances. There was always food available at the grocery store."

Brown noted that though food choice was limited, there was always food.

MOVING FORWARD

The food supply chain is in a much better spot today than it was a few months ago and Brown explained that we have built connections and relationships with people across the supply chain because of the pressure that was applied in the spring.

Brown emphasized that, "in the beginning, our supply chain bent, but it did not break."

"Typically, the people who feel insecure about food are the very young, the very old, and the immunodeficient, or the very poor. In this case the entire country felt a little of that."

CFAES Career Development Office

Internship highlights and alumni spotlights are our way to show all the opportunities and experiences our CFAES students and alumni have. Do you have an experience you are proud of and think others would be interested in hearing about? To be highlighted, email cfaes-careers@osu.edu.

CFAES Internship Highlight

"You're dedicating a lot of time to what you're doing, do something you enjoy."

Alexis Wooten

Major: Agricultural Communication

CFAES Alumni Highlight

Chelsea is the founder and owner of The Rundown App, a racehorse and race stable management app.

"Just because one person doesn't understand your goal doesn't mean its not a good goal. Keep fighting for your dream."

CHELSEA DEXTER

Class of 2019

Ag. Systems Management Major
Equine Science Minor

THE RUNDOWN

Cliff Greer

Engineering Academy Director

Graduated: 2007

BS/Construction Systems Management

"Practice your career skills early (interviewing, resume writing, etc.), have a resume ready by the end of your freshman year. Go to as many career fairs as you can and get as many internships as possible."

The Ohio State University
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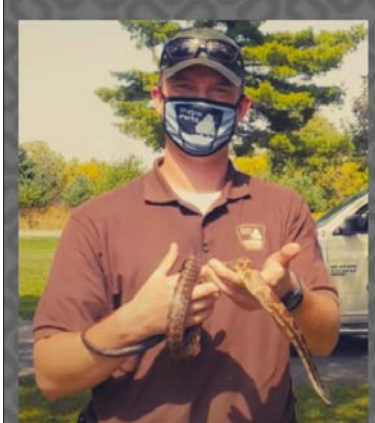
SENR Internship Highlight



"Be professional, assertive, and respectful to visitors and you will have a great time in this job!"

Zachary Whalen

Major: Natural Resource Management

@CFAESCareers

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CFAES

Adam Cahill
CFAES

Denise Rotavera-Krain
CFAES
Wooster

Caitlin Conrad
CFAES

Lucia Hadella
SENR

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The Ohio State University
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CFAES Career Development Office

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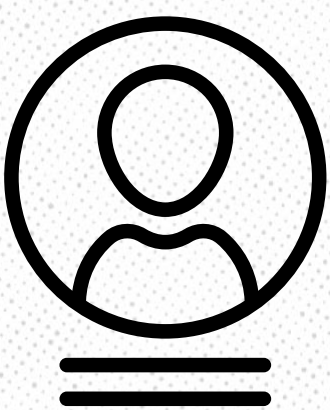

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Environmental Science

CHRIS BAIRD
Agricultural Systems Management

BRIAN BUSH
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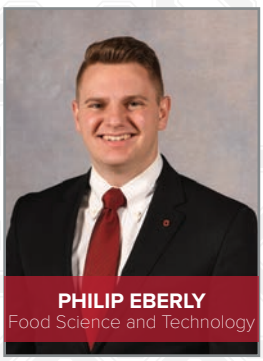
RACHAEL CLINE
Sustainable Plant Systems

ANNIKA DIAZ
Animal Sciences



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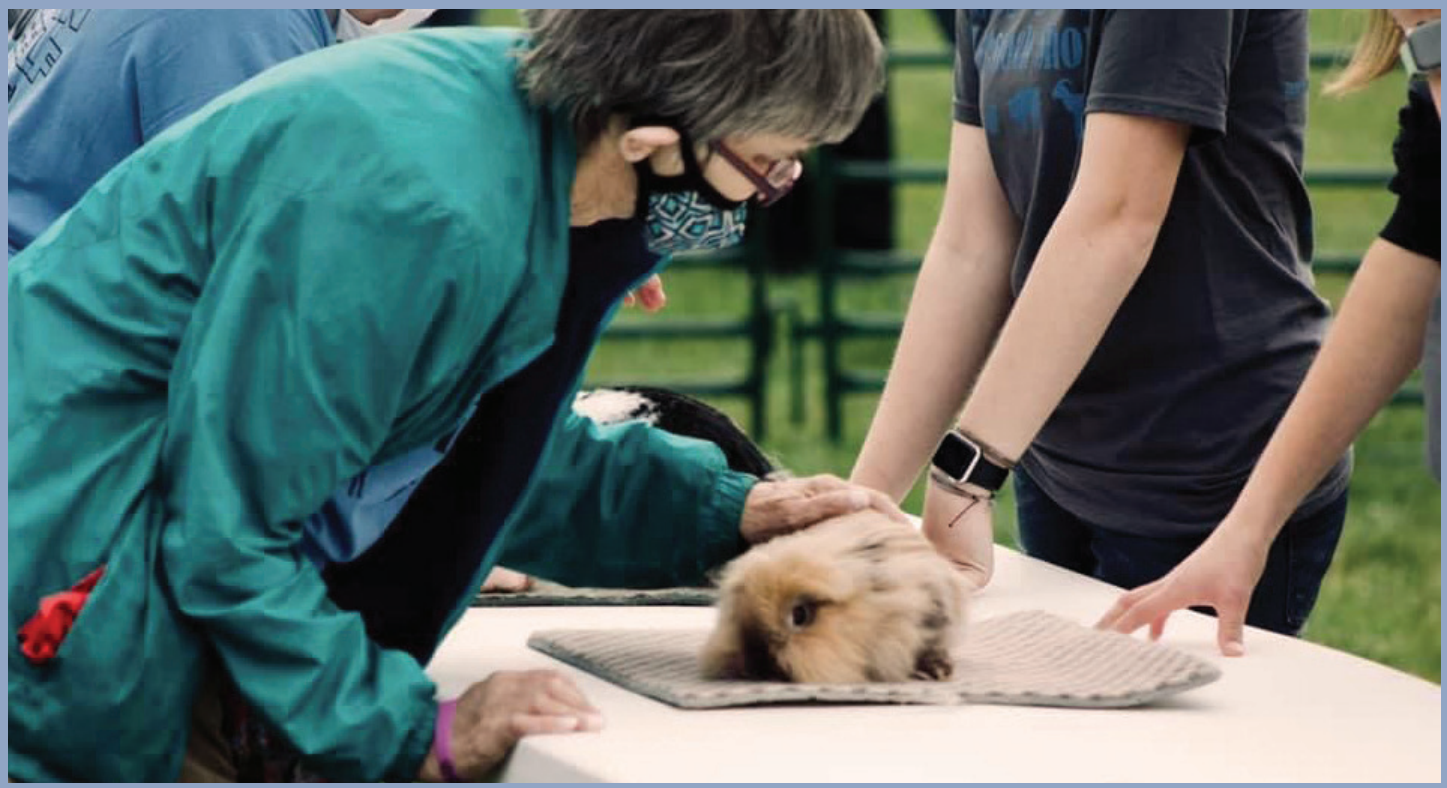

Rabbit exhibitors engage with judges at 2020 Be You Livestock Show. Photo courtesy of Kylie Rameriez.

Be You Livestock Show

By: Aubrey Mazey • Weston, OH

The summer can be an exciting time for people who love county fairs. For some, it's a chance to binge on greasy yet delicious bites to eat, while others can't wait to explore the carnival games and rides. Then there are those who are there each year, without fail, to see and pet the animals.

The fair can mean different things to different people, but for one girl, in Holmes County, Ohio, the fair means more than anyone could imagine.

That girl is Kylie Ramirez, a first-year agricultural communication student at Ohio State ATI, and to her, the fair means she gets to showcase her passion: bringing together agriculture and individuals with developmental disabilities.

Ramirez is the founder and leader of her own livestock show for people with developmental disabilities, called the Be You Livestock Show, which started in the summer of 2019.

"I wanted to use my show to not only let the individuals that are showing show, but give people opportunities they wouldn't usually be able to do," Ramirez said.

At the show, Ramirez said the participants from her county get to come in and show four different species of livestock: pigs, Boer goats, pygmy goats, and rabbits. This year, she added sheep into the mix.

"My goal is to every year add an animal until, obviously, I run out," Ramirez said.

Like any regular livestock show, the participants get to show in a ring with a judge, while friends, family, and fairgoers watch from the stands. At the end, they each get a banner with their name printed on it and their pictures taken: a special token to take away from an unforgettable day.

"They love being in the show ring, and they love practicing with the animals, so they're all very excited," Ramirez said.

BECOMING "BE YOU"

The idea for this program came to Ramirez during a trip to the Washington Leadership Conference hosted by the National FFA Organization. During the conference, members were tasked with creating a "Living to Serve" plan, where they developed ideas to positively impact their communities.

Ramirez said her original idea was a hunger banquet, where she would demonstrate the different levels of poverty between families and classes.

"And then I decided that wasn't what I wanted to do, so when I came home I completely changed it," Ramirez said.

Ramirez said one of her inspirations behind Be You Livestock Show is her older brother who has disabilities. She noticed he enjoyed spending time petting the animals and hearing Ramirez talk about them.

Ramirez also noticed there was an individual with developmental disabilities who showed at her county fair. With both her brother and this individual in mind, her idea came to light.

"So, I was going to do a day at the fair for individuals with developmental disabilities, and then I was like 'why do that' when I can just start a show?" Ramirez said.

And that is exactly what she did. She first presented the idea to her agriscience education teacher, who, five months later, realized Ramirez was serious about taking on the task. Later she took the plan to her county's senior fair board, who approved the plan on Feb. 14, 2019.

"And from there was go-time," Ramirez said.

CONQUERING CORONAVIRUS

Preparing for this event is no easy feat, Ramirez explained. Planning begins months in advance and there are always problems that arise when they are least expected. For Ramirez, that problem this year was the COVID-19 pandemic.

"The participants were all very upset when everything got cancelled and I got calls and it was just a mess," Ramirez said.

Participant receiving a high five while showing lamb. Photo courtesy of Kylie Rameriez

However, after a lot of careful thought and planning, Ramirez decided she would try and put a 2020 show together for her loyal participants. It was then when she brought not only great news to her followers, but she also brought a community together.

Friends and family from all around offered equipment and supplies. Then the Holmes County fairgrounds provided bleachers for spectators to sit in.

"The community is definitely very supportive, not only for me but the participants, too, and that's something that's awesome because even with the coronavirus the bleachers were full and along the edge of the paneling there were people standing," Ramirez said.

Ramirez's message has always been focused around the fact that even though her show is for people with developmental disabilities, they are able to do anything. After putting on her show this year, in the midst of a global pandemic, Ramirez proved she was able to do anything as well.

THE RAMIREZ EFFECT

While she may not always realize it, the impact she's had on the lives around her has been inspirational.

"It was a good experience to be a part of and I loved every minute of it," said Tiffany Reasoner, a first-year animal sciences major at ATI who judged in the show this year.

Reasoner went on to explain what an eye-opening experience being a part of the Be You Livestock show was. Seeing the participants smiling and having fun was a moment that put her own personal showmanship career into perspective.

"My goal is just to impact people's lives in a positive way and bring individuals with developmental disabilities into the agricultural industry, that's my largest passion right there," Ramirez said.

> *"If I impact one person's day, that's all that matters."*

"It really sent me back to when I started when I was younger and I was like 'wow, this is why I started,'" Reasoner said.

Ramirez's closest friend, Maddie Stitzlein, a first-year business management major at ATI, has been along this journey since the beginning and notes what an impact it's made on Ramirez herself.

"I'm glad she did it. I think it definitely helped her grow," Stitzlien said. "I think if she wouldn't have done it she would have gone into college doing something she would have hated."

Creating this show helped Ramirez discover her passion in life and allowed her to share it with those around her.

Down the road, Ramirez said she hopes to expand the show into other counties and allow them to create the same opportunities she has in her county. Whether that happens for just one individual or hundreds, for her it's not about the numbers, it's about making a difference.

"If I impact one person's day, that's all that matters," Ramirez said.

Kylie Ramirez standing infront of the 2020 show poster

Ground breaks for teaching building that wll become the Agricultural Technical Institute (ATI).

1970

1976

1986

These are photos of the cattle facility at the Wooster Campus in 1986. Courtesy of the ATI Historical Archives.

A class observes a dairy cow in 1976 at the Agricultural Technical Institute. Courtesy of the ATI Historical Archives

Wooster Campus: Past, Present, & Future

By Alexis Elliott • Mt. Victory, OH

In 1970, ground was broken for a teaching building on a 30-acre plot, and that would eventually become the Agricultural Technical Institute (ATI). Now 50 years later, ATI has forged ahead to become a prominent associate degree-granting institution rooted in agricultural research.

50 YEARS OF GROWTH

Before Ohio State ATI, Wooster, Ohio, was home to The Ohio Agricultural Research and Development Center (OARDC). According to the Ohio Agricultural Research and Development Center website, the OARDC is a research center that strives to disseminate key information on foods, agriculture, family, and the environment. State legislature allotted 30 acres of the land from the OARDC to create the Agricultural Technical Institute. Now the two work seamlessly together to make up the campus in Northeast Ohio.

In 1972, the first classes at ATI were carried out with 197 students in attendance for the fall quarter as reported on the ATI website. During this time period the classes ran on quarters instead of the semesters like the university does today. Over the course of the next 40 years, the Agricultural Technical Institute grew in student numbers and the associate degree programs that they offer include programs that can allow a student to transfer credit to get a bachelor's degree.

Anne Dorrance, associate dean and director for the Wooster campus and associate director for the Ohio Agricultural Experiment Station within the College of Food, Agricultural, and Environmental Sciences (CFAES), has

2012

The cattle handling facility, designed by Temple Grandin, in action. Courtesy of the Collee of Food, Agricultural, and Environmental Sciences.

The new Wooster Science Building located on Ohio State University's Wooster Campus. Courtesy of CFAES.

2020

been a faculty member at ATI since 1997 and recognized the shift that occurred in the campus atmosphere over time. "It's not an eight to five place anymore," Dorrance said.

"We are humming 24-7 with all the different research things, all that work and excitement that graduate students can bring here."

Dorrance mentioned that in 2010, a tornado ripped through the campus. It flattened trees, destroyed a large greenhouse, and the Food, Agricultural and Biological Engineering building, ripping it off its foundation. The faculty, staff, and students at the campus were resilient, quickly redoing the landscape and breaking ground for a new building in 2012, according to the ATI website. Two years later, the building was fully operational.

Another exciting piece of infrastructure at ATI was the creation of its new beef cattle handling facility, which was designed by Temple Grandin, an autism spokesperson, professor at Colorado State University, and world-recognized animal behavioralist. This handling facility was also dedicated in 2012 and is the only one in the state of Ohio. According to the Ohio State ATI website, in the spring of 2019, ground was broken on a new science building aimed to foster the feeling of unity between Ohio State ATI and the OARDC on the Wooster campus.

PRESENT DAY CHALLENGES

As of Jan. 1, 2020, Dorrance began her four-year term as associate dean and director for the Wooster campus. Shortly after her appointment, the university transitioned to online classes and students left the campus. She remarked that this was not the easiest time to start her new role, as everything was shifting in the beginning.

Dorrance noted that the only other time that she had seen the campus empty was after 9/11. "On 9/11, my technician and I had gone out to the field to check one of our studies, and I can remember standing in the field and there were no airplanes. We're not far from Cleveland where that one field was." Dorrance said, "We both made comments about it...and then we got back to campus and it was empty."

Though the circumstances surrounding the campus closure back then were different than that those of surrounding today's closing; the campus was empty just the same.

Julie Morris, director of farm operations for CFAES, works out of the Wooster campus and expressed her thoughts regarding the role of upper leadership in the repose to the pandemic.

"You know, when the pandemic first started, we were constantly trying to find ways to improve what we were currently doing," said Morris. "And maybe not so much from like an animal health standpoint, but from a staff health standpoint." Although the future of the university in regard to the pandemic is uncertain, the future of the Wooster campus is bright.

"We are humming 24-7 with all the different research things, all that work and excitement that graduate students can bring here."

FUTURE PLANNING

In the coming years, there will be the creation of new associate degree programs and new infrastructure in the works to enhance the student experience and community engagement at the Wooster campus. Wooster, Ohio, is home to a booming food industry, including Frito-Lay, Daisy Dairy Products, and Certified Angus Beef LLC.

Devin Peterson, PhD, a Dean's Chair within CFAES, is working to help the college advance key missions across the state of Ohio. "How do we connect food and health in a better way?" said Peterson, "Food can be doing so much more to promote a healthier lifestyle." Wooster Campus will play an integral role in creating meaningful partnerships between businesses and the college to improve education, extension, and research, the three main focuses of a land grant institution.

"Having worked in the state for more than 20 years now, I'm always running into graduates of ATI," said Dorrance. "And I think that's been one of the things you're most proud of when you work at a university is to keep interacting with graduates of the program all over the place and hearing their stories."

Crops and Soils Club

"We are also having a plant sale this May on ag campus. We plant vegetables from seeds and grow them in our greenhouses. This is meant to help support healthy and sustainable eating habits for those who live in urban communities."

- Amber Bergman, President

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FARMHOUSE

FRATERNITY

Student

Ohio State student organizations were dealt a stiff hand after students returned to Ohio State's campus. Organizations met virtually through January and only recently are sparingly allowed to hold limited events in-person.

FOOD SCIENCE CLUB

FarmHouse-ATZ Fraternity

"The Men of FarmHouse-ATZ have started doing something we call "Covid Tests and Coffee." We decided to take this as an opportunity to help brothers stay accountable to fulfilling this responsibility set forth by the University."

- Grant Lach, Vice President of Chapter Affairs

OHIO STATE AGRICULTURAL COMMUNICATORS OF TOMORROW

Collegiate Farm Bureau

"As our club has been revamping, especially in the midst of the pandemic, innovation has been key. Through the past year, we worked with the American Farm Bureau Federation for a training series focused on networking and advocating."

- Ryan Matthews, President

Activities

Nevertheless, they chose to overcome their challenges and continue to come together while physically apart to build professional skills and networks across the college and the university. We caught up with them to learn how they overcame this year.

OHIO FARM BUREAU EST. 1919 COLLEGIATE

Food Science Club

"To enhance virtual meetings, we implemented "meeting kits," which were gift bags with snacks and knick-knacks that students could pick up contact-free before meetings."

-Philip Eberly, President

OHIO STATE AGRONOMY Crops and Soils Club

Bruce A. McPheron during his time as dean of the College of Food, Agricultural and Environmental Sciences at The Ohio State University. Photo by Ken Chamberlain, OSU CFAES.

BUCKEYE AND A 'BUG GUY'

By: Kolt Buchenroth • Kenton, OH

Bruce McPheron, PhD, peers through his Bricker Hall office window. Past the seemingly insurmountable mountains of documents and file folders whose contents run Ohio's foremost higher education institution, The Ohio State University. He sees the iconic sidewalks of the Oval. Not only the same Oval he walked on as a student or as a dean, but as a toddler.

"My mom worked in this building. I was four years old," said McPheron, now the provost and executive vice president of the university.

On the wooden shelf behind his desk sits his trophy won in a 4-H Rabbit Demonstration contest in just his second year in the organization.

McPheron serves as the university's chief academic officer. He is responsible for strategic planning, development, and academic processes.

IT ALL STARTS IN 4-H

It was undoubtedly a sweltering mid-July day at the Union County Fair in the mid-1960s and a young McPheron has discovered entomology, the study of insects.

"We were looking around at exhibits and there were some bug collections," McPheron said. "I looked at my best friend at the time and I thought, you know, we could do that."

While the content of those 4-H projects is an important educational opportunity, so are some of the unmentioned lessons of the 4-H program.

"It really was the emphasis on community, the emphasis on community education, the emphasis on teamwork, the emphasis on leadership, quite frankly, with the positions within the club and the levels of responsibility," McPheron said.

"But as I look back now, it turns out that the project, whether it's sewing an outfit or collecting bugs or taking a steer to the County fair it is just the hook that gets young people in for a really formative experience. And I've carried that with me forever."

"I was 11 years old and never looked back," McPheron said as he recalled that day at the fair. He's right. McPheron became a Buckeye as he pursued an undergraduate degree in entomology. Following his graduation, he earned two more graduate degrees from the University of Illinois.

"The project, whether it's sewing an outfit, collecting bugs, or taking a steer to the County fair, it's just the hook that gets young people in for a really formative experience. I've carried that with me forever," he said.

LEADING THE CORNERSTONE COLLEGE

"It was a little bit like a dream," said McPheron, who had been at Penn State University since 1988 and left his post as dean of the College of Agricultural Sciences to return home. McPheron was named the dean of the College of Food, Agricultural, and Environmental Sciences (CFAES) at Ohio State in 2012.

"I knew people everywhere I traveled, relatives in some cases, but a lot of friends. I was a county extension agent down in Clermont County in the early '80s. The re-discovery of what Ohio state means to the state of Ohio was really very special," McPheron said.

While Ohio State is home for the now

provost, that wasn't the reason he accepted the position.

"I saw a university that was making an intentional effort to underscore working across boundaries," he said.

McPheron said the power of Ohio State that excited him the most was the collaborative effort across colleges and departments.

"That's the thing, it gives us our ability to change society. Ohio State had made that commitment," said McPheron.

He also noted the commitment to the two-year degree programs in the college at the Wooster campus.

"I felt that I wanted to be a part of that," he said. "When I arrived back, it was amazing. I had the privilege of being dean for three years. Following Bobby Moser and a 20-plus year tenure as dean, was a wakeup call for everyone. When you've got someone who has that history of leadership, any change is going to be something that people are watching to see how it goes," McPheron said.

That same sentiment was echoed by the faculty in the college according to Emily Buck, PhD, professor of agricultural communication.

"He followed a dean that was there for a very long time. That was change. Everyone was like 'how is this going to happen?' He was a quick hire," said Buck. "I think he was the right person for the right time," said Buck. He pushed us into the view of other parts of campus...He made us very visible."

Buck worked with then Dean McPheron as the president of the CFAES faculty council.

"I met with him regularly and saw a little different angle than some."McPheron started to push the college in a different direction in a new era, said Buck. Buck recalls McPheron being very interested in what the faculty was working on and would make changes to better suit them.

McPheron had his work cut out for him in unifying operations in Wooster, then unifying the two campuses together.

"I joked that my first visits there that first spring and summer in 2013, I could actually tell where the dividing line was between [Agricultural Technical Institute (ATI)] and [Ohio Agricultural Research and Development Center (OARDC)] because the grass would be different heights. We had two different crews mowing the grass," he said.

The connections and geographical diversity were a positive from then Dean McPheron's perspective, and he said he worked hard to start the "full college" approach to operating the campuses.

Not a micromanager, McPheron took the leadership structure of the college from a few assistant deans to several associate and assistant deans.

"He was a different leadership style than what we had in the past. He was the start in branching out the leadership and expanding," said Buck.

"I'm the eternal optimist."

According to Buck, oftentimes administrators can lose track of their roots in academics, however, that's not the case for McPheron.

"He's very grounded in his field of study," Buck said. "That's beneficial for us."

Having someone home-grown has its perks, especially for the college.

"I think it's a huge advantage," said Buck. "We have someone in power that understands and values our programs."

UNCHARTED WATERS

A task that comes with leading the Ohio State community – that wasn't in the job description – is leading the university through a simultaneous presidential change and the COVID-19 pandemic, including the campus reactivation plan. Anyone involved in the university sees a COVID-19 email on Fridays sent from the provost's office. He's had to make some tough calls so far, and they likely aren't over.

"Six months ago, we made a really, really difficult decision to actually send people away from campus," said McPheron. "If I'd only known at that point, that that was the easy part, but the hard part may be a hundred times harder—figuring out how to bring people back in a safe manner."

Obviously, the provost and transition task force were able to pull that off with some success, however there isn't a template for bringing 100,000 people back to campus in the middle of a global pandemic.

"We don't have a map. There's no map to guide us here, but the good news is that even though we don't have a map, we do have a North star, and the North star is the mission of this university and it has not diminished in its brightness at all," said McPheron. "There's never been a more important time for a place like Ohio State to continue to discover, to continue to teach, to continue to engage with communities."

It is not a stretch to say that leading such an enterprise through the most unprecedented event in recent history can take its toll on a person.

"You know, that's the thing that keeps you going—and we see these little successes all the time—it's exchanging ideas at all different levels and hearing the creativity and hearing how people are able to accomplish things even under difficult odds. That's what I think most leaders feed on. It certainly is what drives me.

Through all of it, McPheron is sure to focus on the sunny side and tackle each day with a clean slate.

"I'm the eternal optimist," said McPheron. "I fill a glass about 50%. So, in the morning when I get up, the glass is always half full there on the table. It's just a silly little thing. That's a reminder to me of how important it is to approach each day fresh because there are going to be not only new challenges, and you know that, but there are going to be some incredible stories. There are going to be some extraordinary opportunities."

Vice Provost Bruce A. McPheron conducts a University Senate meeting in the Saxbe Auditorium at the Moritz College of Law on Jan. 25, 2018. Photo by Jack Westerheide | The Lantern

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Gracee Poormand hanging with er co-worlers. Photo courtesy of Gracee Poorman.

BEATING THE ODDS

THE GRACEE POORMAN STORY

By: Samantha Augustine • Loudonville, OH

Walk into The Ohio State University swine facility and the overwhelming hog smell and loud noise of animals squealing and gates clanging may be the first thing you notice. The second thing you might notice is the 400 hogs, but the real thing to pay close attention to is the woman behind all of it.

Gracee Poorman works as the swine operations manager for The Ohio State University swine farm, but life hasn't always revolved around the constant demand of the hog industry. In fact, agriculture had little to do with Gracee's life at all until recently.

GROWING UP IN THE MIDDLE OF ADDICTION

Gracee grew up in inner city Columbus, but her home life was far from perfect. Gracee's parents divorced at a young age, leaving her family dynamic broken.

Her childhood was filled with less than desirable situations, as her mother struggled with drug addiction. Instead of being a kid, Gracee was forced to be the adult that her mother couldn't. At the age of four, her mother signed over custody to her drug addicted father who, unlike her mother, was able to function with his addiction.

At the age of eight, Gracee's soon-to-be-stepmom committed suicide and her dad left soon after, leaving Gracee alone again. During this time of need, Gracee turned to families in her community that welcomed her into their homes.

At the age of 10, while most young girls were playing with dolls and living in their imaginations, Gracee was working at the pool concession stand, babysitting, and cleaning houses for people to earn money.

A few years later, Gracee reconnected with her father who was doing better, but still struggling through his own addiction. It didn't last long. At 12, her father told her she would need to find a new place to live.

She went back to sleeping on the couch of different families in her community. At 14, she worked bussing tables at a local pizza shop. Two years later, Gracee moved in with her 18-year-old sister.

Gracee managed to do all this while still remaining in school. She was even able to enroll in College Credit Plus classes in order for her to work fulltime. Things were short-lived with her sister, and Gracee got her own apartment at 15.

Gracee had a dream of being more than what her parents were, more than what society would expect her to become. She pushed hard, even when more challenges arose.

"Gracee had a dream of being more than what her parents were, more than what society would expect her to become."

"My dedication is what led me to where I am at," said Gracee. "People consistently wanted to doubt me because of my background and where I came from, even as a parent I found, but I was persistent and determined to be more than what society wanted me to be."

IT ALL STARTED WITH A HORSE

Gracee worked multiple jobs to help put herself through college to become a veterinarian technician, all while raising her son.

It was an opportunity to help a friend's horse that would change Gracee's life for good. This, on top of everything else, might sound like

too much for someone with Gracee's lack of livestock background to handle, but it became exactly what she needed.

It was a stop at a local farm in Fairfield County to potentially board the horse that would push Gracee into the career she never saw coming. Gracee helped out on the farm to help pay for the boarding fees. The family also owned and operated a hog finishing barn, which is where Gracee would establish her love for the hog industry.

"It all started with one simple question," Gracee said. "They asked me if I wanted to play with their pigs one day, and that was all it took."

After finishing college, she worked at a small veterinary clinic where she primarily worked on small animals, but continued to work with hogs part-time.

From there, she was able to find a job at another local hog farm in Johnstown, Ohio, with the Heimerl family. She started off working on the wean-to-finish side of the operation and soon moved to the breeding side. Gracee would work with over 50,000 hogs across the state of Ohio selecting gilts for breeding.

HOGS, STUDENTS, AND SCARLET AND GRAY

In May of 2019, Gracee left Heimerls and the 50,000 hogs, and traded it all in for scarlet and gray, 400 hogs, and hundreds of students. The new role presented a new challenge for Gracee, but one she was not afraid to take.

"My lack of knowledge of agriculture held me back. I would introduce myself to people, and the first thing they'd want to know is what my background in agriculture was," Gracee said.

Many told Gracee that she would not last long in her new role, but she continued to prove them wrong. Working with students has provided her with a new purpose and challenge.

Shelia Jacobi, PhD, assistant professor in swine nutrition and immunology in the animal science department, has had the privilege to work closely with Gracee.

"Gracee's journey provides a unique and different perspective into the agricultural industry. It has allowed her to connect with her students in ways other professors can't, and the students really admire that about her," said Jacobi.

Bailey Eberhart, a student worker at the swine farm, said, "Over the past year, I've worked close with Gracee and have learned many things from her. She was always a positive light at the farm; even when she broke her foot, she still came into work the next day with a smile on her face."

Photo courtesy of Gracee Poorman

Despite all odds, Gracee was able to come out on top. Her journey was far from easy, but her dedication, passion, and the realization that she could be more, that she could break the cycle led her to where she is now. A leader in agriculture; a life she never saw coming but, one that she owes it all to.

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Erasing Carbon Footprints

THE FORMATION OF A NEW MARKETPLACE

Wes Leeper, planting cereal rye cover crop after the fall soybean harvest. Background and above photos courtesy of Doug Martin.

By: Shae Leeper • Marysville, OH

Take a look outside, what do you see? You might see some buildings and cars driving down the street. You might see trees and farm land for miles. But what don't you see? Now look up at the sky, it's probably a pale blue with a couple of stray clouds floating across the atmosphere. Something is growing. With each passing day this invisible monster grows. We are all responsible for it, yet since we can't see it, we often forget of its existence. With the flip of a switch, turning of an engine, and exhale of a breath, we add to it. Carbon dioxide is the greenhouse gas most responsible for polluting the atmosphere. Should we be afraid, or not? I suppose that's for each of us to decide on our own.

Agriculture presents us with a unique opportunity to combat this problem, all while helping to improve farming practices. There is a new program that allows farmers to sell carbon credits to everyday companies, the Terraton Initiative through Indigo Agriculture. However, before we can understand the complexity of this movement and the benefits it provides, we need to answer some critical questions. What is carbon sequestration? How do carbon credits work? Does carbon sequestration even matter?

CARBON SEQUESTRATION

Carbon sequestration is the act of plants pulling carbon dioxide out of the atmosphere through the plant structure and relocating it into the soil, by way of their root systems. According to *Science Direct*, "Carbon sequestration can be defined as the capture and secure storage of carbon that would otherwise be emitted to, or remain, in the atmosphere," (Herzong, Golomb, Encyclopedia of Energy).

A big way to reduce this gas is through carbon sequestration—a process where during photosynthesis, "the plant transfers carbonw compounds into the roots and communicates with the microbial community in the roots, feeding some of this carbon for microbial activity in the rhizosphere...," said Klaus Lorenz, PhD, a postdoctoral scholar within the School of Environmental and Natural Resources at The Ohio State University.

As the plant takes in the carbon and relocates it into the soil, it is making the soil more nutrient rich, adding organic matter. This, in turn, creates a more regenerative and conservation focused farming practice, benefiting soil health.

"I also believe very strongly that the health of soil, plants, animals, people, [the] environment, and planet is interconnected, it's one continuum. So, when [the] health of soil goes down, everything else goes down with it," said Rattan Lal, PhD, professor at The Ohio State University and director of the Carbon Management and Sequestration Center (C-MASC).

With the implementation of different practice, such as no-till, cover crops, and integrated nutrient management, we can decrease soil erosion, improve water infiltration, expand microbial activity in the soil, and remove the carbon dioxide in the atmosphere. Together, this will help create a healthier environment and a rewarding farming operation.

CARBON CREDITS

Carbon credits have become a way for companies to become carbon neutral. A company can buy credits to offset the voluntary tax they pay for carbon emissions.

According to Mike Thompson, grower account manager for Indigo Ag in the Ohio region, "Today they [companies] pay a voluntary tax for carbon emissions. They are looking to pay farmers whatever they have to, right now, to buy those credits. One metric ton of carbon sequestered, by a grower, is equivalent to one carbon credit."

"So, when [the] health of soil goes down, everything else goes down with it."

This is a way for companies to become more environmentally friendly, while supporting farmers and agriculturalist, people who work off the land. There are many companies that are at the forefront of this opportunity, partnering with growers, who reduce atmospheric carbon, and businesses, who want to neutralize their carbon footprint.

"For companies that are looking to buy carbon credits, they have sustainability goals in mind, they want to be environmentally conscious. For some of these companies, there is no physical way they can reduce carbon output because of what they do. With farming, we have a great opportunity to capture carbon and put it back into the soil," said Thompson.

A FARMER'S POINT OF VIEW

What is in it for the farmers? There is a monetary value to enrolling in a program, implementing new farming practices, such as cover crops, selling carbon credits, and receiving payments. Although the market is new and prices are not extremely high right now, there is room for it to grow in the future. According to Indigo Ag, "Indigo Carbon supports you [farmers] in adopting practices that are good for your farm – and helps you get paid for the carbon credits you generate. Adding cover crops, reducing tillage, and other practices can help benefit your soil and your bottom line." Aside from the additional profit, the program encourages farmers to incorporate valuable practices into their operation, which can create long-term benefits for the farmer and for the environment.

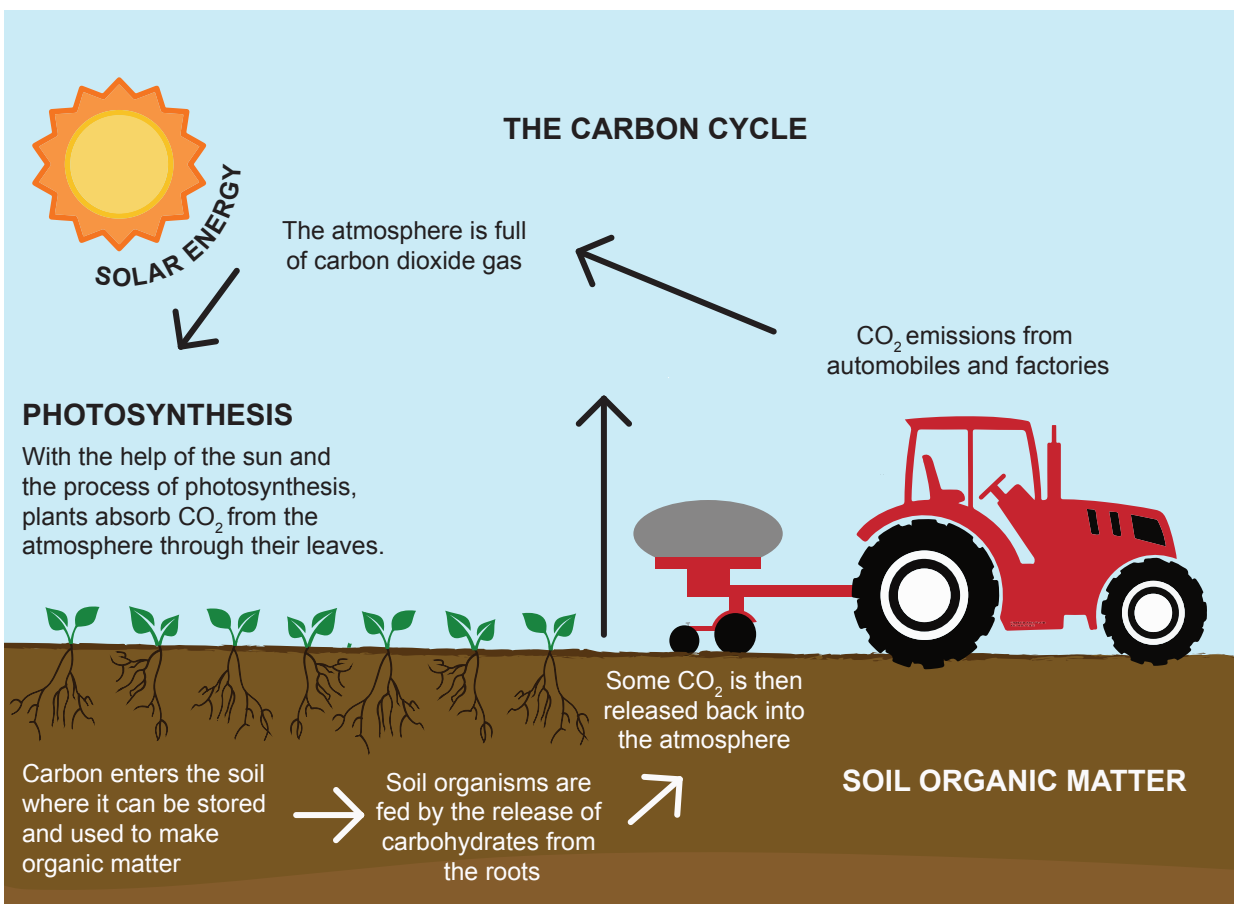
"As we build the carbon, we can store a lot more nitrogen, so that's less we have to buy," said Dave Brandt, owner of Brandt Family Farms LLC. "We also see phosphorus, potash, and trace elements coming up in the soils a lot more uniformly."

"The biggest thing we've seen is soil improvement. Cover crops are helping to make our soil more porous and improving organic matter. We're raising our best, highest yielding crops on farms where we have cover crops. I think that this type of program will entice more farmers to plant cover crops and improve their soil health, farmers who may not have otherwise tried it," said Wes Leeper, owner of Leeper Farms.

Introducing these new practices might not show an immediate benefit, but over the years it will help to improve the soil's health and the ability for farmers to grow better crops. It is a mutually beneficial process, the atmospheric carbon is lowered and the plant is able to utilize the carbon for growth, storing some of it in the soil.

"Soil carbon is like a bank account, so if you want to increase the bank account, your inputs should be more than the losses or withdraw," said Lal, PhD. *

Graphic by Shae Leeper



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The Face of the Meat Department

By: Schelby Beach• Forest, OH

At 6:30 a.m. is when most college students have just gone to bed. Even fewer are considering rising to start their day. Yet in the animal science building, this is the usual start time in the meat lab. Students button up their frocks and coats, grab their hairnets and prepare themselves for morning of class in the meat cooler.

Lyda Garcia, PhD, assistant professor of meat science and Ohio State University (OSU) Extension meat specialist, walks into the meat lab with a stack of judging cards and a can of Diet Coke. She trades her Twisted X's moccasins for steel-toe boots and a hard hat. She spends many long days in the cooler room processing carcasses in the Harvest and Fabrication class, evaluating carcasses with the meat judging team, and introducing the chemical processes in Introduction to Meat Science.

THE WOMAN OF THE COOLER

Garcia is no stranger to The Ohio State University's faculty and the College of Food, Agriculture and Environmental Sciences. The Department of Animal Sciences has been her home since 2015. She originally is from south Texas, 40 miles east of the Texas/Mexico border. Her father was a Texas cowboy with a third grade education, and her mother was a public-school teacher with a master's degree in education. She earned her associate's degree from Clarendon College, bachelor's degree from Texas Tech University, Master of Science from West Texas A&M University, and finished her PhD at Texas A&M in College Station.

Along with teaching many courses at Ohio State in the animal science department, Garcia advises the Meat Science Club. This student organization provides an opportunity for students to meet industry professionals as well as provide education to other students on campus.

Garcia is well known for her knowledge and skill in the cooler. She advises the team members the Ohio State Meat Judging Team alongside a graduate student each year. It is a competitive group of students who evaluate and grade beef, pork, lamb carcasses, proper cuts of wholesale meat, and understand the economic side of the meat industry. These students have the opportunity to travel the country to visit and practice their skills in other universities' meat labs and large-scale well-known packing plants. Students get to compete against other universities throughout the season, some are awarded with high titles, all while getting the opportunity to network with other individuals in their industry.

HIGHER ED PROGRAMS

Currently, Garcia has two graduate students she advises, Bo Garcia and Jake Parkinson. Bo Garcia, not in any relation to Lyda Garcia, is currently assisting in coaching The Ohio State Meat Judging Team and started his master's program in spring 2020 where he is focusing on meat science and extension education.

"That's why it isn't just a job for me. I do believe I am fulfilling my mission and that is to serve."

Jake Parkinson is a current graduate student at The Ohio State University studying animal sciences and meat sciences. His thesis for his Master of Science in Meat Science is titled, "The investigation of different levels of Vitamin A and its effects on animal performance, carcass traits, and the conversion rate of external fat color in cull-cows." The objective of his research project is to evaluate different feeding strategies and the effects on body condition score, fat color, carcass yield, and quality traits in cull cows. The central hypothesis is feeding a high energy diet, with low levels of vitamin A, for 56 days will improve animal performance, carcass yield, and quality traits, in addition to capturing the point or rate of the conversion of yellow to white external fat. Lyda Garcia is key in aiding Parkinson in his research as she helps strengthen him and help add value and knowledge for a future career.

EXTENSION AND OUTREACH

Garcia's focus is not always in teaching on campus, as 30% of her responsibilities lie in extension education. As the Meat Extension Specialist for Ohio State University Extension, her main objective and goal is to educate. She is working across the state of Ohio with meat processors, producers, and youth agriculture organizations.

Processors call on her as a consultant to problem-solve on issues involving meat quality or food safety, which she said is one of her favorite things to do. She holds programs and clinics for producers to see both the livestock and meat side of the industry and gain a better understanding if their management is functional for what they are producing. Garcia hosts a meat judging clinic for the agricultural educators each year, as they are the stepping stones for students prior to college education.

Balancing all of her responsibilities has not always been easy. As a "workaholic," she says she enjoys being busy. "I am busy, no doubt of it, but I love my job and I love what I do," stated Garcia, "That's why it isn't just a job for me. I do believe I am fulfilling my mission and that is to serve." She believes it is important to balance mental health—using her relaxing time at the gym, on a run, or taking a long walk with her 8-year-old Boxer, Raider.

Pictured left, Garcia pictured above with the 2020 Ohio State Meats Judging Team practicing classes prior to a contest. Photo Courtesy of Bo Garcia .

Pictured on opposite page is Garcia teaching in the cooler with a lamb carcass as she is measuring the backfat. Photo Courtesy of Bo Garcia.

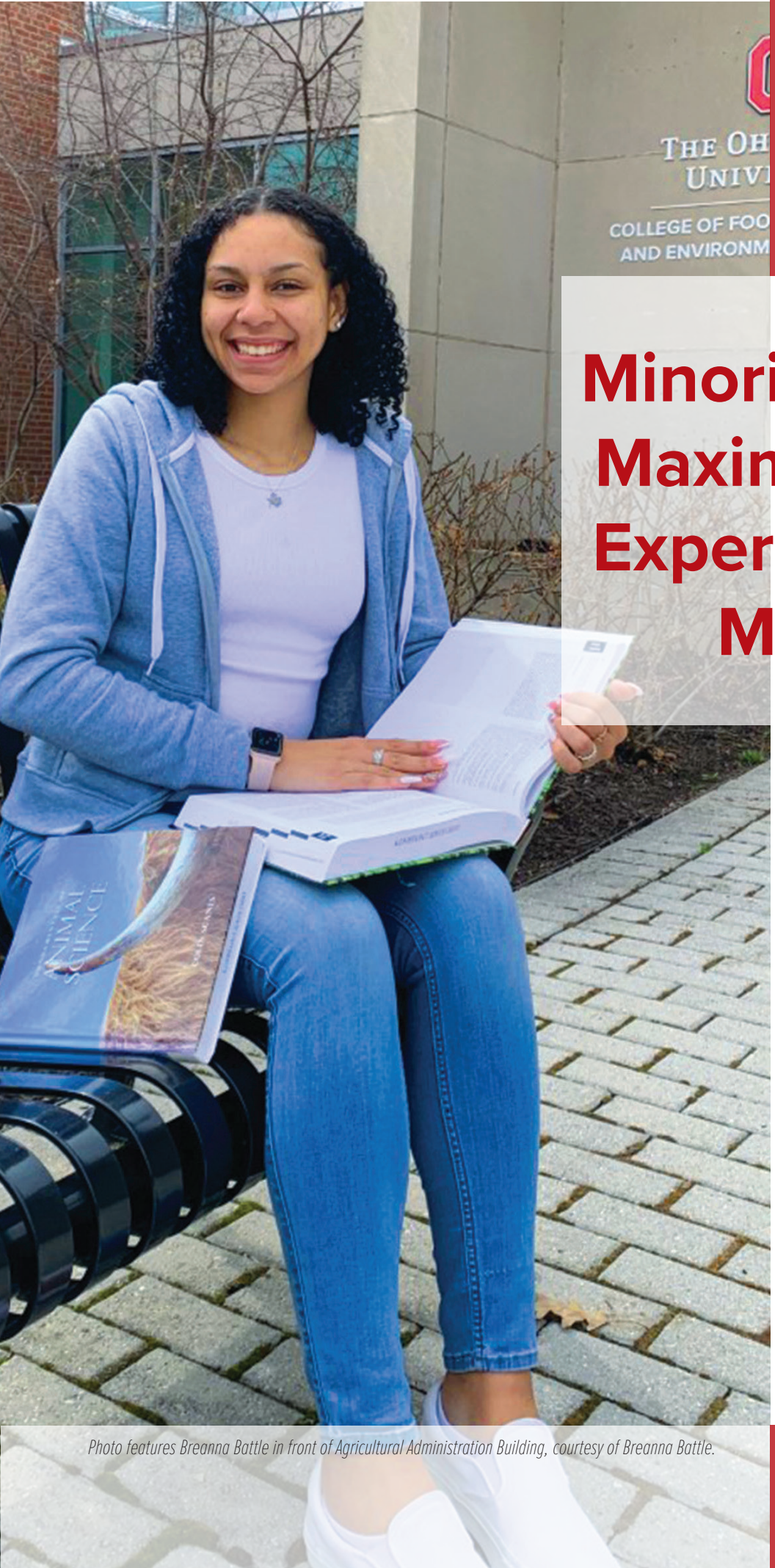


Photo features Breanna Battle in front of Agricultural Administration Building, courtesy of Breanna Battle.

Minority Students Maximize CFAES Experiences with MANRRS

By: Jessica Crook • Bowling Green, OH

The land-grant university mission, as detailed in the Morrill Act of 1862, was to teach agriculture, military tactics, and the mechanical arts, as well as general studies, so members of the working classes could obtain a liberal, applied education becoming engaged in agricultural production and scientific advancement of agriculture.

In 1890, a second Morrill Act was established, instituting 19 Historically Black College Universities (HBCUs) to become involved in agriculture and mechanical arts education. Meanwhile in 1994, a third Morrill Act established 33 land-grant institutions in tribal nations of the United States.

The significance of tribal and HBCU institutions is that they make up 42% of land-grant institutions, yet only 7% of agricultural entrepreneurs are from minority populations.

HISTORY OF NEW OPPORTUNITIES

According to Rodney Jones, a forestry graduate student, Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS) aims to increase diversity, equity,

and inclusion within the agricultural atmosphere. The origin of MANRRS was first founded at Michigan State University (MSU) as the Minorities in Agriculture and Natural Resources Association (MANRA). After MSU produced an agricultural organization focusing on the empowerment of minority voices, Penn State University caught word of MANRA and another organization known as Minorities in Agriculture (MIA) was established.

"MANRRS welcomes everyone" states Kathy Lechman, PhD, assistant dean and director of Diversity, Equity, and Inclusion on the College of Food, Agriculture and Environmental Sciences (CFAES). "I would like to see our MANRRS chapter here at Ohio State grow."

As a former MANRRS co-advisor and long-time advocate for the organization, Lechman spoke on the importance of representation within the field of agriculture. Lechman feels these oppurtunites to see other people like themselves in leadership roles within agriculutre empowers students. "It's just been nice for me to have the privilege of interacting with them and watching their growth and development."

BEING ACCEPTED

Representation and inclusion are major components of MANRRS. The phrase "changing the face of agriculture by linking hands around the world," is displayed on their website homepage, as well as on their 2020 annual report. This phrase just scratches the surface of what the organization aims to achieve, and based on their survey results of cultural and ethnic representation within MANRRS, they are on the path to ensure networking, leadership, and career opportunities are available for all who become involved with the organization.

"I've been more open and wanting to be a bigger voice for minorities," said Breanna Battle, president of the MANRRS chapter at Ohio State University.

As a minority within CFAES, Battle revealed, "I stick out in the classroom," and, "honestly, until I got involved with MANRRS, I was very uncomfortable here."

Battle studies animal sciences and describes her first few semesters at Ohio State as challenging due to the lack of agricultural education she received in high school. Though this is quite common across the United States.

"I want everybody to feel like there's a place for them at CFAES," Lechman said, recognizing the need for all students, especially students of color, to feel comfortable on campus. "CFAES is like family," she follows.

UPENDING AGRICULTURAL EDUCATION

Pamela Thomas, adviser of the MANRRS chapter at Ohio State, and specialist in equity, inclusion, and student success at CFAES highlights the importance of agricultural education and opportunities being presented in elementary, middle, and high school classroom settings.

"We have to keep on talking and promoting [agricultural] programs in advance," Thomas said. "People don't know what's out there and what's available," she continued.

"I want everybody to feel like there's a place for them at CFAES."

Agricultural education has been placed on the back burner in most elementary, middle, and high school institutions. According to the *Journal of Agricultural Education*, this absence leaves entire communities unaware of the food cycle, how food is planted, why food is planted during specific seasons, gender specific names of animals, what animals can eat and what they shouldn't, the amount of fertilizer or water to provide for newly sown crops, the unknown of weather conditions, animal vaccinations, and potential yields that can be produced.

"Where I'm from, when we think about agriculture, we think about dirt and animals, but don't really know about it," Battle said, who hails from Lorain, Ohio located 30 miles outside of the urban Cleveland, Ohio.

COMMITMENT TO DEVELOPMENT

The Journal of Agriculture, Food Systems, and Community Development talks about the lack of agricultural education in most large or inner-city schools across the U.S. These situations create a lack of understanding of the importance of farming, gardening, and agricultural urban development. Urban gardens have increased in popularity over the years, although there continues to be a disconnect between white Americans and minorities on the investment of agricultural production.

"You've got to meet people where they are, you've got to come up with ways to appeal to them," Thomas says, explaining the importance of having conversations about "who is connected to agriculture, who is present at the table," and how to inspire other communities to take a seat at the table and have a voice in the discussion.

After MANRRS was founded in 1984, minorities interested in agriculture and natural resources were able to connect with an organization. Battle admires MANRRS mission stating, "There are opportunities specifically for me and minorities."

Battle is one of many minority students in agriculture, but she also recognizes the importance of expanding agricultural education across the United States. She also goes on to mention the importance of diversity, equity, and inclusive training within the university setting. Battle believes including diversity training into general education courses for all students would be beneifical. Battle said, "People need to be aware that there are multiple cultures in the world because they exist and need to be recognized."

A rusty red fire hydrant leans in the gravel driveway beside the farm shop at Kain Farms in Croton, Ohio.

Firefighting and Farming

Story and Photos By Stacey Butler • Alexandria, Ohio

The cool fall breeze makes the grass dance as the cows moo low in the distance. Stepping lively through the grass is a man dressed in denim blue jeans, a dark jacket, and gray hat. He moves with ease driving the cattle towards the barn. Once inside, the cattle are met by a young woman with a huge grin on her face.

The cows are sorted based on those ready to finish and those who need more time growing. Red buildings accented in white trim dot the property in Croton, Ohio where Kain Farms is coming alive for the day. Leaning near the farm shop is a rusty red fire hydrant. Emerging from the barn and smiling at the completion of their task is Tim Kain and his wife Ashley.

FARMING

Tim always wanted to be a farmer. He spent much of his childhood alongside his father, absorbing as much as he could about the trade. He rests on a farm stool in the middle of the shop while his wife rests on the front seat of their ATV. Behind them sits a large header from a combine, indicating the approaching fall harvest.

Kain Farm focuses primarily on growing corn and soybeans. They finish beef cattle and raise hogs for 4-H as well. Due to the demand for beef this year, they are backed up 11 months with orders. Finding cows to finish right now has been challenging for the farm.

Tim's mother, Pat Kain, reflects on earlier years farming with her late husband, Bob.

"Bob and I had it rough, financially, very rough. We didn't want our boys to have to have it as rough as we did, so we told them to get jobs in-town and farm on the side," Pat Kain said. "That's what Tim did. He got a fireman job but he's farming."

FARMING AND FIREFIGHTING

Tim began volunteering right out of high school at Harlem Fire Department in Center Village, Ohio. He decided he enjoyed firefighting enough to continue to pursue it as a career. Tim earned his firefighting and paramedic certification and began working part-time for different local fire departments before eventually landing a full-time position at Mifflin Township Fire Department in Gahanna, Ohio.

"I went to get an in-town job to have insurance and security because this is a gamble. It's not secure every year," Tim Kain said of farming.

Farming and firefighting both require a keen mechanical mind, the ability to be on-call at all hours of the day, and the drive to push through whatever challenge awaits them. Farming

Tim Kain stands in front of Mifflin Township's tillered ladder truck.

"If I'm going to do something, I'm going to do it good."

has helped Tim as a firefighter. Farming requires a strong knowledge of mechanics and equipment.

"If something breaks, I know how to fix it," Tim said.

Although Tim is cross-trained as a firefighter and paramedic, he especially looks forward to being assigned on the tillered ladder truck. When it comes to farming, he looks forward to time in the sprayer.

"I actually really enjoy spraying. I like to get out and see what stage my crops are in. I spray four or five times a year, and I can see each stage of growth," Tim Kain said.

Many people would choose to focus at either one career or the other, but balancing both have become a skill for Tim. Tim plans to work for the fire department for as long as he is able, but farming will continue long after he hangs up his helmet.

FARMING, FIREFIGHTING, AND FAMILY

Although both careers start their day before the sunrises, there is no such thing as a typical day for either a firefighter or a farmer.

Farming takes up the entire day from sun-up to sun-down. Farmers are expected to tend to their herd multiple times during the day, grow their crops to produce a high-quality yield, and maintain their equipment. Or perhaps a cow gets loose and takes the farmer on a wild chase through town. Lunch is often skipped, but they make sure to return home for dinner.

In a similar manner, firefighters are scheduled to work a 24-hour shift then take 48 hours off. They start at 8 in the morning, and the next 24-hours hours are filled with any and everything. From panic attacks, broken bones, and carbon monoxide alarm checks to life threatening traumas, cardiac arrest, and structure fires. When they are not responding to emergencies, firefighters and paramedics are expected to continuously train, maintain the equipment and the fire station, and educate the public. Meals are eaten at the firehouse and sleep only happens when the calls stop coming in.

Sometimes the role of being either a farmer or a firefighter can strain a marriage. The seemingly never-ending hours, being on-call, missing family functions, continuing education, and risk of injury can tear a couple apart. Luckily over their 17-years of marriage, Tim and Ashley have figured out how to make both jobs work together, but it did not come easily.

During October, Tim takes the entire month off from the fire service to focus on harvest, something Tim mostly does alone.

"It's rough. I leave five or six in the morning and I probably don't get home until ten or eleven at night, every night. And by the end of that month she's had enough," Tim said smiling at Ashley.

"It's not a bad life, but it's a different life and a lot of my friends don't understand. A lot of their husbands are home every night at five o'clock to help with dinner and baths. These husbands cook dinner. It's things like that that makes it harder," Ashley Kain explains.

Their marriage survives because of the teamwork and their willingness to support each other. While Tim is combining, Ashley runs field to field, takes care of errands, and delivers meals out to the combine.

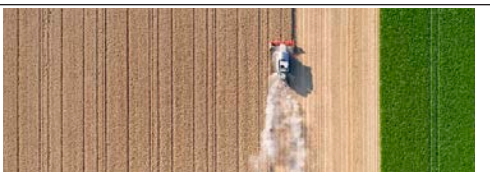
"I'll either grab a sack lunch and go," Tim comments, "or we'll sit out around the back of the car and take a half hour to sit and eat."

The couple takes advantage of rain during harvest to have lunch together as a family. You might even catch Ashley riding along in the combine with Tim. Similarly, when Tim is away from the farm reporting for duty at the fire department, Ashley manages the house and busy schedules for their three very active children.

And when harvest ends, the family finally has a brief moment to catch their breath before it starts all over again with planting. The children soak up their time with Tim, and Ashley gets a chance to blow of some steam with her friends. Both make sure to find time for each other to continuously strengthen their marriage.

"If I'm going to do something, I'm going to do it good," Tim said smiling at Ashley.

Bunker gear hangs on the tillered ladder truck waiting for the next call.



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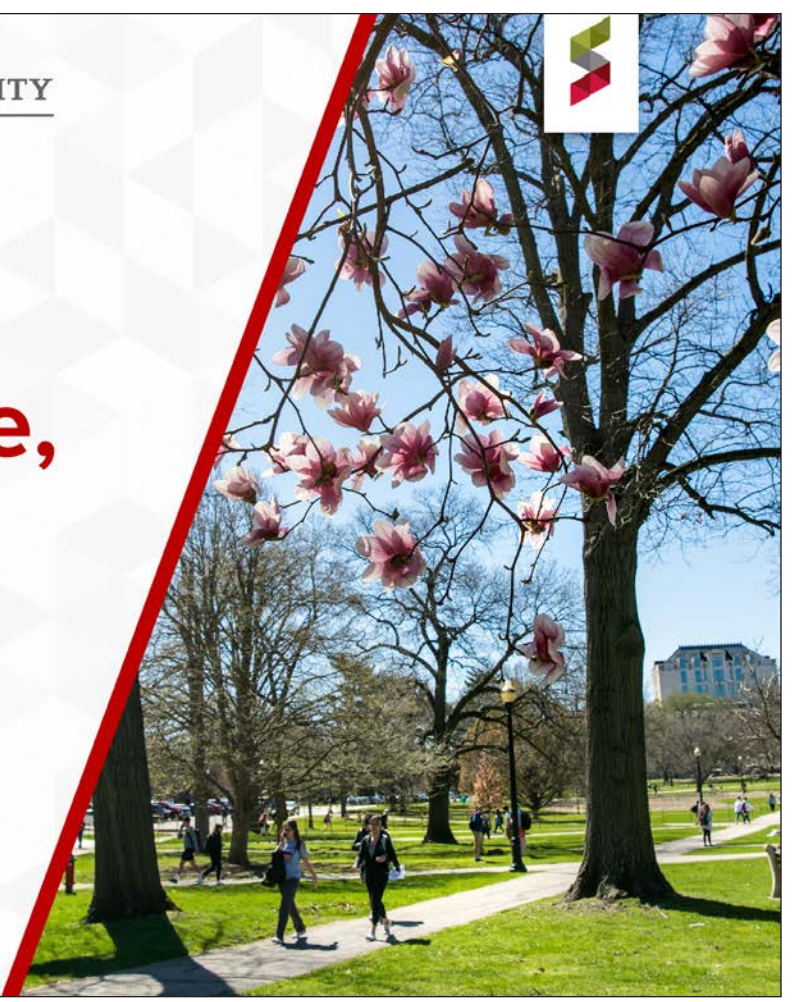

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ADVOCATING AFTER ADVERSITY

From an unexpected family tragedy to a mission to advance the world's food safety system

By: Courtney Heiser • Attica, OH

The last thing on your mind when ordering a hamburger at a restaurant is contracting E. coli and becoming deathly ill. This is also something you would never expect to happen to a perfectly healthy 2-year-old.

GONE WITHOUT WARNING

During the summer of 2001, Kevin Kowalcyk, woke up one morning with a mild fever and diarrhea. The following day, Kevin's condition worsened, which led to an emergency room visit. Doctors were unable to pinpoint the problem after the exam, so they sent Kevin home to rest and recover.

Unfortunately, Kevin's health quickly declined with each passing hour. The Kowalcyks returned to the hospital the next day; this time the hospital admitted Kevin, treating him for dehydration and bloody stools, and ran several tests. Later that day, one of Kevin's tests came back positive for E. coli O157:H7.

After a grueling 12 days of battling for his life in several different hospitals' intensive care units, Kevin passed away. He was 2 years, 8 months, and 1 day old. Kevin's unexplained fight with E. coli left his family, especially his mother, Barbara Kowalcyk, desperately searching for answers.

"Just in the three years after his death, I was trying to figure out what happened to him and kind of got involved in food safety because of that," said Barbara Kowalcyk, PhD, co-founder and director for the Center for Foodborne Illness Research and Prevention (CFI) at The Ohio State University. "We lived in Wisconsin at the time, and the health department refused to investigate our case, so that led me to Bill Marler; he worked pro bono on our case for three years. We never settled."

A HAMBURGER?

The Kowalcyks looked to Bill Marler of Marler Clark, The Food Safety Law Firm, as he was more knowledgeable on the topic of foodborne illnesses. During the week before Kevin's illness, he had eaten three hamburgers, which led Marler to suspect meat contamination as the cause of Kevin's E. coli diagnosis.

"The molecular fingerprint of his [Kevin's] E. coli matched that of a meat recall in the same time period from a producer in the state of Wisconsin," said Kowalcyk. "But that's not sufficient to prove product liability. We had to actually prove that he consumed that recalled meat."

In 2004, the family, with the help of Marler, filed a lawsuit against the U.S. Department of Agriculture (USDA) to subpoena producers' and retailers' records to determine if the retailer of Kevin's hamburgers had received its meat from the producer that had issued the recall.

Despite three tireless years of research and threatening lawsuits, the Kowalcyks were unable to identify the recalled meat that caused Kevin's illness, which led the family to drop their case.

REMARKABLE RESILIENCE

Refusing to give up, Kowalcyk dedicates her life to bring awareness to food safety challenges, not only in America but around the world.

"Barb is different in the sense that she found purpose, and that purpose of Kevin's death was food safety," said Marler. "You can't help but admire someone who, every day, gets up to work on food safety, it's like continuing to pick this scab of pain, and many people couldn't do that."

In 2006, Kowalcyk and her mother, Patricia Buck, an educator and writer, co-founded the small nonprofit, CFI, with the mission to prevent foodborne illness through scientific research, education, outreach, and public service.

CFI soon became a leader in food safety, and Kowalcyk and Buck were offered several opportunities to serve on national coalitions, advisory committees, and food safety forums, including those of the Centers for Disease Control, the Food and Drug Administration, and the USDA.

In 2017, Kowalcyk accepted a faculty position in the Ohio State College of Food, Agricultural, and Environmental Sciences

"Barb is different in the sense that she found purpose, and that purpose of Kevin's death was food safety."

(CFAES) and brought CFI with her in this transition.

Being a center within CFAES provides CFI with extensive connections and resources. CFI is also able to work with the minds of many bright students within CFAES as well as other colleges across the university.

"One of the things when I brought CFI into Ohio State, my department chair and I talked about was setting up an endowment for CFI to ensure that our work will continue into the future," said Kowalcyk. "And of course, funding is always a challenge for everyone, and to make the center sustainable long term, it would really help to have an endowment."

FINDING THE FUNDS

To establish a permanent endowment status at Ohio State, the fund must reach $100,000. Although funding is a challenge for any organization to overcome, since the center's beginning at Ohio State in 2017, CFI had raised nearly $70,000 for the fund by the beginning of 2020.

In October 2020, Bill Marler and Marler Clark LLP PS, The Food Safety Law Firm, donated a generous $100,000 to CFI, bringing the fund's total to $169,863 and officially reaching permanent endowment status at the university.

"When Barb reached out to me about fundraising for the center, I was more than happy to do it," said Marler. "I've always admired Barbara and the fact that she has honored her child's memory by not curling up in a ball, which would also be completely understandable, but to use that tragedy to try to correct things, it's amazing."

The fund will serve as a stable resource for CFI's public policy and translational research initiatives.

"Food security has always been a big area of funding, and they've kind of added food safety to that as well, so there's lots of opportunities internationally. Future work in that area I think is something that will be supported by this donation," said Kara Morgan, PhD, associate director for CFI.

The Assessment and Management of Risk from Non-typhoidal Salmonella, Diarrheagenic Escherichia coli and Campylobacter in Raw Beef and Dairy in Ethiopia (TARTARE) and Prenatal Exposure to Mycotoxins: Exploring the Association with Low Birthweight / Height in Guatemala (PESAR) programs are two international projects that the fund will support.

"I'm eternally grateful to Bill for everything he has done to support me over the years in my efforts to prevent foodborne disease," said Kowalcyk.

HEALING BY HELPING

Kowalcyk is passionate about bringing awareness to food safety because she does not want any family or child to suffer like her family.

"I think food safety is one of those areas where it has an actual really big impact on public health, but people aren't aware of it as much and people don't think about it," said Morgan. "One thing that Dr. Kowalcyk said when she was giving a guest lecture for one of my classes, which I never thought about before, is that there really is no such thing as a stomach flu. If you have the stomach flu, you probably have a foodborne illness."

Photo of Barbara Kowalcyk, PhD, co-founder and director for the Center for Foodborne Illness Research and Prevention (CFI), courtesy of CFAES.

For years to come, CFI will continue to share Kevin's story. Thanks to years of the center's diligence and support of generous donors, the newly established permanent endowment will sustain research and education around foodborne illness for years to come and impact lives locally, nationally, and globally.

OHIO STATE'S CENTER FOR FOODBORNE ILLNESS AND PREVENTION

The Center for Foodborne Illness Research and Prevention (CFI) was founded as a national, 501 (c)(3) non-profit organization to drive the development and implementation of innovative, science-based solutions for the food safety challenges of the 21st Century.

Foodborne illness is a serious global health issue that affects 600 million people each year. Ensuring access to adequate, safe, and wholesome food is increasingly critical in order to sustain the world's growing population.

In August 2019, CFI was established as a center within the College of Food, Agricultural, and Environmental Sciences (CFAES) to further establish Ohio State and CFI's global leadership in food safety; encourage and facilitate transdisciplinary collaborations around food safety; build a network of food safety experts to address existing and emerging food safety problems; and create lasting strategic partnerships with food safety stakeholders.

CFAES

From Meetings to Marriage

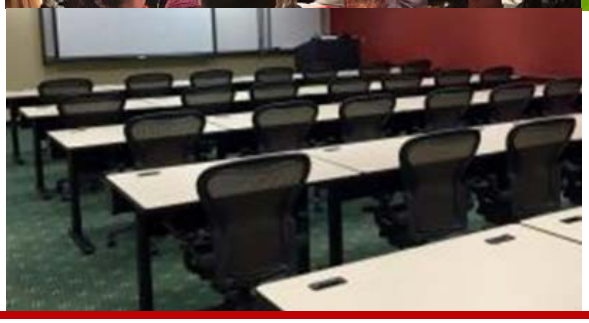

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Photo by Ken Chamberlain OSU/CFAES

Ohio State Professor Named World Food Prize Laureate

By: Lexie Shumaker • Amanda, OH | Maddy Schupp • New Philadelphia, OH

The newest recipient of the World Food Prize, Rattan Lal, PhD, has dedicated his life to eliminating world hunger. The soil scientist has had a long journey to where he is today, but he has impacted so many lives in the process.

"Many people say that they had a plan that they wanted to become a scientist, but I don't think I had any plans. I just took it one day at a time," Lal said.

LAL'S BEGINNING

Lal was born in 1944 in the small farming village of Karyal, located in West Punjab, India. His studies on soils began at Punjab Agricultural University in Ludhiana and then at the Indian Agricultural Research Institute in Delhi, where he earned his Master of Science degree. Lal's studies then brought him to The Ohio State University where he pursued his PhD under the mentorship of Professor George S. Taylor.

In 1968, after Lal graduated from Ohio State with a PhD in soil science, he traveled to the University of Sydney as a postdoctoral researcher.

Alex McBratney, Lal's colleague and professor and director at the University of Sydney/Sydney Institute of Agriculture, said, "No one has done more in the last 50 years to elucidate the importance of soil, and soil security, to food security, to climate change and indeed to the existence of humanity on the planet than Rattan Lal. He has worked extraordinarily diligently to make everyone aware of the importance of soil."

Herb Albrecht, former director of the International Institute of Tropical Agricultural (IITA) at Ohio State, gave Lal the task of developing a soils physics laboratory in Nigeria, so those who wanted to attend college could stay in Africa for their studies.

In 1969, Lal traveled to Ibadan, Nigeria, to serve as the soil physicist at IITA. His wife joined him in Nigeria, giving birth to their four children over the course of 18 years. The experience was rewarding but had a lot of challenges that went with it.

LAL AND OHIO STATE

Lal returned to Ohio State in 1987 as a professor of soil science. He established the Carbon Management and Sequestration Center in 2000. To date, Lal has mentored 112 graduate students, 54 postdoctoral researchers, 10 research scientists and associates, and 175 visiting scholars who all work to restore the world's soil quality. Lal currently teaches two courses within the School of Environment and Natural Resources (SENR) and continues to

work on his research with the university.

In addition, he has authored/co-authored more than 2,437 research publications including 955 refereed journal articles and 543 book chapters, written 22 books as well as edited/co-edited 76 books.

THE LEGACY OF RATTAN LAL

The World Food Prize was created in 1986 to be the foremost international award presented to individuals who make exceptional breakthroughs in increasing the quality, quantity, and availability of food for all.

Lal was recognized on October 15, 2020, through an event, "The Legacy of Dr. Rattan Lal," hosted by Ohio State. The event honored the 2020 World Food Prize recipient and the impact Lal has made on food sustainability throughout his career as a soil scientist.

"World Food Prize Laureate Dr. Lal's pioneering research on the restoration of soil health in Africa, Asia, and Latin America, led to revelations that impact agricultural yields. Natural resource conservation and climate change mitigation, the agricultural practices long advocated are now at the heart of efforts to improve agriculture systems in the tropics, and globally. We are so proud of Dr. Lal's achievements and the legacy and inspiration," said the dean of the College of Food, Agricultural, and Environmental Sciences (CFAES) at Ohio State, Cathann Kress.

After Lal's many years of dedication to improving and impacting the world's quality of living, he is the 50th award recipient of the prestigious World Food Prize. Rattan Lal's studies have increased food production, while also focusing on sustainability.

"Dr. Lal has promoted innovative soil saving techniques benefiting the livelihoods of more than 500 million smallholder farmers, improved the food and nutritional security of more than 2 billion people, and saved hundreds of millions of hectares, natural tropical ecosystems," said Barbra Stinson, president of The World Food Prize Foundation.

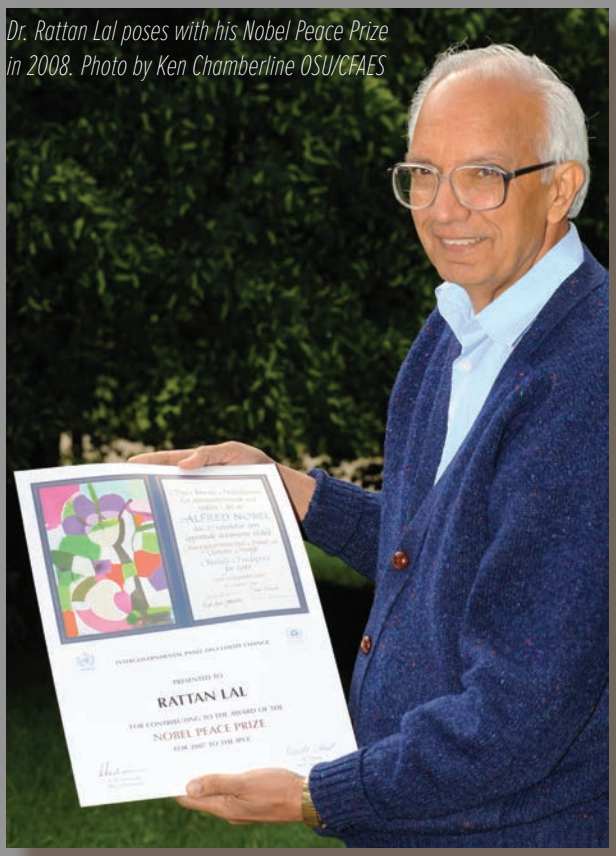
HONORS

Lal has received over 20 awards for his research over the years. Those awards are as follows: Hugh Hammond Bennett Award of the SWCS (2005), Borlaug Award (2005), Liebig Award (2006), Nobel Peace Prize Certificate by the IPCC (2007), M.S. Swaminathan Award in India (2009), COMLAND Award in Germany (2009), Global Dryland Champion of the United Nations Convention to Combat Desertification, Bonn, Germany (2013), World's Most Influential Scientific Minds (2014-2016), the Sustained Achievement Award from the Renewable Natural Resources Foundation (2017), Medal of Honor from UIMP, Santander, Spain (2018); the Distinguished Service Award from the International Union of Soil Sciences in Rio, Brazil (2018), the GCHERA World Agriculture Prize (2018), the Glinka World Soil Prize (2018), Alumni Medalist Award (2019), 422nd Commencement Medal (2019) from Ohio State, Highly Cited Researchers (2014-2019), Japan Prize (2019), and the U.S. Awasthi IFFCO Prize (2019).

Lal has worked all over the world with renowned scientists as well as world leaders, such as Olafur Ragnar Grimsson, former president of Iceland and chairperson of the Arctic Circle.

"Most scientists create new knowledge, some change the world, a few transform our planet. Dr. Rattan Lal has done all three," said Grimsson during the award ceremony honoring Lal. "He profoundly deserves this distinguished prize, but above all, he deserves our gratitude."

"No one has done more in the last 50 years to elucidate the importance of soil, and soil security, to food security, to climate change and indeed to the existence of humanity on the planet than Rattan Lal."



Dr. Rattan Lal poses with his Nobel Peace Prize in 2008. Photo by Ken Chamberline OSU/CFAES

CFAES DR. RATTAN LAL CENTER FOR CARBON MANAGEMENT AND SEQUESTRATION

Ratan Lal's dedication to fighting hunger has not gone unnoticed. In conjunction with being awarded the 2020 World Food Prize, the university's new carbon research facility will be named after Lal. The CFAES Dr. Rattan Lal Center for Carbon Management and Sequestration will continue the research Lal has dedicated his life to.

"Over the last year, we've celebrated the remarkable 150-year history of our college and reflected on the plan for our next steps, which will carry us into the future," said Kress. "I'm excited to announce today that one of those next steps is the affirmation of the carbon management and sequestration center. I have the privilege, on behalf of President Kristina Johnson, to announce that to honor his significant accomplishments, we are proud the center will be named The CFAES Dr. Rattan Lal Center for Carbon Management and Sequestration."

Rattan Lal's dedication to ending world hunger through crop productivity and soil health has not gone unnoticed. He has genuinely had a large impact on how people raise their crops and soil sustainability. Lal's impact can be seen across the world, and Ohio State is immensely proud to call Rattan Lal a Buckeye. ✱

Extension Programs Adapt and Overcome COVID-19

By: Sarah Galavich • Bethesda, OH

Over the past year, COVID-19 has presented many challenges for Ohio State University Extension. Programs like county fairs and 4-H camp pivoted their operations to be compliant with health regulations. Among university regulations, county 4-H club meetings and extension programs were forced to move to virtual meetings, which created new opportunities to reach beyond county and state borders.

GIRLS WHO CODE

Margo Long, OSU Extension educator for Marion County, said, "This would have never happened if it weren't for COVID-19," reflecting on the "Girls Who Code" workshop that has reached over 100 girls in various states.

"I'm really passionate about STEM, but also gender disparities within STEM," said Long. In the spring, Long was prepared to have an in-person computer science program called, "Girls Who Code."

Due to COVID-19, Long took the program virtual. In June, 17 girls participated from across the country. Since then, Long held two more programs and is planning to partner with Vermont 4-H to offer a third.

THE FAIRS WILL GO ON

In addition to the many obstacles Long has faced with the Girls Who Code event, she also faced many challenges when planning the Marion County Fair.

Long has worked for four years as an Extension educator. She grew up in the livestock industry, and this experience helped make the 2020 junior fair possible for youth exhibitors in Marion County.

At the start of the pandemic, Long went into crisis management mode to make sure there was communication between 4-H youth and adult volunteers, so they had the information they needed. Before the start of the pandemic, the county transitioned its paperwork to a digital format. "It was a blessing in disguise," Long said.

As one of the first junior fairs in Ohio, Marion County still had may things left to arrange, including project judging and skillathon.

The digital program, "Flipgrid," was introduced to assist with these activities and proved so effective it has been implemented by other county fairs across the state and country.

Long listened to the guidelines from the state, university, and county health department, and held a junior three weeks from the original fair date. Like Marion County, Belmont County was struggling with the same—planning a fair due to COVID-19. Tracy Dickerson, a newly appointed Extension educator in Belmont County, said they have developed a new appreciation for social media and technology to relay information. When the office was mandated to close, there was heavy reliance on the Belmont County 4-H blog and Facebook page to communicate information to 4-H members.

"The fair board fought hard for the kids."

Since the Belmont County Fair takes place at the beginning of September, project judging was able to take place in person, abiding by social distancing rules and wearing face masks.

The Belmont County senior fair board decided to only have a junior fair. They set up hand washing stations, made mask announcements throughout the week, and had signs posted throughout the facilities. The board worked with the county health department to make sure they were following all the guidelines when planning the fair.

"The fair board fought hard for the kids," Dickerson said.

SUCCESS DUE TO ADAPTATION

There are more aspects to 4-H youth programming than the county fair. Belmont County holds a 4-H CARTEENS program that allows 4-H teen leaders to teach a traffic safety class. The program typically holds 30 youth accompanied by an adult. Now abiding by the state guidelines, they are allowed to have eight youth accompanied by an adult. A program that was only offered once a month is now being offered weekly to catch up from the past months where the program was unable to happen.

Greg Davis, PhD, the associate chair for the department of Extension, said the state office kept communication open and regular with county offices.

"We have had years of experience using technology," Davis said. "Seeing the organization move and adapt into the use of these technologies during COVID-19 has been the neatest thing to watch."

Throughout Ohio, Extension programming was able to adapt and overcome the challenges that were imposed by the COVID-19 health regulations. Programs learned how to adapt to give members and the community the same Extension experience.

Belmont County Junior Fair exhibitor Carson Ogilbee. Photo by Sarah Galavich.

WHY A2 MILK?

By: Allison Bourne • Louisville, Ohio

Photo by Kayla Ison

In your typical jug of milk that you can buy off the shelf at the supermarket, there is a number of different proteins in it. Two of the more common proteins in milk are whey and casein, which can be broken down farther into beta casein consisting of A1 and A2. Most of the milk that you can buy at the supermarket besides soy, rice, or almond beverages contain close to a 50/50 mixture of A1 and A2 beta casein but can vary based on the breed of dairy cattle.

According to U.S. Dairy, producers of A2 milk say the benefits of drinking A2 milk lies in how consumers are able to digest A2 versus A1 casein. The makers suggest that the A1 casein is responsible for the discomfort that may follow from drinking milk that contains this protein. The Guernsey breed is one of the dairy breeds that are known for having the highest A2 prevalence. The National Institute of Diabetes and Digestive and Kidney Diseases states that 68% of the population has lactose malabsorption.

THE GUERNSEY COW

The executive secretary of the American Guernsey Association, Robin Alden, oversees all of their association's programming, which includes, classification, genomics (the study of genes), registrations, as well as editing and writing for their *Guernsey Breeders' Journal.*

Robin Alden stated, "From what I know, the A1 is a mutation and the guernsey breed was developed on an isle (Island of Guernsey in the Channel Islands). It has been a closed population for a long time and our breed also remains closed to any crossbreeding situations until the 1980s when we started permitting crossbred animals." She credits the Guernsey breed for their high amounts of A2 beta casein to being such a closed breed for that long.

A2 milk is a trademark in the dairy industry, which in turn makes it harder for farmers to make the switch to all A2 milk and still make profit off of it. But if the farmers can survive the switch to A2 completely, there are successful bottling plants that have made it work as well as make a profit. For example, a creamery located in Ohio made the switch and continues to provide knowledge and services to people about A2 milk.

THE JACKSON FAMILY

Indian Creek Creamery started their at-home bottling plant February of 2019, but that wasn't a speedy task said Colleen Jackson, co-owner of the Indian Creek Creamery. After facing multiple obstacles, they were able to pursue the idea of having their own bottling facility. They were only able to open up after overcoming all the obstacles that were thrown at them over the three years it took to set up the new business, explained Colleen Jackson.

Contrary to most other small creameries, Indian Creek Creamery uses a High Temperature Short Time (HTST) pasteurizer. The pasteurizer that the Jackson Family uses for their creamery heats the milk up to roughly 168 degrees fairenheit and remains at that temperature anywhere from 15 to 18 seconds, followed by moving through a series of plates that heats it up then immediately cools it. "What you get when you have an HTST pasteurizer is milk that taste like raw milk. We feel like we have this product with that taste that you can't get with a batch pasteurizer." said Colleen.

"Most on farm bottlers use a batch pasteurizer, and with batch pasteurizers they are kind of like a kettle, which is heated for about 30-minutes and then cooled down slowly." Colleen Jackson explains.

Colleen's daughter Ella (Jackson) King put in her own words what A2 was: "I like to describe A2 milk to people as an alternative form of a protein in milk, so you have A1 protein or the A2, and it's easier for people to digest A2 instead of the A1 becuase of the form of the protein, the shape and the length of it. Both (A2 and A1) are perfectly safe and healthy options, and there is no benefit unless you have a sensitivity to the A1." They [Jackson Family] thought it was very interesting to see the people that really notice a difference in drinking A2 milk versus regularly bottled milk.

During her time at The Ohio State University, Ella King was able to do a research paper on the science behind A2 milk, which in turn sparked her interest to take the knowledge she learned back to her home farm. They had already begun thinking about starting up their own creamery and on-farm bottling plant and realized quickly this product would not be difficult to add to the services they wanted to offer.

They slowly realized that there was a niche for this product (A2 milk) out there. Although there is not a lot of hard research that proves if A2 milk has beneficial aspects to it, they knew there were people out there that need a niche filled.

THIS IS WHY...

Ella explained her sister also grew up drinking our milk and was not affected. When she moved out, she wasn't able to drink milk—she thought she was lactose intolerant. She found an A2 dairy down there and was able to drink their milk. This caused the family to believe that there might be something more to it than just antidotal evidence.

It is people like Ella's sister that may have gone their whole life without being able to drink milk except with the help of bottling plants that are able to produce A2 milk. ✱

"People notice a difference in drinking A2 milk versus regularly bottled milk."

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BECK'S

Four Superior Professors. One

By: Amber Bergman • Rossburg, OH

For the first time in The Ohio State University College of Food, Agriculture, and Environmental Sciences (CFAES) started its very own Distinguished Professors program.

"It's designed to recognize our top faculty in the college, with focus on teaching or research or extension outreach with no specification to a single one," said Dr. Tracey Kitchel.

Kitchel is currently the Senior Associate Dean and Director of Faculty and Staff Affairs. During his role as associate dean, he was one of the people who helped kick the program off this past year.

"This is just another opportunity to highlight and to honor some exceptional faculty who have opportunities to continue with their career with additional awards and recognition," said Kitchel.

Kitchel also stated that this program was started within CFAES due to the fact that many other colleges within the university have a similar program. Ktichel, along with Dean Kress, decided it was time for CFAES to catch up with the times and honor some of our wonderful professors within our very college at The Ohio State University.

THE INAGURAL FOUR

The distinguished professors from the prior year are in charge of picking the award winners for the upcoming year.

The nominees for the Distinguished Professors awards of 2021 have recently been announced, but the standards to receive this title goes as such: the professors must excel within research, as well as have high ratings from their students.

The Distinguished Professors of 2020 include chemical engineer Judit Puskas, food scientist Devin Peterson, economist Elena Irwin, and plant pathologist Sally Miller. Each of these winners are awarded a $15,000 grant that they can use towards their academic work or research.

Each of these delegates come into this program from different departments throughout the college and exhibit unique recognizable qualities.

Puskas can be found teaching in the Department of Food, Agriculture, and Biological Engineering (FABE). She mostly focuses on sustainability and bringing a more global research base into Ohio State.

"I came to Ohio State in 2019, and it was such an honor to receive this award so early on in my career at this University," said Puskas.

"It was Dr. Shear, my department chair, who nominated me for this award," said Puskas.

"This is just another opportunity to highlight and to honor some exceptional faculty."

Puskas expressed her surprise at being nominated for the award, and looks forward to using the grant money to extend her current research in one of the several projects that she's working on.

Puskas was unable to join the team in picking the distinguished professors this year due to traveling, but she says that she's aware of the winners for next year and they seem to be a good group of teachers.

Peterson is from the Department of Food Science and technology. He is well known for launching his own research center, called the Flavor Research and Education Center (FREC).

Irwin is currently teaching within the Department of Agriculture, Environmental, and Development Economics (AEDE). She is known for her research and is seen as one of the best regional and environmental economists in the world.

Miller is a professor in the Department of Plant Pathology. Through her research, she has made many groundbreaking discoveries within the realm of plant health and has been globally recognized for this research.

PLANS FOR THE FUTURE

"My plan is to use (the grant money) for some of our research projects. Right now, we're doing a lot of work with improving soil related to soil born pathogens. We also have project on hydroponic vegetables," said Miller.

Miller has yet to decide where exactly to use her grant money but looks forward to the continued extension within her many different research projects.

"We have already picked out the winners for the year 2021. The results should be out sometime in December," said Miller.

She also said that they learned a lot about how diverse the colleges professors are within their own department through the selection process.

"It was a hard choice," said Miller.

"All four of these nominees from the year 2020 have indeed surpassed anything we could've imagined, and we expect even greater things out of the candidate pool from 2021," said Kitchel.

The nominees for the year of 2021 are Linda Labao, Ahmed E. Yousef, M. Susie Whittington. A huge congratulations goes out to this years winners.

Photos from left to right: Sally Miller, Elena Irwin, Devin Peterson, Judit Puskas

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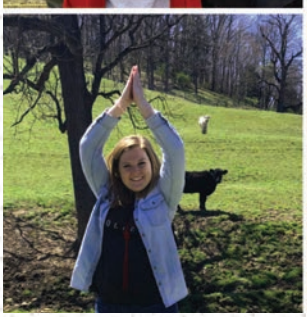

For more infromation about these organizations, contact

Agricultural Education Society, Maryellen Bliss: bliss.80@osu.edu

Agricultural Communicators of Tomorrow, Courtney Heiser: heiser.55@osu.edu

Alpha Zeta Partners, Courtney Heiser: heiser.55@osu.edu

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Niche market pork.
Josie McDowell | AgriNaturalist

MEATing Your Market:

The Controversy of Niche Markets in Production Agriculture

By: Josie McDowell • Seaman, OH

"The reason farmers differentiate is because consumers demand it." Zoë Plakias, PhD, assistant professor in the Department of Agricultural, Environmental and Development Economics at The Ohio State University says.

It seems like a simple enough economic principal, supply meets demand. In the agricultural industry, niche markets tend to cause more issues than one may think. A niche market is a specialized market that aims to create a unique product for consumers. Niche markets in agriculture are often a topic of controversy, being seen as divisive. Niche producers often hear things from conventional producers along the lines of, "The science is on our side," or "You're making my product look bad."

Niche producers and markets do have a place in agriculture, despite the bit of backlash they may face. They do not seem to be going anywhere.

THE GOAL

So, what truly is the goal of a niche market producer in agriculture?

According to Plakias, niche producers have settled into this market to do two things: Do what they want to do—farm, and be more profitable.

This sentiment is echoed by producer Chad McDowell, the owner and operator of McDowell Farms, a niche pork and beef farm in southern Ohio. That produces meat for Whole Foods, Transylvania University, and other local locations with a specialized consumer base.

McDowell has been on both sides of the industry and went niche so he could continue farming. "I was trying to figure out how to make money farming. We about went broke trying to do commodity livestock production. I just happened to come across the market with Whole Foods and raising pigs this way."

To sell pork to Whole Foods, McDowell Farms has to meet the market. The animals have to be raised differently than they would be conventionally. The pigs are never in crates, have outdoor access, and are not on concrete floors. No animal that has been treated with antibiotics is sent into the Whole Foods supply. Their pork is Non-GMO Project approved and Global Animal Partnership (GAP) certified.

Once finding their way into Whole Foods, McDowell Farms was able to find the same market in other locations, expanding their reach, and allowing them to make money while farming.

"To be in conventional hog production, you have to be big. It is just a matter of math," McDowell said. Niche production allows for smaller operations to sustain themselves. The market keeps creating opportunities.

Another producer, Jess Campbell from Carroll Creek Farms, would agree that finding a market is essential for small farming operations. At Carroll Creek Farms, all beef and lamb are grass-fed and pork and poultry are pasture raised. The Campbell's have a store on their farm where their customers come in to purchase meat, as well as selling their products at farmer's markets, to some restaurants, and small groceries.

Because it is a more populated area, farming in Warren County, Ohio, where Carroll Creek is located, comes with its own challenges. The Campbell's wanted to make sure their farm could be passed on to their sons someday and be profitable now with 100 acres.

"Really it started off with the community and what they would accept, and then marrying that with our passion for livestock. So basically, we made a farm that is connected with the community instead of potentially adversarial," Campbell said.

By using what land they have and meeting the wants of their community, the Campbell's are able to make a profit farming, which they otherwise might not be able to do.

THE ISSUES

There seems to be a concern coming from some conventional producers that niche farming and their marketing is hurting their own practices and that this market is going to make their product look bad because they are doing something different. Plakias said, "I do not see ample evidence that there's negative effects on producers who are not doing these things (producing for a niche market)."

These niche markets make up such a small part of the total market share. For example, organic foods (which is a larger niche market in agriculture) accounted for just over 4% of total U.S. food sales in 2019, according to the United States Department of Agriculture.

Overall, most of the population is not as concerned with the issues that concern niche consumers. That's okay, as people are driven by different factors when deciding what to eat. Niche producers know that their products are not for everyone, but they are okay with that, because they found their market.

"Our clients want the experience and the story," Campbell said. Their location is an opportunity for people who normally do not have a connection to their food to make one. At Carroll Creek, customers drive up the farm lane to purchase their meat. They get to see where the food they are going to eat comes from.

"Allowing people to connect with the food and the animals more holistically is something a lot of people in urban areas crave, and they don't have that option a lot of places."

At McDowell Farms, the reasons that people choose their product varies, but much of it has to do with the options they give consumers and the knowledge about where their food is coming from.

It is not unreasonable for people to want to know more about the food they eat, and that is where labeling comes in. Niche consumers want to see labels because they believe that the labels mean something.

Labeling has been much of debate in the world of agriculture. Are they truthful? Do they actually mean anything? Are they harmful to the producers without labels?

"The whole thing with labeling is about communicating effectively to the consumer, and truthfully, about what you did and did not do on your operation, because that is not something a consumer can individually verify," Plakias maintains.

But things get interesting when you start thinking about things like genetically modified organisms, for example. The USDA backs them as being safe for human consumption. They make growth easier and more efficient, and they are on the front lines of battling hunger around the world. But what do you do when people don't agree with what they are being told?

Plakias raises a question. "If consumers have a belief in something, and there isn't necessarily scientific evidence to back it up, and that causes them to demand certain things, should you provide them with those things or should you argue with your consumer?"

> *"I do not see ample evidence that there's negative effects on producers who are not doing these things."*

Different producers answer this differently. Some keep farming conventionally. Some are going to take advantage of the other market, even if that means labeling their product when others aren't.

"The market will take care of itself, and people will tell you what they want," McDowell says. As long as that market is there, McDowell Farms, and many farms like it, will keep supplying where there is a demand.

THE DIVIDE

According to Plakias, there are many similarities between conventional and niche producers. They all are stewards of land, they all care about the crops and animals that they raise, they all also want to help people by feeding them. But the divide is almost undeniable. The markets have driven a wedge between the two groups.

"This issue is problematic actually. People who share a lot of common challenges, issues, interests, and lifestyle are not actually communicating as well as they could be," Plakias said.

She and McDowell agree that the best way to combat this is to realize: Niche markets are going to continue to be there. Therefore, let people who want to produce a niche product produce that product, and those who don't, don't.

"Basically, by being curious, listening, and trying to react, we are able to keep up with consumer trends." Campbell said. These consumer-driven trends are not going anywhere, and neither are niche markets.

Farmer preparing field for upcoming planting. Photo courtesy of Upsplash

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

Photo Courtesy of the United Soybean Board

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OHIO AGRABILITY: A BRIDGE BETWEEN OHIO FARMERS AND THEIR HEALTH

By: Megan Maurer • Fort Loramie, OH

Fifth- generation farmer, Kane Lewis, was able to gain access to a track chair with the help of Ohio AgaAbility! Photo courtesy of AgrAbility.

The Schwinn family of northeast Ohio is your typical rural, farming family. The dad, Bob, farms full time; Mom, Becky, manages the farm financials; the three kids, Emma, Jacob, and Leah, are all grown and live busy lives but still try to be active on the farm. One thing sets this family apart from other Ohio farmers: Bob is missing his left arm.

Bob lost his arm in a farm accident as a kid but still manages to farm full time. The struggles Bob faced as a farmer with a disability sparked his daughter Leah's interest in becoming an occupational therapist. However, her path was not a traditional one as Leah first studied agricultural communication at The Ohio State University before getting accepted into the clinical doctorate of occupational therapy program at Ohio State in 2017.

ROAD TO "DR. SCHWINN"

"Since I grew up on a farm and my dad has one arm, I liked the concept of pairing occupational therapy and helping people regain independence and strength in terms of farm life," said Leah. "I now have my clinical doctorate in occupational therapy after graduating in May 2020, and I work as an occupational therapist through Wooster Home Health."

While completing her undergraduate degree, Leah worked with the Ohio AgrAbility Project, part of a national program through the U.S. Department of Agriculture that helps those in agriculture with disabilities gain support and resources to aid in a more independent life.

RESOURCE FOR FARMERS

The Ohio State University, Ohio's land-grant university, is partnered with Easterseals, a non-profit organization in Ohio, to maintain this program funded by a grant through the USDA. Ohio AgrAbility aims to provide informational resources and connections to people within the agriculture industry that may be struggling with a long-term disability or health condition.

"To accommodate a disability on a farm, who do you call to do that? That's where AgrAbility serves a need," said Dee Jepsen, PhD, program director of Ohio AgrAbility at Ohio State.

For example, a farmer may have an injury to their right arm that prevents them from using right-handed controls. AgrAbility figures out a solution and learns how to modify their equipment to fill the need. Tractor lifts and stand-up wheelchairs are two other pieces of equipment AgrAbility could advocate for to aid a farmer.

Most of AgrAbility's clients hear about the program through a peer-to-peer network, suggestions from doctors, or from a family member. Once the family contacts the program, AgrAbility visits the farm to complete an assessment of needs or modifications, then connects the farmer with Opportunities for Ohioans with Disabilities (OOD), our state's vocational rehabilitation agency, to make funding for equipment or modifications happen.

CONNECTING THE DOTS

Rachel Jarman, rural rehabilitation coordinator with Ohio AgrAbility, is the point person who meets with farmers and determines their needs on the farm.

"A majority of the people that work at OOD did not grow up on a farm or do not understand agriculture," said Jarman. "We can be that agriculture expert for them."

Since AgrAbility does not have the monetary fund to buy equipment or anything the farmers may need, the equipment and aid is purchased through OOD. Farmers are connected with this agency or can be referred to educational materials provided by Ohio AgrAbility. Leah was a key asset in developing one of the most recent educational programs.

"I did an internship with AgrAbility while I was in undergrad as an agricultural communication major, so I got to know those involved and learn what they do. When I graduated, Dee Jepsen reached out about a new project where they wanted the help of an OT," Leah said.

SAFE PRACTICES FOR FARMERS

Jepsen presented Leah with the idea for a program to help Ohio's farmers safely work and live a healthy lifestyle. The idea was to help farmers do normal tasks safely, such as lifting hay bales, heavy equipment, and bags of feed.

The program is titled Fitness for Farm Life and it was created by Leah and Ohio AgrAbility to help farmers stay physically healthy, which helps them preserve their abilities and improve their quality of life to continue farming.

Other programs within Ohio AgrAbility include Managing Arthritis When Farming, Farming with Diabetes, Injury Prevention: Working in Cold Weather, and Secondary Injury Caused by Lifting. The website, https://agrability.osu.edu/, provides access to factsheets and information about these programs and many more.

The Ohio AgrAbility program also likes to involve Ohio State students in its work. Clubs at the university have the opportunity to use AgrAbility as a philanthropy project by getting connected with a farmer in Ohio that may need some extra help with work around the farm or in the shop, like oil or light bulb changes.

To many farmers across the country, the work AgrAbility does has changed their lives in many ways. To get in contact with the program, visit their website or reach out to Laura Agkerman, disabilities services coordinator, at 614-292-0622 or at akgerman.4@osu.edu.

"To accommodate a disability on a farm, who do you call to do that? That's where AgrAbility serves a need."

Jeff Austin received help from Ohio AgrAbility - now his daily farm operations are easier than ever!
Photo courtesy of Ohio AgrAbility

YOUR 8 STEP LEADERSHIP PATHWAY IN OHIO FARM BUREAU

8. AGRIPOWER is a leadership and advocacy development program. This intensive experience consists of seven multiday institutes. Program topics include public policy issues training plus industry tours and experiences.

7. YOUNG AG PROFESSIONALS (YAP) works to grow future leaders and to develop the next generation of leaders for Ohio agriculture. The YAP program is for members ages 18-35 who are full and part-time farmers and professionals in related ag industries and educational institutions.

6. SCHOLARSHIPS supported by the Ohio Farm Bureau Foundation are available to Ohio students pursuing degrees related to agriculture.

5. COLLEGIATE FARM BUREAU | Students who are interested in the food and agriculture industry can join Collegiate Farm Bureau at many universities.

4. EXPLOREAG introduces high school students to various careers in science, engineering and technology in the food and fiber industry and engages them in actively pursuing career paths.

2. OHIO YOUTH CAPITAL CHALLENGE is hosted in partnership with FFA, 4-H and Farm Bureau. Delegates participate in advocacy training and meet with Ohio legislators. They work in teams to develop a policy and prepare a public presentation for scholarship opportunities.

3. OHIO STATE JR. FAIR BOARD | The Junior Fair Board is made up of Ohio's best and brightest young leaders, hand-picked to contribute to the success of the Ohio State Fair each year.

1. OHIO LEADERSHIP CAMP | OFBF partners with Ohio FFA to offer Farm Bureau youth a great leadership experience at the Ohio Leadership Camp held at Camp Muskingum.

Visit OFB.AG/YOUTH-PATHWAYS for more information.

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DEPARTMENT OF FOOD, AGRICULTURAL AND BIOLOGICAL ENGINEERING

The Dirty Business of Cows and Mud

By: Sydney Wilson • Nottingham, NH

The work of PhD candidate Kirsten Nickles is dirty business as she conducts research to help beef producers across the Midwest.

Many cattle producers have noticed a change in the climate in recent years. Springs are wetter, summers are dryer, and winters are warmer. All of these factors have an impact on the cattle industry, and Nickles wants to learn more to better give back to the industry that she has spent most of her life in.

Nickles is a graduate research associate in The Ohio State University Department of Animal Sciences being advised by Anthony Parker, PhD. Parker is the principal investigator for this project, and the two previously worked together for Nickels' master's degree before reteaming for this research.

Mud is the topic in question. How are wetter and muddier springs affecting the metabolisms of beef cattle? Nickles and Parker have been researching just that. In an interview, Nickles explained how, "in the last couple of years we have been experiencing a lot of difficulties with our spring calving cow herds in terms of abnormal wetness. What we are experiencing is an increase in winter and spring temperatures as well as precipitation." Though Nickles is researching in Ohio, she feels that this research is relevant to the entire Midwest. Through her research, she hopes to determine how these climate changes are impacting the maintenance requirements of cattle and see if there are effects downstream on calves.

PURSUIT OF PASSION

Nickles has been actively involved in her family's beef cattle and grain farm near Wooster, Ohio, for her entire life. In addition,

One of the cows within the study. Photo courtesy of Kirsten Nickles.

she exhibited cattle during her younger years in 4-H. When deciding what topic to research, beef cattle was an easy choice. "I knew from the beginning I wanted to do something related to agriculture and I really loved beef cattle, so I think this was the perfect track for that," Nickles said.

Her passion for beef cattle and beef production is evident from the way Nickles conducts herself and how others describe her character. Parker describes Nickles as "very efficient, intelligent, and wonderful to work with. She is also very good with people and animals, which makes things easy and an enjoyable project overall."

The issues facing producers today are near and dear to Nickles' heart, and she spoke passionately about what drives her to do her research. "Bringing the issues that producers are dealing with to the forefront in academia is interesting and cool," Nickles explained. "I enjoy figuring out ways to help producers through extension and outreach, how to give back to them and help them improve their operations. I grew up with these issues firsthand, so I think this was just the perfect avenue for me."

FARMER FOCUSED

The beef industry has feeding cattle down to a fine science, but Nickles wants to learn more about how seasonal mud affects this science. One of the goals of her research is to take a deeper dive into how mud may impact a cow's ability to sustain a healthy metabolism. She explained that the focus is to "hone in on that metabolism and figure out exactly how much energy a cow is going to need to deal with mud."

Lane Heil, a current student at the university, beef cattle producer, and student worker at the Ohio State beef facility in Columbus, understands firsthand the impacts of mud on cattle. As a beef producer, he has had to deal with mud and feels that "when it comes to cattle, if there is anything that they are spending energy on that is not growth, maintenance, or the rearing of a calf, then that is just wasted energy."

Heil felt that conducting more research into the effects of mud on cattle would only be seen as a positive. "I think every avenue should always be explored when it comes to us trying to achieve the best care that we can when it comes to taking care of our animals." This is exactly the goal of Nickles' research as her overall goal is to "find a way to manage and feed these cows better, when dealing with mud, and give that back to producers."

Nickles spends much of her time at the research agriculture station in Belle Valley, Ohio, and she will incorporate a second research farm in Jackson, Ohio this winter, 2020-2021. One study was conducted during the winter months of 2019-2020 and three more will begin this coming winter. While on-site she collects data by weighing cows, taking blood samples, measuring back fat thicknesses, weighing calves, measuring out feed, and collecting environmental data, mud depth, and temperature measurements. She then takes those measurements and uses them to predict what cattle are going to require to be as healthy as possible. Nickles explained how her research will help farmers in the future by stating that "producers are going to deal with mud, that is becoming the new normal, but now we can say: here is what you can feed, here is a way to work around mud and avoid putting those cows in negative energy balances which could negatively impacting calf growth and reproduction later on."

A day in the life of Nickles involved a lot of hard work and mud-covered shoes, but she feels that it is worth it if her research can be utilized to help the beef producers of Ohio and beyond.

"Bringing the issues that producers are dealing with to the forefront in academia."

Nickles collecting data from one of the cows for her project. Photo courtesy of Kirsten Nickles.

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...themselves.

So many times you have four... here at the University peop... who were smarter than you. ... found them all the way throug... college and in football: bi... ger, faster, harder. They we... smarter people than I. But yo... know what they couldn't d... They couldn't outwork me. ... ran into opposing coach... had much better... than I did... abo...

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-Woody Hayes, 1986

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The more we hear from you the better we can support you and ensure that we maintain the College of Food, Agricultural and Environmental sciences as a community and place to call home!

New Campus Program Developed from a Life of Healthy Living

By: Hallie Roberts • Columbus, OH

Lobb enjoying cooking one of her delicious recipes—muffin tin frittatas. Photos courtesy of Jennifer Lobb.

From the time Jennifer Lobb was a young college freshman at The Ohio State University, there was no doubt in her mind that she was destined to be involved in educating the public about health and nutrition.

Her passion for exercise, nutrition, and a healthy lifestyle stem from her childhood of growing up around her mother and father, both of whom were very health-conscious. For fun, Lobb's parents played tennis and went on bike rides. Her father trained for and ran marathons throughout her teenage years. There was no escaping a life full of healthy eating and staying fit as a loved hobby.

Living an active lifestyle was in Lobb's blood. However, as she arrived on the Columbus campus at Ohio State for her college career, she soon realized that not every family valued health the way her family did. This led her to major in human nutrition and become a registered dietician after graduating in 2009.

BECOMING A BUCKEYE AGAIN

After graduating, Lobb initially worked as a nutrition counselor educating members of a small wellness center. "I developed an interest in public health during this time as I recognized that most people know how to eat healthy, but there are many barriers in our home, work, and other environments that pose barriers to acting on that knowledge," Lobb said. This first job led Lobb to realize that it was more about someone's human nature to make choices based on what is easiest to access, convenient, and attractive, which usually results in less healthy decisions. Although Lobb did not see this job as a long-term career, she gained enthusiasm and insight for where she saw her career path leading her in the future.

In 2013, Lobb went back to school at Ohio State to start the Master of Public Health (MPH) program, from which she graduated in 2015. Throughout her time in the program, she worked as a graduate assistant on a multi-state research project called Communities Preventing Childhood Obesity. Carol Smathers, a field specialist in child nutrition and wellness for the Ohio State University Extension, was the faculty member representing Ohio on this project. "This was my first exposure to Extension, and I really enjoyed it," Lobb said.

LANDING THE DREAM JOB

After completing the MPH program, Lobb applied for multiple Extension jobs and became an educator in Franklin County during the spring of 2016. Since being offered this position, she finally feels like she has found her calling; her purpose in life. She knew this role was meant for her. She does not see herself leaving the university anytime soon.

In her work as an educator, Lobb specializes in food, nutrition, and wellness. "I am a Buckeye Wellness Innovator," Lobb said, "and as such, I strive to lead by example and practice healthy habits, such as healthy eating, active living, and using mindfulness to cope with

"I strive to lead by example and practice healthy habits, such as healthy eating, active living and using mindfulness to cope with stress as I promote these behaviors to others."

stress as I promote these behaviors to others."

Before Covid-19 uprooted everyone's lives and made virtual webinars the "new normal," Lobb would take requests from the community for presentation topics regarding wellness. However, when in-person presentations were no longer allowed, there was one company in particular that wanted to still offer some wellness programming to their employees. Lobb suggested doing a monthly webinar series that included not only this specific company, but also anyone who wanted to be involved. That is how Wellness Wednesdays began.

ALL ABOUT WELLNESS WEDNESDAYS

Wellness Wednesdays is a program that started on Wednesday, August 5, 2020, and continued through Wednesday, December 2, 2020. Each month's webinar covered a different topic around wellness. For example, the August webinar was titled "Digital Detoxing," which revolved around the overuse of technology having negative impacts on people's physical, mental, and social health. Lobb said, "I used this webinar to teach strategies to manage [one's] technology consumption to reap its benefits while minimizing adverse effects."

Ideas for the webinars come from Lobb herself, requests from community partners, or other members of the OSU Extension Live Healthy, Live Well team. Lobb's ideas revolve around nutrition-related topics because that is what she is most confident in teaching. "Digital Detoxing" was requested by a library a few years ago and has continued to be used. A fellow educator on the OSU Extension Live Healthy, Live Well team wrote the future "No Gym No Problem" webinar that is happened in November.

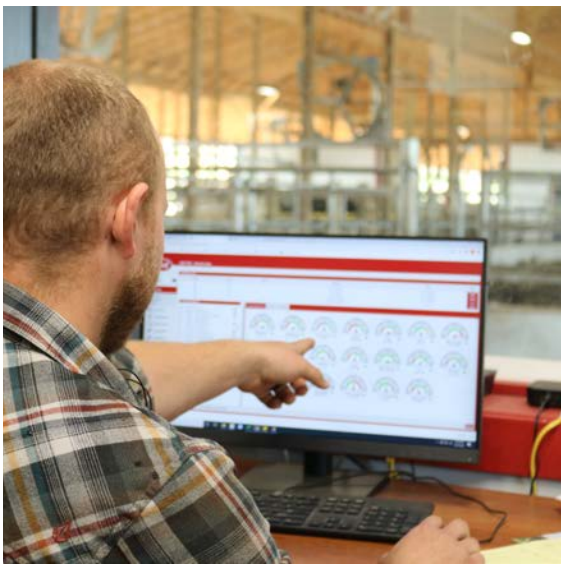
Lobb is looking forward to what 2021 will bring based on the feedback she receives from this program. She has received positive responses from a select few who attended the "Nutrition for the Whole Family" September webinar. Angie Green, a SNAP-Ed program assistant for Ohio State University Extension Franklin County, attended the webinar and said, "I enjoyed the presentation. She was so confident in the material, and it seems like she was so comfortable in talking to us all."

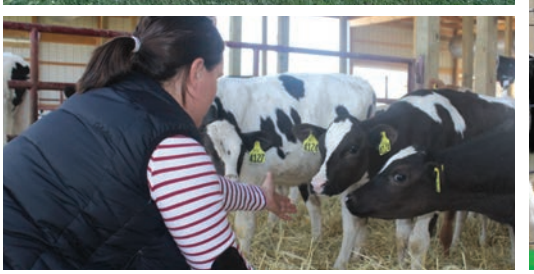
Although online was not Lobb's preferred way of presenting this program, it has given her the opportunity to benefit and reach a broader audience because the convenience of attending from any location has encouraged more to engage with the program itself. Furthermore, others are now able to advocate for the online webinars because this is the first time Lobb's programs have been offered to the public instead of as private presentations.

After the coronavirus pandemic lessens and things return to a new normal, Lobb hopes to continue offering a wellness webinar each month and promoting them broadly, rather than default to teaching on various topics on an as-requested basis for different community partners. She has enjoyed sharing the knowledge she has gained while living a healthy, well-balanced lifestyle with a larger audience than she had with in-person presentations.

Jennifer Lobb, educator of family and consumer sciences, specializes in food, nutrition, and wellness.



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- **11TH in milk**

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

- **115,000 jobs** for Ohioans
- **$23.8 billion** for Ohio's economy

American Dairy Association MIDEAST

The Mask you will Want to Hear About

By: Alex Mason • Marengo, OH

Image courtsey of vector stock

We are living in a time like no other in recent history. There is a pandemic among us and our culture is changing; the whole world is changing. COVID-19 is a respiratory illness that can be spread from person to person and that has affected many lives thus far. Since it's emergence in early 2020, you look around and all you see are masks. With Ohio Gov. Mike DeWine's mandate to wear masks, there have been complaints about comfort, limitations for speech, breathability, and more. However, a scientist at The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES) is working to change that.

MEET THE MAKER

Judit Puskas, PhD, is a professor in polymer science in the CFAES Department of Food, Agricultural, and Biological Engineering. Puskas has been developing a new polymer face mask that she expects will be more effective in the fight against COVID-19.

"I have been developing this fiber mask for some time for other issues like breast implants, and when the virus came in there was an email sent out asking professors for ideas on the virus protection with COVID. Then it just hit me that this fiber mask would be good," Puskas said.

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

After 40 years of experience with these materials, Puskas was able to develop a mask that is a stretchy rubber-like finish with more breathability and a water-wicking capability. This is a style that would fit all mask requirements for many types of job fields.

Puskas and her team of developers took the initiative to get a prototype made of this polymer mask to be tested for approval.

THE NEXT STEP

The next step is getting Puskas's mask into the hands of people who need it. To help pursue that goal, another team was assembled to provide Puskas with sources willing to try out the newly designed polymer mask. Two members of that team tasked with finding a test source was Lyda Garcia, PhD, and Joy Rumble, PhD.

Garcia is an assistant professor of meat science but also an extension specialist for the state of Ohio. When asked about her involvement with the polymer mask, Garcia said, "During the time of COVID I had a few meat processors reach out to me and request my presence to educate and train their employees at the meat processors and encourage them to wear a mask."

This request by meat processors got Garcia and Rumble thinking about encouraging employees to wear this polymer mask instead. "Garcia started getting lots of calls from meat

processors saying they couldn't get their employees to wear the mask. So we started doing research to find out why, why are they not wearing the mask?" Rumble said.

THE SOLUTION

The solution, it turns out, is to work with and understand the employees' opinions on masks such as the N-95 mask. "Rather than mandate it, let's understand why they don't want to use it. In other words, let's work with them versus making them mad and telling them they have to," Garcia said.

After Garcia and Rumble and a team of graduate students visited five meat processors—two federal, and three state inspected—they had interviewed roughly 40 employees. "Bottom line was that these masks were not user-friendly, they were too hot to use in hot environments, they got too wet, if they had glasses they were fogging it—it was just a terrible experience," Garcia said.

This then led to Garcia's idea to introduce Puskas's polymer mask to the meat processor employees. Unfortunately, there has been a recent fallout in the plan that's put the mask production to a halt.

"Well, right now the big problem is we hired this company to make the mask, and right now they cannot make it," Puskas said. "The company that made the prototype is out of business, so right now I have to find somebody that can make this mask then they have to test it." Puskas is currently working on a new connection to produce the prototype to get the ball rolling again.

AS A PROFESSOR

As a professor at Ohio State, Puskas cares and feels for the 66,000 students that currently attend the university. "I know that when you are young you think you are invincible and nothing can happen to you. I feel sorry for young people because in my youth we didn't have this problem," Puskas said.

The importance of mask-wearing will progress while the number of cases increases in the United States. The story will continue to develop for the polymer mask as time goes on, but for now, we must wear our masks and look out for each other.

"I know that when you are young, you think you are invincible and nothing can happen to you. I feel sorry for young people because in my youth we didn't have this problem."

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Driven By Passion

By: Abbey Werstler • Wooster, OH

These New York sisters are passionate about AGvocating for agriculture on their nyfarmgirls social meida page. Photo courtsey of Claudia Leubner

The cool crisp air hits the farmer's face as they walk through the quiet barn during night check. The cows are all lying down and calves are fast asleep. Suddenly, there is a noise that alerts the farmer. He runs over to find a cow that is calving. The adrenaline rushes through his body as he runs to grab equipment to help pull the calf. This is just one of the many occurrences a dairy farmer goes through on a daily basis even when going through a historic pandemic.

With many Americans pushing through the COVID-19 outbreak, essential workers such as dairy farmers continue to work day and night to get dairy products on grocery store shelves. Derrick Josi, Evelyn Leubner and Jessica Peters are dairy farmers that are still hard at work producing wholesome products for families. These agriculturalists have a passion that remains strong no matter what obstacles may stand in their way.

"Cows are truly amazing creatures that deserve all of the love and respect in the world," said Evelyn Leubner, a fourth-generation dairy farmer at Maple Lane Farm in New York said. "I love how they can create such an amazing product for humans to enjoy."

Josi, a fourth-generation dairy farmer from Oregon, starts his day on the farm at 3 a.m. Farmers like Josi can now feed up to 166 people annually according to American Farm Bureau Federation. Dairy farmers continue to work hard and reach new heights within genetics, production, and care. During the COVID-19 pandemic, essential dairy farmers continue to do what they love, but unfortunately struggles on the farm became prevalent.

FLOWING THROUGH HARD TIMES

The dairy industry is always changing and adding new obstacles for farmers. Fluctuating prices, milk demand, availability and prices on feed, supplements, or crops are just a few things farmers consistently address. Josi had a harder time getting commodities such as canola meal because there was no need to crush the canola for oil. This was more of a challenge than his milk pricing.

Josi, a member and owner of Tillamook Dairy Co-op, said, "When milk prices dropped drastically, the co-op cushioned us. Tillamook took a lot of stress out of our lives and we were thankful to stay at a higher milk price."

By far, milk is the freshest product on the market. Milk "moo-ves" from farm to grocery store in about 48 hours. Unfortunately, when COVID-19 first started, some farmers had to dump their milk, and as a result more farmers went out of business.

Wholesale plants were at full capacity. They were processing less while retail was flying off the shelves. Milk prices decreased drastically from $19 in January to $11 per hundred pounds in June according to the United States Department of Agriculture. Milk prices have risen since then, but the market is always

"The public should understand that farmers truly care about their livestock and the land."

changing, which can cause controversies within the industry.

Jessica Peters, a fifth-generation dairy farmer in Pennsylvania, said, "We're not making nearly as much as we need to pay our bills. Our farm lost a lot of money when prices went in the ground, but low prices turned around and drove milk sales up because more people were at home buying the products."

TOGETHER WE STAND

The challenges never stop with this industry, but with a strong passion and a positive attitude, these farmers love their job and wouldn't trade it for the world. Peters brought up that farmers have an internal strength that helps them push through any dilemma.

"It's not just the farmer who cares about the product. It's everyone involved—the truck drivers, the salesmen, the service people, the mechanics, the nutritionists, and veterinarians," Peters said. "There's so many people involved in the food chain, and in farming. People need to recognize that."

Farmers are now able to be more efficient with their cows. Leubner's family continues to be effective and efficient by not having more cows than they need and also saving money, which helped them throughout the tough times within the pandemic.

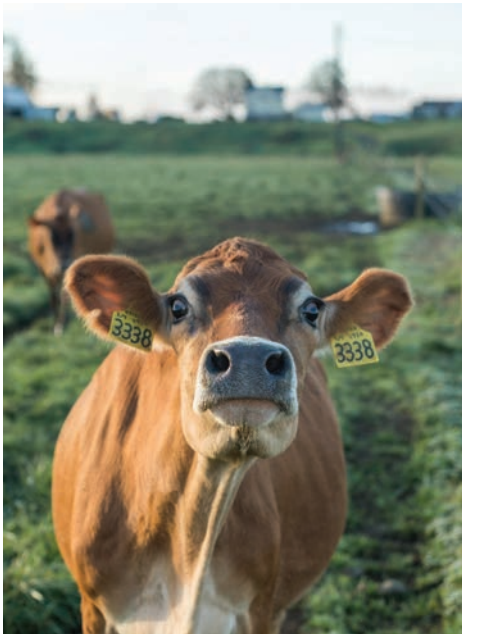
"The public should understand that farmers truly care about their livestock and the land. It is our livelihood that we work very hard to maintain," Leubner said.

FARMING IS A LIFESTYLE

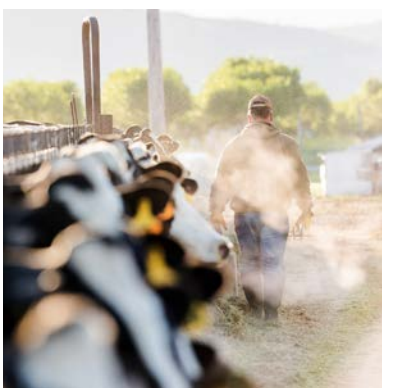
Josi mentions how every farmer struggles at some point in their life. Farming isn't a job, it's a lifestyle. Your job doesn't stop once you open the front door of your home. It is a constant job that requires a lot of time and dedication. However, even though farming is a full-time job, it is filled with surprises.

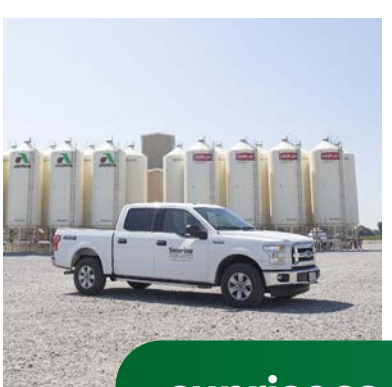
"In my opinion, growing up on a farm is definitely one of the best ways to raise a family and live," Josi said.

Even though changes and obstacles challenge dairy farmers, they continue to push through because of their strong passion for the industry. From early mornings, to late nights, these essential workers continue to produce delicious and nutritious products while educating consumers about where their food comes from, even through a worldwide pandemic. Next time you go to the grocery store and buy any dairy product, think of where that product came from and thank a farmer.



The dairy industry continues to "moo"ve along despite the challenges they have had this past year.
Photo By: Derrick Josi





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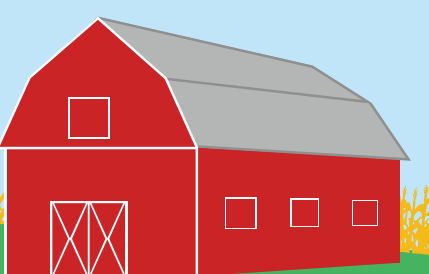

Contact Joel Shoup.89 for more information

The Farm For Every Student

By Hannah Martin • Columbus, OH

"We want everyone on campus to be able to experience the farmland at least once while they are a student."

The year is 1882, and you just completed your primary education, learning to read and write. Your family has intended that you go off to The Ohio State University. They send a stagecoach to pick you up early in the morning because you have a long day of travel if you are going to make it to the university in time. While your tuition is free, the expenses of room and board are too much of a burden for you at the time. You read through the special advantages you receive by being a student at Ohio State. Turning the pages of the 1882 Makio, and you reads, "Students who need to do so, can meet their expenses, in part, by labor on the farm." This is the opportunity you need to receive your education.

In 1882, university farmland was used to educate and support students on the Ohio State campus. In 2020, farmland known as Waterman Agricultural and Natural Resources Laboratory plays that same role now and will for many years to come, through advancement, education, and extension.

On July 2, 1923, Anna M. Waterman, widow of Joseph Waterman, a prominent and well-respected pioneer and agricultural figure in Franklin County, Ohio, titled her late husband's land to The Ohio State University. Over the last 100 years, four smaller parcels of land have been added to the land, totaling 261 acres. This land is now the site of the Waterman Lab.

HOME AWAY FROM HOME

"Waterman is going to be called something a little different to whoever you talk to. It could be Waterman dairy, it could be Waterman research lab, or it could be Waterman farm. It just depends on how you first experienced the property," said Andrew Mann, Ph.D., director of the Waterman Agricultural and Natural Resources Laboratory.

It's clear that Waterman has been a home away from home for many people across campus for many years. However, it's not just a place that reminds some students of farm life back home. Waterman also facilitates research and philanthropy for the greater Columbus area.

COMMUNITY OUTREACH

According to the Waterman lab facilities website, Waterman is home to agronomy research projects, community and nutrition education gardens, a dairy facility, an entomology lab, a turfgrass facility, and a forested woodlot that demonstrate hands-on experiential learning to everyone who stops by.

"We want everyone on campus to be able to experience the farmland at least once while they are a student," Mann said.

How does one experience Waterman, you may ask? One great way to experience the land is to schedule a tour of the facilities, taking classes through the university, or volunteering with one of the many service-learning projects.

Waterman Lab has partnered with Buckeye Food Alliance, Unity Fridge, JamesCare for Life, Garden of Hope, and the Waterman production garden. Each of these programs benefit from

Kunz-Brundige Franklin County extension building under construction, located on the grounds of Waterman Farm. Photo by Hannah Martin.

the research and work done on Waterman farm.

Waterman Lab works with Buckeye Food Alliance by producing fresh produce through the student-run farm and Unity Fridge. This year alone the Waterman Lab has produced several thousand pounds of produce and intends to donate many more.

Maggie Griffin, an alumna of the College of Social Work, really understood what it was like to use the Waterman facilities to help fellow Buckeyes and the Columbus community. One night, Griffin took a break from studying and went to a convenience store, where she saw a family doing their weekly shopping. Fresh produce was not one of the options for this family. [osu.edu/stories] Griffin saw a need in her community and used the resources she had access to as a college student to meet them.

GETTING CONNECTED

But how do students and faculty even begin to partner with Waterman? The answer is simple. The only thing you need to do is reach out via the Waterman Lab 'forms' section on the website. Mann suggested that if you want your plan to come to fruition, the best thing you can do is to present a detailed outline of what you want to do. The more in-depth, the more detailed your plan is, the more Waterman staff can work with you to make your idea become reality.

"When we think a project is better suited for another facility or resource on campus, we reach out to make a connection to try and get the ball rolling. That's one nice part about being connected as a university," said Mann.

THE FUTURE

During the global pandemic, things have looked a little different around Waterman.

"We are currently working to create the Controlled Environment Food Production Research Complex, basically a large-scale greenhouse," said Graham Cochran, the College of Food Agriculture and Environmental Sciences associate dean for operations and professor in the Agricultural Communication, Education, and Leadership department.

Due to closings from the global pandemic, construction can be approached differently than it usually is. In the process of construction, Waterman Lab is able to host remodeling and building without the consideration of student traffic that would usually be considered during construction.

Waterman Lab has plans for many new projects, one including the Controlled Environment Food Production Research Complex, which is compassionately referred to as the "five million dollar building."

"Here in the near future, we are going to break ground," says Mann in reference to the new Controlled Environment Food Production Research Complex.

It is clear that from the very beginning, Waterman facilities have been a rich source of education, experience, and opportunity for students and alumni of The Ohio State University, and it will continue to play that role for years to come. Through extension, service learning, and hosting a number of student research projects, it is clear why Waterman Lab has been used for the advancement of agriculture for almost 100 years.

Construction equipment located on the site of Waterman Farm. Photo by Hannah Martin.

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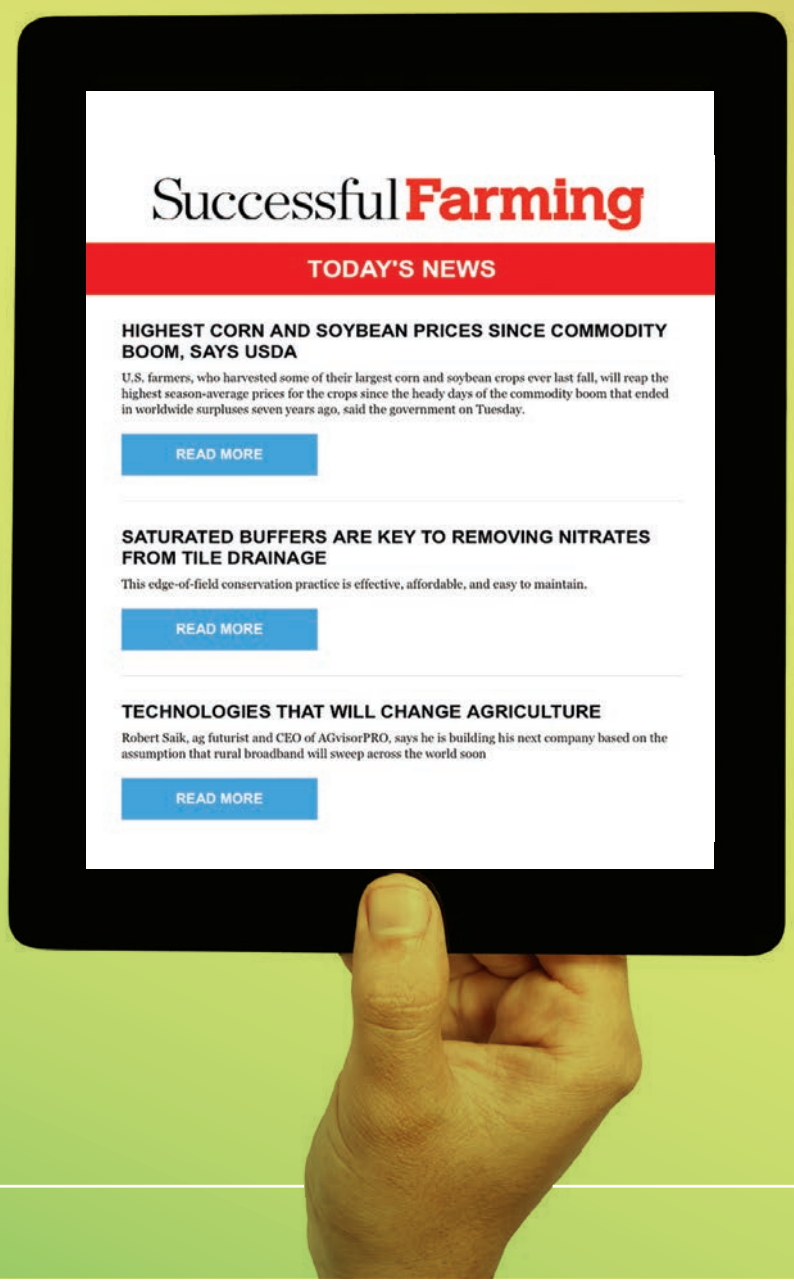

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Photo by Kayla Ison

Quarter Horse Congress Fallout

Exhibitors and participants reel after the cancellation of the 2020 Quarter Horse Congress.

By: Kayla Ison • South Solon, OH

The All American Quarter Horse Congress is the largest single-breed horse show in the world. It attracts over half a million people to Columbus, Ohio, during the month of October. Every fall, visitors flock to central Ohio, most seeking their annual Congress fix, which consists of horses, food, and shopping.

The COVID-19 in the spring of 2020 played no favorites. Fast-forward five months, and horse shows were canceled left and right. Many were unsure if a show season would be possible in 2020.

Rumors spread online of Quarter Horse Congress cancelations, leaving many in the horse community asking, "Will there be a Quarter Horse Congress?"

Kerry Bowshier, a longtime Congress visitor and Paint Horse breeder, said, "The Congress is a tradition. The shopping is incomparable, and the horses are top-notch. Congress is a large income for many horse trainers and business owners. Everyone looks forward to it."

Unfortunately, the summer panned out differently. While still in the midst of a global pandemic, Quarter Horse Congress officials made the tough decision to cancel the 2020 All American Quarter Horse Congress. The decision left thousands of exhibitors and many local businesses in low spirits.

MIXED EMOTIONS

Many Columbus businesses rely on the increase of income during October. It comes as no surprise that businesses hurt when Congress' half-million visitors bring in an estimated $409 million annually for the Central Ohio economy. Trade show vendors and horse trainers rely on Congress for a great percentage of their yearly income.

Some exhibitors, on the other hand, had mixed feelings about the lack of a 2020 Congress.

"Congress is the greatest show our industry has known."

"I felt a sense of relief when Congress was canceled," said Taylor Wheaton, a veteran Congress exhibitor and World Champion. "It took a ton of pressure off of me. I was most nervous about showing in the equitation because with COVID I haven't been able to get my horse out much to prep."

"Congress is the greatest show our industry has known," said horse trainer John Osborne. "It's a shame it's canceled, but somehow the horse market has skyrocketed."

John has since taken on fewer training clients in the past few years and is focusing on selling younger stock.

"Horse prices are up, and people want to go show," Osborne said. "2020 has been tough on horse trainers financially, from going to fewer shows, but there is starting to be an upturn, I think."

"I'm a little disappointed that the Congress is canceled. I was entering the calf roping classes this year. With an event of this size, it would have been impossible to maintain social distancing and keep crowd sizes down," said American Quarter Horse Association member and exhibitor Chase Layton. This would have been his first time entering Congress.

"All but one rodeo I usually enter were canceled this year," Layton said. "The Congress would've been my second run of the season, but all I'm hoping for is a Congress to show up next October! With over $5,000 added to the roping sweepstakes, it's not something I want to miss. That's more than any rodeo I enter."

In light of the Congress cancelation, the 2020 Congress Trainer Award Program was created. The program, founded by Tribute Equine Nutrition, awarded $1,000 to a different trainer each day from Sept. 29-Oct. 25. Trainers must be nominated by clients, friends, or family to be entered into the program.

While no one went home with a blue neck ribbon or full shopping bags in October 2020, there is ample time to prepare for the Congress comeback in 2021.

Ohio State plans to increase efficiency by consolidating the dairy facilities. Photo by Jo McCulty.

Ohio State Task Force Develops Plan for More Efficient Dairy Facilities

By: Madison Layman • Johnstown, OH

Picture three silos, all operating under one organization, but the silos are each independent of one another. One silo resides 100 miles away from the other two silos that are four miles apart from each other, each functioning on its own. This is how Mike Sword, superintendent of farm operations at The Ohio State University's Wooster campus, describes their dairy facilities. He hopes that a new plan to consolidate the "three independent silos" will increase collaboration.

The Ohio State College of Food, Agricultural, and Environmental Sciences (CFAES) launched the Dairy Consolidation Task Force in the fall of 2019. This team includes co-chairs Julie Morris, director of farm operations, and Mike Sword, as well as faculty and staff from the animal sciences department and Ohio State Agricultural Technical Institute (ATI). The task force was assembled to answer this question: Would there be a better way to run our dairy?

AND THE ANSWER IS...

The team works with the goals to improve education, increase research capacity, increase operational efficiency, maximize facility utilization, and foster collaboration. Talk of restructuring the dairy facilities started long before the formation of the task force. But as the fall of 2019 began, the team drew up a plan to combine the Krauss Dairy and Grace L. Drake Agricultural Laboratory's dairy facility.

"We'll be able to utilize some of our resources more efficiently," said Morris. "It doesn't really make sense to have two milking herds within a five-mile proximity of each other."

CURRENT FACILITIES

The Ohio State CFAES Wooster campus rests on approximately 4,000 acres of land, which is home to academic buildings, agricultural farms, and forests. Krauss Dairy sits two miles away from Wooster's main buildings. Currently, this facility houses 120 lactating Holstein cows, as well as heifers and calves. The Grace Drake dairy facility, which is five miles from campus, consists of 100 milking Holsteins and Jerseys in addition to young cattle.

Krauss Dairy has been used for research purposes for the Department of Animal Science, and the Grace Drake has been used for ATI programs. Graham Cochran, PhD, associate dean of operations, said, "We think it is a lot more efficient to have farms that are for a specific purpose, that can be used by undergraduates and used for research." Therefore, it made sense for the dairies to specialize but still be able to function together.

VISION FOR THE FUTURE

The Dairy Consolidation Task Force's plan is to move the milking herd to Krauss Dairy and turn Grace Drake's dairy facility into a heifer development center. Krauss Dairy, mainly consisting of Holsteins right now, will welcome the milking herd from Grace Drake

"We think it is a lot more efficient to have farms that are for a specific purpose, that can be used by undergraduates and used for research."

and potentially some cattle from Columbus' Waterman Dairy. The goal is to house 200 milking head at Krauss Dairy. Morris said this plan will allow for an increase in research capacity, noting that the current milking herd size is a limiting factor. Furthermore, dedicating Grace Drake's facility to solely heifers opens numerous other opportunities, according to Cochran.

"A common thing now in the industry is to have people that specialize in heifer development," said Cochran. "It'll be a new kind of program that students can learn about and maybe look for jobs in."

Additionally, this plan will allow for more teaching, research, and extension opportunities in Columbus. Waterman Dairy attracts about 5,000 to 6,000 visitors a year, but its milking times of 4 a.m. and 4 p.m. fall outside typical visiting hours. However, the consolidation will allow Waterman to reduce its herd size and install robot milkers. This robot will milk cows throughout the day, giving school trips and other visitors an opportunity to see farm technology and practices. Another part of the plan is to bring other species of animals to Waterman for a more diverse and efficient facility.

PLAN OF ACTION

The first step in launching this plan is establishing the organizational structure. First, a dairy operations manager will be appointed. This person will oversee all the dairy operations. Under them will be an academic coordinator who will be dedicated to teaching, a lactating herd coordinator who will oversee the milking herd, and the non-lactating herd coordinator who will be responsible for the heifers. All these positions will work together to help with research and make sure animals are where they need to be.

Then focus will shift to renovating the facilities. The team hopes to begin this process in the spring of 2021. Renovations will include altering facilities to fit the needs of the new tenants. Krauss Dairy's free stall barn, which has stalls for the cattle to rest in, will be modified to a compost-bedded pack barn, allowing an open area for the large cows to lay. Grace Drake's facility will become better accommodated for a heifer herd. Other small modifications will include a locker room for student employees and a distance learning classroom.

The team is ready to begin their journey of consolidation and excited to see increased efficiency amongst dairy operations. This plan to combine the "three silos" is only the start to their bigger picture. "Our ultimate goal long-term is to have a new modern dairy," says Morris. They hope to eventually operate a farm of 500 head, but it all begins with the baby steps.

The task force's plan will provide more teaching, research, and work opportunities for students and staff. Photos courtesy of Jo McCulty and Madison Layman.

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Rutherford B. Hayes

Founder of The Ohio State University

By: Cheyenne Wagner • Woodsfield, OH

Ohio is known for many things: from our college football teams, to being the birthplace of aviation, and being home to seven United States presidents. One of those seven presidents was Rutherford B. Hayes. Hayes was the 19th president of the United States and the third president the country would have from Ohio. Hayes also founded what we know today as The Ohio State University.

Hayes was born in Delaware, Ohio, in 1822. He was educated at Kenyon College and Harvard Law School and graduated head of his class in 1842. After practicing law for five years in Lower Sandusky, he moved to Cincinnati in 1849 to continue his practice because there were more opportunities for him there.

According to William Coil, an Ohio history lecturer at Ohio State, Hayes was always focused on bettering himself. Whether that be abstaining from alcohol, trying to make respectable decisions, or learning new things. Cincinnati was the place to be because people from all over the world would travel there to give lectures, read poetry, and sing in the opera. Places like Cincinnati would give Hayes the chance to network.

The Hayes house in Spiegel's Grove, Fremont, OH.

THE OHIO STATE UNIVERSITY

After the Civil War, which Hayes fought in, he became governor of Ohio. He was governor from 1867-1876, serving three terms. While Hayes was governor, he founded the Ohio Agricultural and Mechanical College, now known as The Ohio State University.

According to the Rutherford B. Hayes Museum website, Hayes' involvement with The Ohio State University lasted more than 20 years. In Hayes' 1870 annual message, Hayes urged the Ohio General Assembly to pass a bill to create the land grant university under the Morrill Act of 1862. On March 22, 1870, the General Assembly passed a bill that established the Ohio Agricultural and Mechanical College.

Tamar Chute, a university archivist at Ohio State, mentioned how Hayes handpicked the board of trustees for the university. The board of trustees offered Hayes the president position of the university, but he turned it down because he didn't feel he, would ever be qualified for the position.

Hayes was an avid writer and kept a diary. His diary talked about his daily life, crops, politics, and especially the university. In volume 20 of his diary, Hayes stated, "Give the young diversity of education. There are talents buried in every neighborhood."

Statue of President Rutherford B. Hayes in the Hayes Museum in Fremont, OH.

Hayes took pride in creating the university, and today the university is continuing to broaden the courses they offer and increase the diversity of people on campus.

Fun fact: Hayes Hall on Ohio State's campus is in relation to Rutherford B. Hayes, not the

Photos by Cheyenne Wagner

Hayes Hall at The Ohio State University, one of the oldest buildings on campus.

football coach Woody Hayes. Hayes Hall is also one of the oldest buildings on campus, the other being Orton Hall. Both were completed in 1893.

POLITICS

Hayes fought in the Civil War for the Union Army as an officer, and he rose in the ranks to become a general. While Hayes was still in the Army, the Republicans of Cincinnati tapped him to run for the House of Representatives, and with that he would become president in 1877.

According to the White House website, Hayes agreed to run but explained that he wouldn't campaign because, "an officer fit for duty who at this crisis would abandon his post to electioneerought to be scalped."

Just as we recently have experienced a close election, Hayes is probably best known for having a controversial election himself. Hayes became the Republican presidential candidate in 1876 against Samuel J. Tilden. Hayes actually believed he would lose the election, and according to the White House website, he went to bed thinking he lost. Hayes ended up winning the electoral college by one vote in 1877. The vote was 185 for Hayes and 184 for Tilden.

Why was his election so controversial? Well, Tilden was originally winning the popular and electoral votes, but there were 19 votes from three states controlled by the Republicans that were disputed: Louisiana, Florida, and South Carolina. Oregon's count was also challenged.

Talk of voter fraud was prominent during Hayes' election, as it is now. The allegations of voter fraud led Congress to act, and they created a special electoral commission made up of 15 congressmen and Supreme Court justices to determine the winner.

Only two days before the inauguration was the decision from the special electoral commission announced. The vote was split between the parties, 8-7, making Hayes the winner.

"Give the young diversity of education. There are talents buried in every neighborhood."

SPIEGEL'S GROVE

After one term of being president, Hayes moved to Spiegel's Grove, which is located in Fremont, Ohio, to retire. Spiegel's Grove was home to Hayes' uncle, Sardis Birchard, from whom Hayes would come to gain a fortune. Sardis had no children of his own and left his estate to Hayes.

The house holds many memories of President Hayes, and you can find out about it by personally touring the house. In the house, Hayes had a secret room next to his bedroom. It was really just a bathroom, but to Hayes it was his way to escape reality and guests that would visit. Hayes kept a desk and books he was most interested in reading in that room, and there was even a door attached to the outside of the house where he could sneak in and out.

Although some descendants had renovated the house after Hayes' passing, the museum has tried to replicate what it looked like when he lived there. Some of the items you can still see in the house are pictures of his beloved sister Fanny, painted portraits of Hayes' children that died in infancy, and a life-sized portrait of himself that he had created for him during his time in the White House.

The Hayes Presidential Library & Museum is also located at Spiegel's Grove, right next to the house. When Hayes died, his second son, Webb C. Hayes, began plans to create a museum and library as a memorial for his father. Here he would display Hayes' presidential papers and books to the public for research and education.

"We have a mile of paved walking trails, and we have original White House gates at our entrances, so the gates that would have been there when Hayes was in the White House," said Kristina Smith, the marketing and communications manager at the Rutherford B. Hayes museum.

Ohio has some deep-rooted history, and many people may not know about the man with the most controversial election and who founded a land grant university. But how can we look to the future if we don't know the history?

New Animal Science Faculty

By: Kelsey Decker
Pickerington, OH

They both graduated from The Ohio State University. One went on to teach internationally, and one never left the Buckeye State. Now they are back, only this time as professors hoping to better the programs they both credit for helping carve their career paths. Ohio State College of Food, Agricultural, and Environmental Sciences (CFAES) has welcomed two new professors to the Department of Animal Sciences.

JESSICA PEMPEK, PHD

Jessica Pempek, PhD, started her new role at Ohio State in July 2020. Pempek earned her bachelor's degree in animal science in 2009, a master's degree in animal welfare and behavior in 2011, and her PhD in animal welfare and behavior in 2015. Pempek resides two hours east of Columbus on her family's farm where they raise around 100 head of beef cattle on their cow-calf operation. "I am now the fifth generation, so agriculture is deep in my roots," said Pempek. "Our roof on our barn was built in the 1800s, so my family has strong ties in agriculture."

Jessica Pempek, PhD assistant animal science professor. Photo courtesy of Jessica Pempek.

Pempek had dreamed of being a vet from a young age, but her interest shifted during her time as an undergraduate during her first internship in animal welfare extension and dairy cattle. Pempek studied different types of flooring for dairy cattle and how the flooring types affected behavior, welfare, and lameness.

"Trying to answer a question that literally no one knew the answer to, just really sparked my interest," said Pempek.

"I kind of shifted. I still wanted to work with animals, but just improving their lives in a different capacity," said Pempek, reflecting on how she got involved in animal welfare and behavior research. "I just enjoyed research and collecting data and being on the farm, and it just shifted where I saw my future and the way that I was going to work with animals."

Pempek worked in The Ohio State College of Veterinary Medicine teaching students before stepping into her current role. The most enjoyable part of her job is teaching students, working with producers, and extension.

"This position is really dynamic. You can kind of shape it and do what you want with it," said Pempek.

BENJAMIN BOHRER, PHD

Benjamin Bohrer, PhD, grew up in southwestern Ohio near the town of Hillsboro on his family's farm where they raised livestock and crops. Bohrer received his bachelor's degree from Ohio State in both animal science and agribusiness, and went on to earn a master's degree from Ohio State in animal science.

Benjamin Bohrer, PhD, assistant animal science professor. Photo courtesy of Benjamin Bohrer.

From there, Bohrer went on to earn his PhD in meat science and muscle biology from the University of Illinois in 2016.

After Bohrer receiving his PhD, he served as an assistant professor in the food science department at the University of Guelph, located in Ontario, Canada, before returning to Ohio State in August 2020.

Bohrer claims one of the reasons he decided to come back to Ohio State was due to Ohio State being a nationally recognized institution for animal science and the strong meat science program.

"It wasn't until graduate school that I thought academic research and education was the career path I wanted to pursue," said Bohrer. "This job is a good mix between working with people and the production agricultural field. Two of the things I'm really passionate about, one of those being production agriculture and ensuring that the future of production agriculture is bright and that we can make improvements in terms of efficiency and in terms of animal husbandry."

"I can really do what I'm passionate about and that is educating our youth and working with producers."

He researches how the nutrition and breeding of livestock can improve carcass composition, meat yield, and quality. He also studies molecular biology and the nutrition of meat products and nutrient digestibility.

Bohrer's research is driven by this question: "What happens if we raise animals with different techniques or have different interventions that we use, what that does to the very basic growth and development?"

Bohrer hopes to further strengthen the meat science research program at Ohio State.

"We have a great team of meat scientists here in the Department of Animal Sciences. We certainly do an outstanding job in terms of education and outreach," said Bohrer. "I see my role as a member of the meat science team to really strengthen our research endeavors and our collaboration with other researchers and other industry professionals from a research standpoint."

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Photos courtesy of Ohio Farm Bureau.

CHANGE STARTS SMALL

Hearing the voices of Ohio's farmers

By: Kasey Miller • Pataskala, OH

Sue and Jerry Keller have been members of the Ohio Farm Bureau for 47 years. Once a month, 10 farm families from Licking county would get together to discuss the policy prompts brought forth by the Farm Bureau. Talking about policy and bonding over food, they had the chance to send in questions and get feedback for their next gathering. Their voices were heard.

Although council meetings for Ohio Farm B ureau might not look like this for members present day, as a grassroots organization, Ohio Farm Bureau has voices in counties all over Ohio that are still being heard, every day.

THE ISSUES THEY FACE

Farmers today face many issues, and those affected look to their elected officials to make the change they hope to see enacted for their benefit. In the wake of the pandemic policy surrounding COVID-19, small businesses are of great concern to the rural community, but policy involving rural broadband, and natural resources are always on the table.

Sue Keller expresses how important watershed policy is in her area. When flooding does occur it poses a great risk to their crops putting their livelihood at risk. "Waterflow will always be an issue for farmers, especially locally for us with the Buckeye Lake watershed," said Keller.

Leah Curtis, policy council and senior directory of member engagement from the Ohio Farm Bureau Federation, works with lobbyists and attorneys on cases that directly affect agriculture. Looking at law and regulations, Curtis says she advises them on what the issues might be regarding certain proposals.

Keeping a strong farm economy is incredibly important to those who are directly affected by agricultural policy. The farm economy has been affected by COVID-19: Farmers have had issues with getting their products in stores. Curtis mentions that having regulations in place that don't stifle that farm economy is crucial.

"Farms are essential operations, so they didn't shut down. Most of the places where our products go weren't shut down, but that doesn't mean that those products had somewhere to go afterwards, and so you did see a lot of disruption to that supply chain," said Curtis. "At the end of the day, the farm economy is always going to be something people are concerned about."

Being in rural areas comes with its own issues. Farmers across the state are unable to stay connected due to the lack of broadband in

"The things that we advocate for at Ohio Farm Bureau are decided by our members."

the areas where they reside.

Similarly, Adam Ward, the director of government affairs at The Ohio State University, works with both farmers and people all over Ohio to hear their concerns and lobby toward change.

"As we think about some of the things that are most important, we are continually hearing about expansion of broadband," said Ward. "If you don't have good broadband access, the quality of your ability to sell is just not going to be there."

HOW POLICY IS ENACTED

For Ohio State, extension educators work hand-in-hand with farmers to collect information and disseminate among their counties. "We still have to continue addressing core basic needs for many of the businesses," said Ward.

The university is able to obtain feedback from these farmers on what is and is not working in these programs that exist. Professors within the Department of Agricultural, Environmental, and Development Economics work specifically on these issues and communicate with Ward on what might need to be looked at.

"We have some great state associations in our state that are really focused, whether you're talking about Ohio Farm Bureau, Ohio Farmers Union. Every commodity organization in the state has an association," said Ward "They do an excellent job of speaking to their elected officials, sharing stories that they hear from their members and connecting their members with the elected officials so they can make those decisions about what is best for producers."

Ohio Farm Bureau has 86 county farm bureaus that cover all 88 counties in Ohio. Each county has a field staff member and a county board. From there, county boards all across Ohio decide the policy that they want to see the Farm Bureau advocate for.

"The things that we advocate for at Ohio Farm Bureau are decided by our members," said Curtis.

Through the policy and priority issues, Ohio's county boards identify the concerns of the people in their area. Then, Ohio Farm bureau focuses on those issues for the next year working towards creating change in those areas. Whether that be through lobbying or encouraging their members to reach out to their representative, Curtis describes it as playing offense.

Curtis says the better they can educate and spread information about the policy already in place, the more successful they will be. A lot of times farmers might be wondering if there's policy surrounding a certain issue, and Ohio Farm Bureau works to educate and produce material that will guide farmers in how to utilize the policy.

"We can do a podcast, we can do an article or brochure, we can kind of bust out that informational resource for that portion of the law or policy issue," said Curtis.

Being able to listen to and mobilize farmers all across Ohio is crucial to keeping shelves stocked with the goods consumers buy and use every day. Organizations like Ohio State and Ohio Farm Bureau use their voice and power to ensure that farmers stay profitable, protected, and empowered. ✱

BUCKEYE STATE BUCKET LIST

Fun and safe activities as we turn a corner in the pandemic

By: Courtney Heiser • Associate Editor

Over the past year, many of us have been dreaming about activities and events that were put on hold due to the COVID-19 pandemic. As we finally turn a corner, many of us are eager to check some things off our bucket lists. If you are ready to get out, here are some unique activities that you can do in Ohio while still staying safe.

North Market Farmers Market

This 145-year-old vibrant public market is made up of Ohio's best independent merchants, farmers, and makers. Across many transitions, economic ups and downs, and countless merchants, vendors, and visitors, the North Market is stronger than ever as a symbol of Columbus' resilience, cultural diversity, and success. You can eat, drink, shop, and enjoy the best of what is local, fresh, and authentic at the North Market.

Photo by Kayla Ison

Franklin Park Conservatory

The Franklin Park Conservatory and Botanical Gardens is Central Ohio's premier botanical garden and home to the iconic John F. Wolfe Palm House, which dates back to 1895. Situated just east of Franklin Park, the Conservatory is two miles from downtown Columbus. The visitor experience consists of botanical biomes, lush gardens, special horticulture, art exhibitions, and seasonal offerings. The Scotts Miracle-Gro Company Community Garden Campus is a sprawling 4-acre garden adjacent to the visitor experience that encompasses an apiary, rose pavilion, berry house and 40 community garden plots, as well as a demonstration kitchen and Live-Fire Cooking Theater. This area is open to the public at no cost from dawn until dusk.

Photo by Kayla Ison

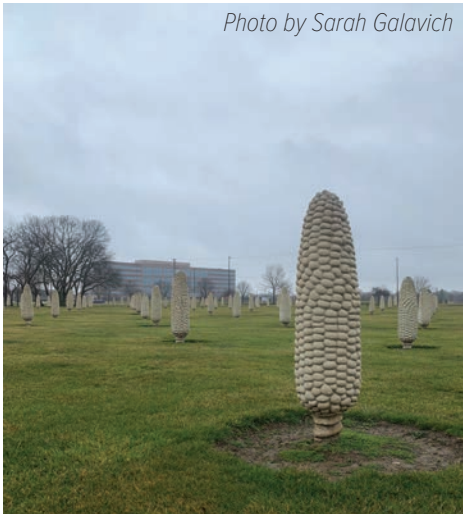
Columbus Coffee Trail

In every cup of coffee on the Columbus Coffee Trail, you can find quality craftsmanship and commitment to education. There are 17 local coffee shops on the trail, including Boston Stoker Coffee Co., Bottoms Up Coffee, Brioso Coffee, Coffee Connections of Hilliard, Community Grounds Coffee & Meeting House, Crimson Cup Coffee and Tea – Clintonville, Crimson Cup Coffee ShopUpper– Arlington, Cup O Joe Coffee House, Fox in the Snow Café, Kittie's Café, Mission Coffee Co. LLC, One Line Coffee– Short North, Roaming Goat Coffee, Stauf's Coffee Roasters – Franklinton, German Village, Grandview, North Market, Downtown, and the Victorian Village locations, The Roosevelt Coffeehouse, Third Way Café, and Winans Chocolates + Coffees German Village. After four stops, you earn a free Columbus Coffee Experience T-shirt, and after all 17 stops, you earn a free travel mug. The coffee shops involved invite you to share your journey with #cbuscoffee.

Field of Corn/"Cornhenge"

This is not your average Ohio cornfield. This former cornfield now sprouts 109 human-sized ears of concrete corn in a large art display. The Field of Corn in Dublin, Ohio, is also a salute to Ohio farmers and Sam Frantz, who worked with Ohio State University on developing several corn hybrid species. The Field is an "a-maize-ing" place to learn more about the work of Frantz, and a great place for hide-and-seek, selfies, or a picnic.

Photo by Sarah Galavich



Ohio Cave Trail

While Ohio has plenty of interesting destinations for exploration above ground, it also offers opportunities to explore beneath the surface. Three caves across Ohio are part of the Ohio Cave Trail: Perry's Cave at Put-In-Bay on South Bass Island, Seneca Caverns in Bellevue, and Ohio Caverns in Bellefontaine. Be sure to pick up your Cave Passport at any one of these caves, get it stamped as you visit each cavern, and collect a T-shirt at the end!

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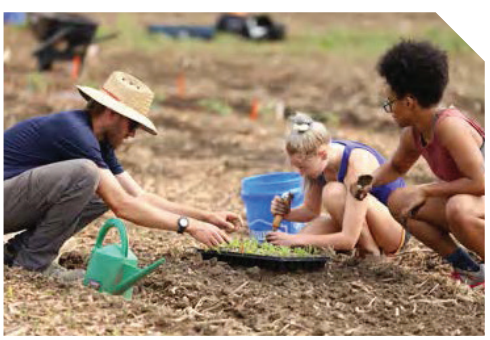

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