

COWPOKE

NEWS

Department of Animal & Food Sciences
Oklahoma State University
Fall 2019



OQBN
Can
BEEF
TOP 20 Equine Herd Man
cattle eat pumpkins?
Innovative food products
on new Robotic Milking &
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COWPOKE NEWS

Welcome to the Fall 2019 Edition of Cowpoke News! We hope you enjoy reading about the Oklahoma State University Department of Animal and Food Sciences.

Cowpoke News is published three times a year. We strive to keep students, alumni, and friends of the department informed about our activities and successes. Cowpoke News is distributed through both e-mail and mail and is available 24/7 at afs.okstate.edu/cowpoke-news. To subscribe, e-mail us at cowpokenews@okstate.edu or mail in your request. Please give us your full name and either your e-mail or mailing address.

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BEEF



EQUINE



DAIRY

ADVENTURES *of the* Traveling PUMPKIN



A traveling pumpkin visited various Oklahoma State University farms and facilities during the October and November months of 2019. The pumpkin and some cattle from the Willard Sparks Beef Research Center are on the cover of this edition. Visit us on social media @okstateafs to view posts about our students, faculty, department, facilities, and the traveling pumpkin.

The OSU Department of Animal and Food Sciences is home to over 15 facilities encompassing more than 13,000 acres. We are one of the few land-grant institutions who still maintain livestock and wheat facilities because we know how important it is for teaching, research, and Extension. The teaching facilities allow students to gain hands-on experience and apply concepts learned in the classroom to real-world scenarios. Many of our facilities also have student employee positions, and some offer student housing opportunities.

We are the fifth largest animal science department in the country and one of the largest departments on campus with over 1,000 undergraduate students, but with a small town feel, a caring attitude, and a commitment to every student. Learn more about our department online at afs.okstate.edu.

If you are interested in visiting one of our facilities, please contact our farm coordinator, Kim Brock, at kim.brock@okstate.edu to schedule a tour! Are you a prospective student? Contact student advisors Justin or Mellissa Crosswhite (justin.crosswhite@okstate.edu and mellissa.crosswhite@okstate.edu) for an in depth tour showcasing the many opportunities students have at our facilities.

- Animal Science Building
- Animal Science Range
- Bluestem Research Range
- Ferguson Family Dairy Center
- Charles & Linda Cline Equine Teaching Center
- Farm Shop
- Feed Mill
- Lake Carl Blackwell Research Ranges
- Nutrition Physiology Research Center
- Poultry Center
- Purebred Beef Cattle Center
- Sheep and Goat Center
- Stillwater Wheat Pasture Barn
- Swine Research and Education Center
- Totusek Arena
- Willard Sparks Beef Research Center

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Quality Beef Network
OQBN
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OQBN helps produce healthier, heavier, and higher-performing calves

Jeff Robe grew up on a cow/calf operation in a small town in Arkansas. He received a bachelor's degree in animal science from the University of Arkansas and is now pursuing a master's in animal science with a focus in ruminant nutrition at Oklahoma State University under the guidance of Paul Beck, animal science professor and Oklahoma Cooperative Extension beef specialist.

In the summer of 2019, Robe also took on the role of program coordinator for the Oklahoma Quality Beef Network (OQBN). He manages the day to day operations of the program, which includes reaching out to producers, scheduling sales,

and communicating with OQBN representatives.

OQBN, a joint project of the Oklahoma Cooperative Extension Service and the Oklahoma Cattlemen's Association, is a network of beef producers, educators, veterinarians, and industry professionals committed to increasing producers' access to value-added marketing opportunities.

"OQBN aims to promote the production of healthier, heavier calves while maintaining for the producer and the buyer," Robe said.

OQBN provides members of the beef industry with education and tools while increasing their access to value-

added programs. These programs include increased access to export markets, alignment with appropriate value-added cattle markets, individual animal identification and traceability, and verification for health management, age, source, genetics, and production systems.

"Staying competitive in the market is an ongoing process, one that requires an evolution in practice to keep pace with changing times," Robe said. "As consumer demands for greater product transparency increase, buyers are challenged with meeting these demands."

Over the past six months, Robe and Beck have worked together to create

positive and meaningful changes to the OQBN program in order to ensure the needs of both cattle producers and consumers are met.

“Increasing the production of quality cattle in the state of Oklahoma and surrounding areas is our number one goal,” Robe said. “If you are not raising average cattle, why sell them at average prices?”

One of the recent changes is the discontinuation of the OQBN pre-con verification program. The OQBN preconditioning program known as Vac-45 is still available to cattle producers, but will require all participants to become Beef Quality Assurance (BQA) certified beginning in the fall 2020 selling season. Producers will need BQA recertification every three years.

The Vac-45 program is available to all producers who meet the requirements and is not limited to just OQBN verified cattle. Cattle verified through other programs can participate in OQBN and have the opportunity to be marketed in a certified sale. The Vac-45 program is now providing more flexibility for producers, allowing the use of a killed viral component vaccine when using the pre-weaning/weaning option, also known as the option 2 protocol, for the first round of treatment as part of their calf health management program.

Both cattle producers and buyers benefit from the OQBN program, which produces heavier, healthier, and higher-performing calves. Cattle that participate in a certified Vac-45 program show reduced stress and shrink, an improved immune system, and increased sale weight. In 2018, OQBN calves earned an average premium of \$12.89 per hundredweight over calves marketed with no preconditioning.

Another improvement Robe and Beck have been working on is an increase in OQBN sale dates. This year, the OKC West Livestock Market in El Reno, Oklahoma, will hold weekly OQBN certified sales every Tuesday at noon. These sales started September 17, 2019, and will continue through January 14, 2020.

“The expansion allows producers the opportunity to sell cattle at a time that works in favor of their schedules,” Robe said.

Producers are required to deliver cattle to OKC West by noon the day prior to the OQBN sale, and cattle must meet all requirements.

A certified sale has also been added at the Fort Smith Livestock Auction in Moffett, Oklahoma, which will be held on November 30, 2019. The Fort Smith OQBN value-added sale is a joint effort with the University of

Arkansas Extension Cooperative’s “GoGreen” program.

There are several ways producers can enroll in the OQBN program. They can fill out the form found on the OQBN website, contact their county Extension educator, or directly contact Robe by either e-mail or phone (jerobe@okstate.edu/405-744-4268).

For a complete list of certified sales, vaccination protocols, programs, and more, please visit the OQBN website at oqbn.okstate.edu.

By Rebekah Alford



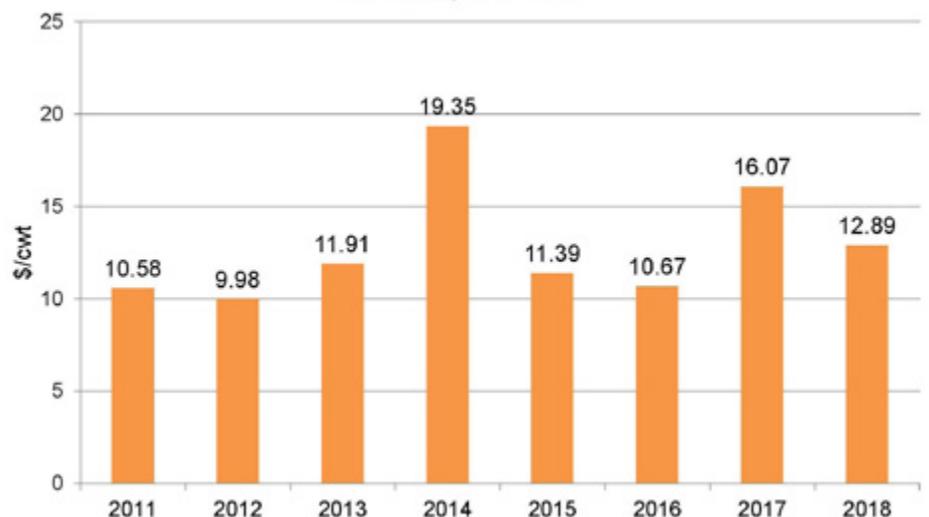
PHOTO | REBEKAH ALFORD

2019-2020 OQBN Sales Dates

LOCATIONS	DATES
Fort Smith (Moffet)	11/30/2019
McAlester	2/18/2020, 4/21/2020, 6/9/2020
OKC-West (El Reno)	Tuesdays at noon until 1/14/2020

OKC-West (El Reno) sale location will not have sales 11/26/19, 12/24/2019, and 12/31/2019.

OQBN Premium over Calves Marketed with no Preconditioning (\$/cwt)* All calves, 2011 - 2018



Marissa Chapa joins OSU staff as new equine herd manager

Marissa Chapa grew up in Illinois where she was introduced to horses through her family at a young age.

“When I was about nine years old, my mom suggested going to a local summer riding camp for a day,” Chapa said. “I had no problem saying yes and learning how to ride at camp. After that single day, I told my mom I knew I wanted to ride horses and the rest was history from there.”

Chapa attended Black Hawk East College and competed on the horse judging team, IHSA equestrian team, and took multiple equine specific courses.

“When I was looking for schools to transfer to following my time at Black Hawk College, I knew I wanted to look south and continue horse judging at a collegiate level,” Chapa said. “After visiting OSU, it was pretty clear to me that it felt like it could be my home away from home. Not only were the people friendly, but they also had a successful degree program in animal science and plenty of extra curricular activities to get involved in. Long story short, OSU was beyond the package deal I was looking for.”

Chapa transferred to OSU where she became a member of the 2015 AQHA World Champion Horse Judging Team and helped coach the 2016 undefeated horse judging team. She then pursued a master’s in animal science with a focus on equine nutrition at OSU. During this time, she aided in teaching various equine classes, helped manage mares and foals during breeding season, and coached horse judging alongside animal science associate professor Steven Cooper.

“During her time as a graduate student, her coaching record speaks for itself in which she coached a



world championship team along with back to back congress champion teams, as well as two reserve world championships in AQHA and APHA,” Cooper said. “We are truly blessed to have someone of Marissa’s caliber now working full time for us as the manager of the Cline Equine Teaching Center. Her passion for helping students and her leadership is what makes OSU the premier horse program in the country.”

Chapa is teaching several hands-on courses at the equine center and works closely with equine industry leaders to help ensure excellence in OSU’s equine breeding, training, and marketing programs.

“Marissa is much more than a farm manager to our students,” Cooper said. “She is a teacher, a mentor, a coach, and most importantly a role model for which our students can look to for guidance and leadership.”

Chapa is happy to make horses a professional career at a university level and enjoys working closely with the students at OSU.

“I’m excited to have the chance to continue growing a program I have been so passionate about as a student, and to hopefully instill the same type of passion for OSU and the equine industry in other students

here,” Chapa said. “We are so blessed to be in the heart of a strong equine industry here in Oklahoma and I love being able to help these students grow and develop their skills to be a part of something professionally after their time here. I am so thankful to be the senior herd manager at the Cline Center. I truly love what I do!”

By Rebekah Alford



Can cattle eat *pumpkins*?

It is amazing the types of food cattle can consume. They can get energy from a variety of forms, all the way from corn to candy.

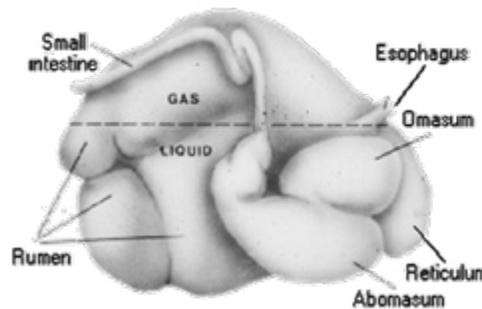
At the end of the fall season, a rancher might be tempted to give their leftover pumpkins to their cattle. The question is, can cattle eat pumpkins?

Cattle actually find pumpkins to be a palatable feed source. Cattle primarily consume the pulp and seeds, so the pumpkins must be ripe and soft enough for the animals to break them open. Pumpkins generally soften as they ripen, and freezing and thawing the pumpkins will hasten this process. If the outside of the pumpkins are still too tough for the animals to break open, one or two passes with a disc can serve to slice them open. There is no need to remove the stem as cattle will avoid it, and eating it won't harm the adventurous cow that does.

While leftover pumpkins and jack-o-lanterns are perfectly safe for cattle, livestock owners should refrain from giving them painted pumpkins. Pumpkins with any kind of chemical treatment, like paint, that is not considered an edible product should not be fed to livestock.

Pumpkins should be considered a supplemental energy source for cattle and not a replacement for grass or hay. Cattle should be provided with abundant hay, pasture, or other forage source when they are being fed pumpkins.

The primary health benefit for cattle is that pumpkins contain a high concentration of energy; around 70 to 75 percent total digestible nutrients on a dry matter basis. This makes



them an excellent supplemental energy source. Pumpkins also contain around 12 to 14 percent protein. For perspective, a gestating cow requires about eight percent protein and a lactating cow requires around 10 percent protein. This means pumpkins contain adequate protein for cattle, but not enough protein to

be considered a supplemental protein source. Pumpkins also contain a high concentration of beta carotene, which is the precursor to vitamin A.

Cattle can safely consume around one percent of their body weight in pumpkin dry matter daily. For example, that would be about 12 pounds of pumpkin dry matter for a 1,200 pound cow. However, pumpkins contain around 85 percent water. So the cow could safely consume about 80 pounds of wet (as-fed) pumpkin weight daily.

Once the pumpkin pieces have been chewed and swallowed, they arrive at the reticulum and rumen. These are the first two compartments in the four-compartment "rumen" system. Here, the anaerobic fiber- and starch-digesting bacteria, with more than 150 billion bacteria per teaspoon, in the rumen attach to the pumpkin pulp and shell to begin the process of fermentation.

The fermentation process produces volatile fatty acids which are absorbed across the rumen wall and can be used to meet the animal's energy requirements. The omasum is responsible for much of the animal's water absorption and regulating feed particle passage rate from the rumen and into the abomasum.

The fourth compartment, the abomasum, or true stomach, is where strong digestive enzymes are secreted to create a low, very acidic pH so the remaining bacterial cells and feed particles can be further digested and absorbed.

Perhaps one of the most important factors to consider is whether or not a livestock owner wants to increase the size of next year's pumpkin patch. Pumpkin seeds are very hard and difficult for the animal to digest. Many of them pass through the entire digestive system undamaged. So though your cattle will find eating pumpkins to be edible, safe, and nutritious, the end result may be unplanned pumpkin patches.



By David Lalman & Rebekah Alford



STUDENTS USE R&D TO CREATE INNOVATIVE FOOD PRODUCTS

Have you ever wondered what goes into making a food product? Think about your favorite candy, fast food item, or beverage. How did a manufacturer decide how it would look, taste, smell, and feel? What steps are needed in order to prepare it just right? Within the food industry, these questions are answered through product research and development.

“Every aspect of food science goes into creating a food product,” said Ranjith Ramanathan, OSU associate professor and Noltensmeyer Endowed Research Chair in food science. “Product development is an art and science that requires an understanding in business, need, and psychology of people.”

People who work in food research and development are tasked with taking a concept and making it a reality. Sometimes, having a great idea isn't enough. It takes time, energy, and research to create a final product ready for the market.

“Product development involves translating an idea into a product,” Ramanathan said. “Producing food on a larger scale is challenging. It will be easy to produce food in a smaller scale or in a kitchen, but larger scale production is totally different.”

The food isn't the only thing to consider. A manufacturer needs to find the best way to market, distribute, and package the product. The packaging needs to not only keep the food fresh and safe, but be consistent and appealing to buyers. The colors, font, wording, material, texture, and sound of packaging can affect how a consumer feels about the product inside. That's right; how an item is packaged can change a consumer's perception of that product.

The food product development process involves creating an idea, making a formulation, testing in a small scale, conducting sensory and quality testing, and strategizing the marketing, packaging, and

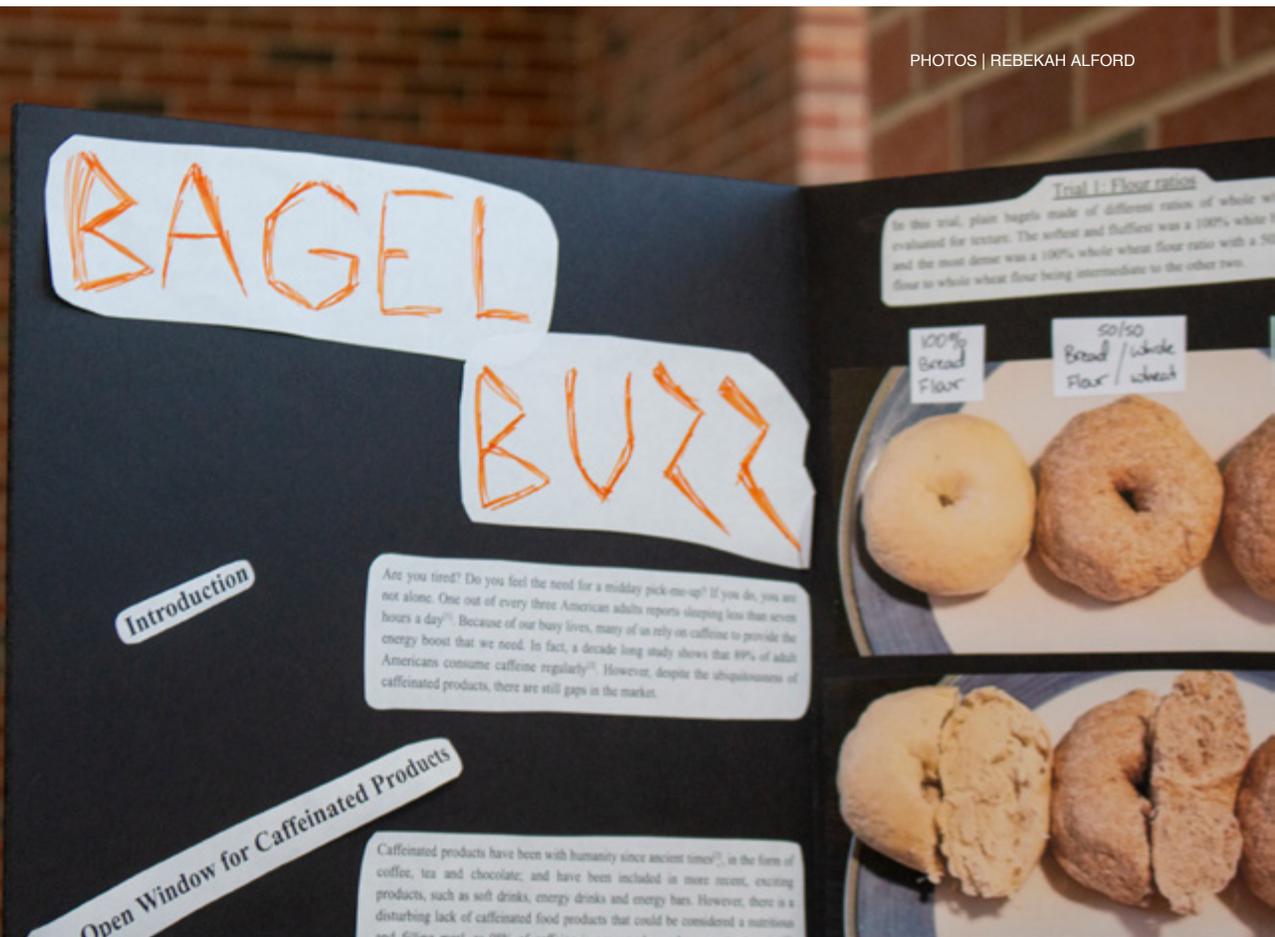
distribution. The study of food science includes all types of foods, and career opportunities are available at every stage of food product development.

Each year, the OSU Robert M. Kerr Food and Agricultural Products Center holds a Food Product Innovation Competition which is open to college undergraduate and graduate students across Oklahoma. The event provides a venue for college students to develop their product research and development skills by creating new food and beverage products.

Brittany Gilbert, OSU food science student, competed this year as part of a group. Their food product was called 'paleo party jalapeño jam.'

“We got the idea for paleo party jalapeño jam after having a jelly making lab in our food chemistry class,” Gilbert said. “We created the process using simple grape juice in lab, and wondered what other types of jams/jellies we could make.”

PHOTOS | REBEKAH ALFORD



The group of four met with a basic jam recipe and started creating various types of jams. They found some were too spicy, some weren't consumable, and a few were headed in the right direction. They eventually decided on jalapeño jam and set out to create the perfect recipe made from all paleo ingredients.

"We decided to make it paleo because not only is it a booming diet industry, but I personally try to eat paleo and noticed a shortcoming of paleo products in the grocery stores currently," Gilbert said.

Eight students from the OSU Department of Animal and Food Sciences, also known as AFS, participated in the Food Product Innovation Competition on November 5, 2019. They provided a name, description, target customer, and value proposition for their products, which included breakfast foods, snacks, appetizers, and desserts.

Each competitor provided a story board or poster, demonstrations, and product samples for tasting at the event. Students with one of the top five entries, selected by the judges, then gave short oral presentations discussing ingredients, nutrition

information, process description, market potential, and profit potential.

Three of the top five entries were created by AFS students, including Allison Hoisl who won 3rd place and \$100 for her caffeinated bagel, called 'bagel buzz.' The idea for the food product was inspired by her own personal use of caffeine.

"I originally thought of this idea because, like many college students, I rely on caffeine," Hoisl said. "However, I really dislike the bitterness of caffeine and tea and prefer to not load them with sugar, like soda and energy drinks. So, I decided to make my own food option that was filling and tasted great!"

While researching information for her potential product, Hoisl found that there is a large market for caffeine but a lack of caffeinated food products. This was especially true for caffeinated products that could be considered a meal.

"Since this is my first year at OSU, I hardly knew anything about the simple requirements, like developing a food label or determining shelf life," Hoisl said. "I had also never made bagels before, so my recipe trials were very long and arduous. Despite the

difficulties, I am extremely happy that I went through and participated. I was able to gain valuable experiences and I was inspired by the other contestants as well."

Hoisl has a bachelor's degree in music education. She was working internationally in Japan when she discovered the career opportunities she could pursue with a food science degree.

"It wasn't until last year I realized that I could actually have a career in one of my passions; food," Hoisl said. "I hope to eventually be able to help develop foods or food practices that have a positive impact on the environment and encourage consumers to have a healthier and more nutritious diet."

At OSU, students interested in a career in product development can pursue a food science degree within the department of animal and food sciences. The curriculum teaches both introductory concepts and specified areas of food science. Learn more about the academic and career opportunities in food science online at afs.okstate.edu/fdsc.

By Rebekah Alford





BAGEL BUZZ

Created by Allison Hoisl

Bagel Buzz is a caffeinated bagel designed to replace a morning cup of coffee. It is an all-in-one breakfast that is filling, high in energy, and portable for when you are on the go.

This product was inspired by the creator's caffeine needs. Not liking the taste of coffee and tea, she decided to make a low sugar, great tasting caffeinated food product.

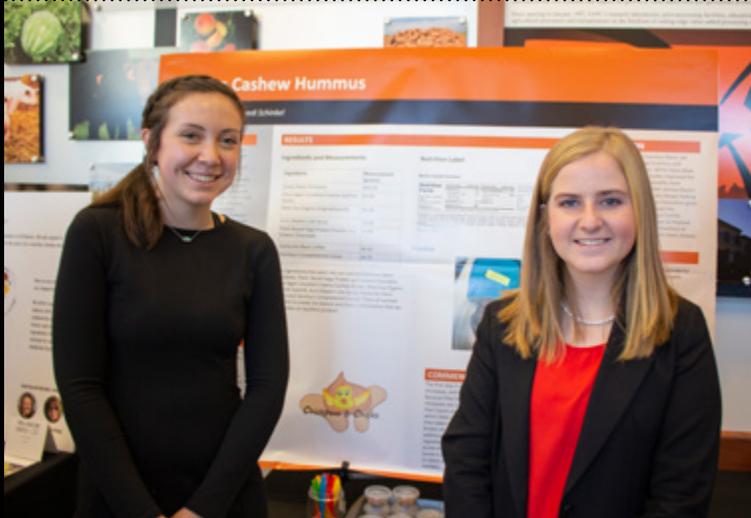


BURST

Created by Marcus Washington

Burst is an energy bar made with only three ingredients; a fruit, a nut, and dates. The 100% organic ingredients are simple and provide an energy boost with no preservatives or GMOs.

Marcus wanted to create a healthy food product that children and parents could make together. He knew the process would need to be fun and easy to follow.



DESSERT HUMMUS

Created by Kennedi Schinkel & Lydia Rockers

Dessert Hummus was created to be a healthier dessert option with a variety of flavors to choose from.

The team showcased the flavor 'mocha cashew hummus' for the competition. In addition to the traditional chickpeas, this product is derived from cashew butter, unsweetened cocoa, and coffee flavors, as well as chocolate protein powder to aid in protein intake.



PALEO PARTY JALAPEÑO JAM

Created by Brittany Gilbert, Elaina Moore, Kayla Nivens & Emily Woolard

Paleo Party Jalapeño Jam is made with natural ingredients, no processed sugars, and is paleo diet approved.

The creators got the idea for this product when making jam in a class. They noticed a lack of paleo products in grocery stores and wanted to make a paleo diet approved jam.

Bagel Buzz - Third Place



Burst - Placed in Top Five



Dessert Hummus



Paleo Party Jalapeño Jam - Placed in Top Five



OSU to break ground on new Robotic Milking and Visitor Center

Oklahoma State University will soon be breaking ground on the new robotic milking parlor and visitor center at the Ferguson Family Dairy Center. This is stage two of ongoing upgrades that will increase awareness of dairy production and advances in the industry, as well as increase opportunities for teaching, research, and Extension outreach. The project will take approximately one year to complete.

The new facilities for the robotic milker will be built on the south side of the current freestall barn. The north side of the barn will stay dedicated to research. The robotic milker is designed to be able to milk both Jerseys and Holsteins, and will be one of the first robotic milkers installed in the Southwest region of the U.S.

“The robotic milker is a DeLaval VMS V300 with camera guided milking units,” said Leon Spicer, animal science professor and faculty supervisor for the OSU dairy. “It allows each cow to be milked according to her individual needs. The number of visits a cow makes to the robot each day averages about three.”

The new facility and equipment will allow for additional student training opportunities and create a space for both youth and dairy professionals to visit the dairy center. Schools conduct field trips to the OSU dairy each year, and dairy industry professionals will often tour the facility

to learn more about incorporating the newest technological advances in an Oklahoma dairy operation.

The visitor center will create a safe and weather-proof environment for observing new farming techniques through viewing windows, such as milking dairy cows robotically. A robotic milking system can provide several benefits for a dairy herdsman, including less time spent milking cows, a decrease in labor costs, and an increase in milk production.

“The visitor center will be able to hold 40 visitors at a time to watch and learn about dairy farming and the dairy industry, as well as learn how robotic milking systems work,” said Spicer.

In addition to the Extension aspects this new center brings, the faculty and staff within the OSU Department of Animal and Food Sciences are excited they will be able to teach and train students with the same state-of-the-art equipment used by modern dairies.

“The new robotic milking parlor will provide students with valuable hands-on experiences with robotic milking of cows, as well as provide dairyman of Oklahoma an example of the use of a robotic milking system,” said Spicer. “It will also provide an additional resource for research projects for AFS faculty.”

By Rebekah Alford



About the OSU Ferguson Family Dairy Center

Located on the corner of North Western Road and McElroy Road in Stillwater, Oklahoma, the OSU Ferguson Family Dairy Center provides hands-on experiences and research opportunities for undergraduate and graduate students. These experiences are significantly enhanced by the close proximity of teaching and research facilities to the OSU dairy farm.

The dairy herd consists of approximately 60 Holstein cows and 40 Jersey cows that are currently milked twice daily. The entire milking herd is housed in the new freestall barn using sand bedding. Cows are fed a total mixed ration containing alfalfa hay, whole cottonseed, and concentrate (including corn grain). Waste management system utilizes a pop-up flushing system with a solids separator and sand settling lane for sand recycling.

The milking facility is a double-six herringbone parlor with automated cow identification, milk yield recording, and milking unit detachers. The facility produces around 2,200,000 pounds of milk a year. Holsteins average 70 pounds of milk per day with 4% fat test whereas Jersey cows average 45 pounds of milk per day with 5% fat test.

The freestall barn was finished in December of 2017 and features designated pre-fresh, maternity, fresh, and calf managing areas. The freestall barn includes an Insentec feeding system, with 16 feeders and two waterers. This system can record the feed and water intake for up to 32 cows. A data center collects information from the Insentec system daily. Helms Hall, student housing, was also completed in 2017 to provide student workers with modern, comfortable living.

The former bull barn currently provides stalls for individual feeding or penning of cows who may need isolation or attention for health purposes, or which may be used in research, embryo transfer, or cooperative work with the OSU College of Veterinary Medicine.

The dairy encompasses approximately 300 acres of pasture with an additional 80 acres of tillable land nearby. Research currently being conducted at the dairy includes ruminant nutrition, reproductive physiology, and health and well-being of dairy cattle. Also of notable mention, the Oklahoma State University Dairy Science Club was established in 1924 and is the oldest existing Dairy Science Club in the United States.



RENDERINGS PROVIDED BY | GH2 ARCHITECTS

OSU student uses social media to advocate for the pork industry



Tre' Smith is one of 13 college students selected to represent the 2019 #RealPigFarming Social Forces by the National Pork Board. Candidates were selected based on their involvement in the pork industry and their strong communication skills. The team started in July and will be active through December.

Smith's family didn't raise farm animals, but he always wanted to show livestock when he was growing up. When his family moved from rural Wynnewood, Oklahoma, to a suburb outside of Tulsa, he started showing livestock for the FFA and has loved agriculture ever since.

"When I was in high school and my FFA Chapter would come to Oklahoma State for contests, I always told my friends and Ag teachers that I was going to work at one of those farms at OSU," Smith said. "I love making goals and this was a huge goal of mine."

The summer following his senior year of high school, Smith moved to Stillwater, Oklahoma, and began working at the OSU Swine Teaching and Research Center.

"The most enjoyable part of my job is being able to work with my teammates and Jim Coakley," Smith said. "Jim is a mentor of mine and he has taught me that I can do anything I set my mind to."

Smith is majoring in agricultural communications with a minor in agribusiness at OSU. After graduation, he plans to work in communications

for a swine based company or an agritourism department. Smith has a love for communication and the pork industry, so he was immediately interested when he saw a tweet about Pork Checkoff and #RealPigFarming accepting applicants for the Student Social Forces Team.

"I told myself 'that seems like a good fit for me,' considering all I do is talk about pigs anyways," Smith said.

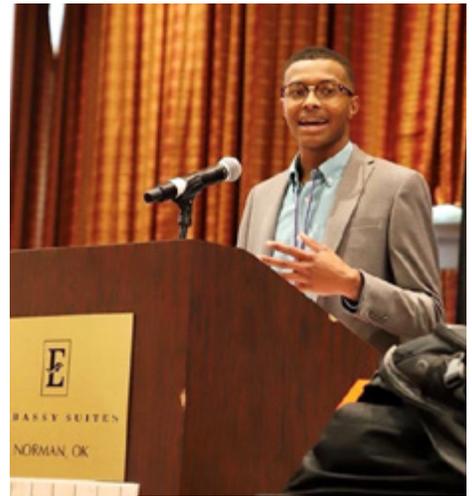
A week later, he received a call from a member of the pork industry in North Carolina who told Smith he would be a great fit for the Student Social Forces team. Smith took this phone call as a sign and filled out the application that very night.

"My job with the social forces team is to advocate for hog farmers nationally and internationally on social media and in person," Smith said. "[We're] bringing credible information from the barns and bridging the gap from the producer to the consumer."

Smith loves the work he is doing with #RealPigFarming. The experience has given him the opportunity to meet people involved in the pork industry from across the U.S. and other parts of the world.

"In the pork industry we are improving ourselves constantly," Smith said. "[We're] always keeping our consumer and our environment in mind. Our goal is to raise healthy pigs and a healthy product for our consumer."

Through social media, Smith hopes to share how producers strive to



ensure every product put to market is in the best condition for those consuming it.

"I always tell interviewers, producers, and friends that if you don't tell your story someone else will," Smith said. "We as agriculturalists cannot be afraid to tell our story. Be proud in what you do and be excited when given the opportunity to showcase your hard work and your industry."

Smith said the people in the pork industry are some of the hardest working people he knows, and because of this he believes the future of the industry is in great hands.

Smith is using #RealPigFarming in his social media posts as a pork industry advocate and social forces team member. Follow Tre' Smith on his Instagram account @tre.smith_ to see all the great advocating he is doing for the pork industry.

By Rebekah Alford



PHOTOS PROVIDED BY | TRE' SMITH



tre.smith_ I was recently asked what career paths are there through the swine industry? The options and pathways are limitless!! As the population grows so will we! Within the industry you have production, marketing, agronomist, meat scientist, geneticist, vets, transportation drivers, communications, business and international trade specialists to name just a few of the pathways.



149 likes

Top 20 Freshmen

Cameron Catrett and Madelyn Gerken were recently selected as Oklahoma State University Top Twenty Freshmen Women for 2019. Now sophomores in the OSU Department of Animal and Food Sciences, the students are being recognized for excellence during their freshman year.

“Their selection is based on demonstrated leadership and academic success during their first year at OSU,” said Clint Rusk, head of the department of animal and food sciences.

GPA, scholarships earned, research initiatives, extracurricular activities, community service, leadership, and more are considered by the OSU Mortar Board Honor Society when selecting the Top 20 Freshmen Men

and Women each year. Out of those selected, 10 men and 10 women are chosen to be Top 10 Freshmen Men and Women based on their superb performance.

Catrett went on to also be named a Top 10 Freshmen Woman for 2019. Her volunteer work was among the things considered during the selection process. This included work through the McKnight Scholars Leadership Program, Chi Omega Fraternity, Student Government Association Freshman Representative Council, College of Agricultural Sciences and Natural Resources Student Council Freshman and Transfer Representative, and Freshmen in Transition Living-Learning Community.

“I was thrilled to be selected as a Top Twenty and incredibly honored to

stand beside the amazing individuals in that group,” Catrett said. “Being selected as a Top Ten was a humbling reminder that Oklahoma State University and my Cowboy Family serve as an incredible support system that always pushes me to be the best version of myself.”

Catrett is earning dual degrees in food science and animal science. Her career goal is to be a veterinarian, working first with food animals in order to specialize in veterinary pathology later in her career.

“Both of these individuals contributed significant community service hours in the Stillwater community,” Rusk said. “We are very proud of Cameron and Madelyn and wish them the best in the coming year.”

By Rebekah Alford



Pictured left to right: Mellissa Crosswhite, Cameron Catrett, Madelyn Gerken, Clint Rusk

PHOTO | SAMANTHA SILER



PHOTO | TODD JOHNSON



PHOTOS | REBEKAH ALFORD

Mafi awarded 2019 AMSA Distinguished Teaching Award

Gretchen Mafi was honored at a special awards banquet during the American Meat Science Association (AMSA) 72nd Reciprocal Meat Conference, which was held June 26-26, 2019, in Fort Collins, Colorado. She was presented with the 2019 AMSA Distinguished Teaching Award in recognition of her excellence in the teaching undergraduate and graduate meat science courses and the highly positive impact she has had on the lives of her students.

Mafi began her teaching career at Angelo State University in 2002 as an assistant professor before joining the faculty at Oklahoma State University in 2006. She is a professor and the Ralph and Leila Boulware Endowed Chair in the OSU Department of Animal and Food Science. During her 13 years at OSU, she has taught undergraduate and graduate meat science courses, mentored students, coordinated student advisement, coached judging teams, and conducted meat science research.

“When I was looking at graduate programs for my Ph.D., I knew I wanted to work at a program and with a professor that would allow me to enhance my teaching skills,” said Drew Cassens, OSU graduate student. “Dr. Mafi has allowed me to do so by giving me amazing opportunities to teach with and alongside her as one of the best at OSU and in meat science.”

Mafi truly has a love for teaching and a desire to help her students

reach their full potential. She teaches three meat science courses each semester in addition to her advising and research responsibilities. Her research focuses on prediction of meat tenderness and palatability, development of value-added meat products, and use of new technology to predict quality. She also mentors students in her meat science research lab.

Mafi’s teaching excellence has been recognized many times during her career in academia. She was presented with the 2018 Golden Torch Award from the OSU Mortar Board for her significant impact on student success. In 2015, she received both the Merrick Foundation Teaching Award for the American Free Enterprise System and the OSU College of Agricultural Sciences and Natural Resources Award of Excellence in Teaching.

“Dr. Mafi’s passion for teaching, mentoring, and meat science has affected me personally as it has shown me what my passion is,” said Cassens. “I hope to one day use the qualities Dr. Mafi has given me to be a successful teacher and mentor in meat science.”

In addition to the lives she has impacted as a teacher and mentor, Mafi has also positively influenced students as coach of the OSU Meat Judging and Meat Animal Evaluation Teams. She trains the two teams to distinguish differences in the relative value of various meat cuts and to

better understand the economic value of livestock and their carcasses, respectively. Both teams have won many national and reserve national championships under her leadership.

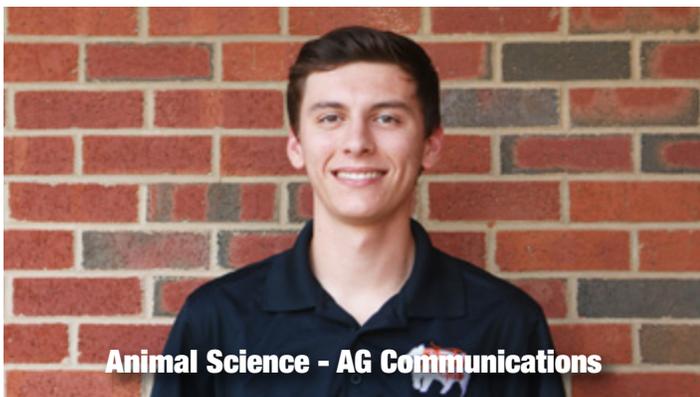
“She is a mentor to many young adults and has had a profound impact on so many students through teaching, coaching, and advising,” said Macy Perry, OSU graduate student. “Dr. Gretchen Mafi has positively changed the course of many lives through her mentorship. There is no doubt that she is one of the most influential professors at Oklahoma State University and the animal and food sciences department has benefited greatly from her leadership.”

Mafi has gone out of her way to help in other meat science activities as well by coordinating meat judging contests and providing support for meat science related programs, both on-campus and throughout Oklahoma. Mafi has had a lasting effect on youth, her students, and the meat science industry.

“Dr. Mafi’s impact on OSU, meat science, and her students is unmeasurable,” Cassens said. “She has allowed opportunities for her students to be successful at OSU and in meat science. Students that have the opportunity to work alongside and with Dr. Mafi are at an advantage. The knowledge she has and the opportunities she allows give students the best chance of having a successful career in meat science.”

By Rebekah Alford

Meet Our Students



Meet **Braeden Coon!** Braeden is originally from Mountain View, Oklahoma. He grew up in a rural community where his family has farmed the same land for three generations. They raise wheat, cattle, and show pigs.

“My personal passion for agriculture is attributed to the show pig operation,” said Braeden. “Growing up, I was heavily involved in 4-H and FFA. I would not be the person I am if it weren’t for my agricultural background.”

Both of Braeden’s parents graduated from Oklahoma State University. For him, the decision to follow in their foot steps was an easy one.

“Growing up, I always knew I wanted to be a Cowboy. As I got older, I knew I wanted to study agriculture in college. When it came time to decide, Oklahoma State was already home.”

Braeden was able to find many student activities to become involved in at OSU. As a freshman, he was a member of the President’s Leadership Council. He is currently a Leader of Excellence in Animal and Food Sciences, the vice-president of the OSU Swine Club, the treasurer of the Meat Science Association, and a member of the 2019 Meat Judging Team. He also served in the Freshmen in Transition program as a Student Academic Mentor during his sophomore year.

“Animal and food sciences at Oklahoma State is the absolute largest ‘small’ community I have ever been a part of. There is never a time I do not walk in the building and see someone I know. The professors and faculty pay so much mind to the students. I am always greeted when I see one of them on campus or around Stillwater. Furthermore, this is the greatest animal and food science department in the country. We foster success in everything that is done here.”

Braeden is majoring in animal science with an agricultural communications (double major) degree option.

“I have always loved the communications industry, especially digital marketing and layout and design. However, just studying that would not have been interesting to me. With this option, I am able to combine my passion for animal agriculture and my interest in communications

work. My roots are with the animals, and this option allowed me to continue with my passion.”

Braeden wants to use his degree to create a positive impact on the agricultural industry. His career goal is to be the communications director for either a major livestock show or food company.



Meet **Kaela Cooper!** Kaela grew up in Atascadero, CA. Her passion for the livestock industry began at age five when her parents signed her up for 4-H. She mainly showed cattle and goats throughout California in her youth and was able to go to a few national shows in high school. She was also very active in California FFA.

“When I was a sophomore in high school, I bought my first heifer to keep and breed. I now have a small herd of cattle, as well as goats, and I sell the offspring to local 4-H and FFA members. I enjoy assisting these exhibitors when I am home from school.”

After touring the Oklahoma State University Department of Animal and Food Sciences in high school, Kaela knew it was where she wanted to end up.

“I decided to come to Oklahoma State University as a transfer student from Modesto Junior College in California due to the amazing reputation of OSU’s Department of Animal and Food Sciences. When I toured OSU in high school, the department was very welcoming to me. I stayed focused on the goal of transferring to OSU, knowing it would be the right place for me.”

Since transferring last fall, Kaela was able to get involved in several different organizations on campus. She is the reporter for Block and Bridle, an ambassador for Leaders of Excellence in Animal and Food Sciences, and is involved with Agriculture Future of America.

“What I enjoy the most about the OSU Department of Animal and Food Sciences is the welcoming atmosphere and how helpful and friendly all of the staff are. As a transfer student, I was able to find ways to quickly get involved and have a positive experience.”

Kaela is majoring in animal science with a degree option in livestock merchandising.

“I knew a degree in animal science would help me become more knowledgeable in the field that I am most interested in, which is animal agriculture. I chose livestock merchandising as my option because I plan to continue to expand and develop my herd of cattle and goats, so I felt the classes would be beneficial for my future.”

After graduating, she plans to start working in the animal industry in either animal feed sales or animal pharmaceutical sales. Kaela will also continue to breed and sell livestock and to stay involved in the show livestock industry through livestock sales and mentoring.



Meet **Meredith Bush!** Growing up as a triplet in Leawood, Kansas, Meredith was excited at the opportunity to head out on her own for college. After taking a campus tour, she could picture herself being at home and starting a path to success at OSU.

“One aspect about this department that I really enjoy is the overall culture and willingness of all members to give their 100% effort to help you succeed. There is a genuine family feeling in CASNR.”

Meredith is involved in Gamma Phi Beta, Blue Key Honor Society, Honors College, Phi Kappa Phi Honor Society, and is a supplemental instruction leader at the LASSO Center. She is also an OSU Department of Animal and Food Sciences Undergraduate Research Scholar.

“I’m interested in conducting research to improve my knowledge base for foods and beverages. I want to help ensure that we have a sustainable food supply that also provides great taste and nutritional quality for consumers.”

Meredith is majoring in food science with a degree option in science. She likes that it is a vast field of study that could lead to many different career paths and that she gets to use her problem-solving skills.

“The multitude of unique opportunities for personal development in CASNR is one of the most important resources that kept me with my degree choice and loving it more every semester. I chose my degree option because I didn’t want to limit my focus of studies right away. The word ‘science’ is so broad and there are many different applications of the option. With science, I knew I would have the opportunity to create and piece together new solutions to questions.”

Meredith wants a career that allows her to be creative and problem solve. After completing her internship last summer, she is considering different science and research-based career paths.

“My career goals range from working in an FBI lab to research and development at a food company. I love asking questions and weaving through a difficult task to find a solution. I love asking questions and weaving through a difficult task to find a solution. In the future, I hope to continue to be curious. No matter where I work, I want a career that allows me to have that kind of creative freedom.”



Meet **Marcus Washington!** He grew up in Edmond, Oklahoma. When looking for colleges to attend, he decided OSU would be a great fit.

“Oklahoma State is the only four-year college in Oklahoma that offers such a wide variety of majors,” said Marcus. “That coupled with the fact that we have one of the best colleges of agriculture and colleges of business, I decided to come here.”

Marcus is majoring in food science with a degree option in food industry. Originally, Marcus wanted to start a business in the food sector. Now his goal is to work in the industry as well as own a non-profit for lower income communities.

“I wanted to start a business in the food sector, and industry covers all aspects of food science. This is perfect for me because I wanted to get involved with every aspect of food science.”

On campus, he is involved in the Food Science Club, Black Student Association, Student Success Leaders, and Phi Eta Sigma. He is the recipient of the Earl C. May Scholarship and is on the Dean’s Honor Roll. After graduation, Marcus plans to get his master’s degree in food safety at either OSU or Purdue.

“I will use my degree to educate lower-income communities and those who do not have knowledge about food science. My plans are to help bring better food into food desserts as well as teach people proper storage techniques, reading labels, and how to cook healthy foods, as well as how to grocery shop and find well-priced foods.”

AFS hosts Beef Industry Conference

The Oklahoma State University Department of Animal and Food Sciences hosted the 2019 OSU Beef Industry Conference on October 24-25, 2019, in Stillwater, Oklahoma. This is a select educational program oriented toward cattle operators (seedstock, cow-calf, stocker, or feedlot) and beef industry leaders in Oklahoma. Its purpose is to address issues and research of importance to the beef industry in Oklahoma.

On the first day, participants toured the OSU beef cattle research facilities and had an interactive discussion of beef cattle research at OSU, including how research benefits cattlemen in Oklahoma. This was followed by dinner then music.

On day two, participants met at the OSU Conoco-Phillips Alumni Center where they learned from industry-leading speakers. Topics included how to improve stocker profitability and cow efficiency, water intake, upcoming changes in animal disease traceability and identification, and value of by-product feeds in beef cattle production. Speakers included Stan Bevers, Terry Mader, Tyron Wickersham, Rosslyn Biggs, and Ronnie Castlebury.

This is one of many beef cattle Extension events hosted by the department each year. Tours of OSU beef cattle farms are also provided by Extension faculty and staff to various groups. Get access to helpful resources and learn about beef cattle Extension programs, news, and events online at beefextension.com.

Oklahoma Cooperative Extension Beef Cattle Specialists



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Competitive Teams

DEPARTMENT OF ANIMAL AND FOOD SCIENCES

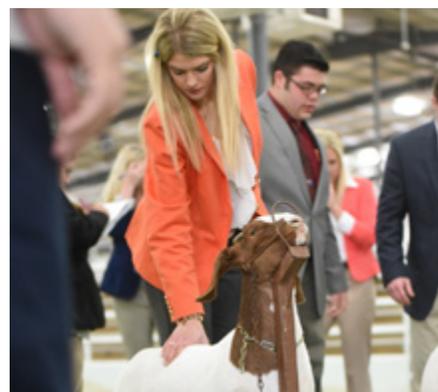
"I joined a judging team as a way to learn more about the industry, enhance my communication skills and to be involved. However, after completing my collegiate judging career, I realized I will most cherish the life long friendships and incredible memories I shared with my teammates and coaches who have become mentors."

Julianna Albrecht
Howard, South Dakota
Animal Science and Agricultural Communications Double Major
Member of the Meat Judging and Meat Animal Evaluation Teams



Why Participate?

The competitive teams fielded by the OSU Department of Animal and Food Sciences have a long-standing tradition of excellence. These opportunities allow students from across the university to learn valuable life skills, build lasting friendships and network within the industry. The department, college and university benefit from successful judging programs in several ways. They bring national recognition, which aids in recruitment, improves alumni support, and brings pride and tradition to the program.



Skills Obtained

- Oral and written communication skills
- Critical thinking
- Team work
- Decision making
- Networking
- Leadership
- Responsibility
- Travel
 - National and international travel



HOMECOMING 2019

The Oklahoma Collegiate Cattlemen's Association and Oklahoma Collegiate Cattlewomen were named 2019 Homecoming Sweepstakes Champions! This is the 2nd year in a row the groups won the honor. The OCCA and OCCW were also 1st place in the Chili Cook-Off and 2nd place in the Sea of Orange Parade (student organizations division).

The Oklahoma State Dairy Science Club earned 2nd place in the Sweepstakes and 1st place in the Sea of Orange Parade. The OSU Food Science Club was earned 3rd place in the Chili Cook-Off.

Congratulations to all of our student clubs for the fantastic job they did competing in this year's Homecoming activities.



Join us

In supporting the Willard Sparks Beef Research Center

The Willard Sparks Beef Research Center was dedicated in 1998 and is one of the finest beef research and educational centers in the country. The center is a great benefit in fostering research, teaching and Extension programs to better serve the beef industry. Research is conducted that provides new knowledge to the industry while providing OSU students with hands-on training and practical experience that are of high value as they enter the workforce.



With severe financial constraints in the last few years, investments to the Willard Sparks Beef Research Center Endowment are being sought for the 20-year-old center to prevent it from depreciating in place, support regular upgrades of equipment, and provide needed maintenance that allows for conducting research with high value to the cattle industry.

Plans are currently underway for improvements and upgrades with a new hay barn that will create capacity for grinding and storing one or more types of hay which will increase research capacity and efficiency of the Sparks Center. However, **immediate needs are still present** and include additional equipment upgrades to the Warren Cat skid steer and pay loader--two of the heaviest used pieces of equipment at the feed yard, divider walls to provide permanent internal bay dividers in the commodity barn and new hay barn, a larger overhang for the new building, concrete pads, and additional ongoing maintenance needs that occur throughout the center.

Matching Gift Opportunity Doubles Your Impact

After a recent visit to the Sparks Center, Dennis White saw the immediate need for general upkeep and maintenance. In response to the need, **Dennis and Marta White are graciously committing up to \$20,000 in matching funds to be utilized for support of the Sparks Center** at a rate of 1:1 with hopes to encourage donors and alumni to join alongside them in bridging the gap on financial constraints to the center. This opportunity will allow you to maximize your gift and grow your legacy at Oklahoma State while sustaining the future needs of the Sparks Center. You can designate your gift to the Sparks Center Endowment or to the cash portion of the fund for immediate use.

To support the initiative and take full advantage of the matching funds, **contributions must be received by December 31, 2019, and sent to the OSU Foundation** at 400 S. Monroe, Stillwater, OK 74074. Contribute online, [here](#). For questions regarding support to the Willard Sparks Center or the match, please contact Megan Bryant at mbryant@osugiving.com or 405-385-0743.



AGRICULTURE

IRELAND

**JUNE 17 - 30,
2020**

INFORMATION:

In 12 days, visit Dublin, Galway, Killarney, Cork, Waterford, Trim, Trinity College & University College Dublin. Learn about Irish Agriculture. See sheep & dairy farms, castles, Irish whiskey distilleries, Guinness brewery, Hook lighthouse, Monastic sites, Book of Kells, Waterford Crystal being made, Irish beaches, Irish government research centers, & attend the annual Irish Derby horse race.

COURSE CREDIT

3 hours of "I" (AG3803)

Undergrad or
graduate credit (ANSI5000).

COST

\$4,000 plus airfare & tuition.



CONTACT

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114d ANSI

email: leon.spicer@okstate.edu



Visit Hook Lighthouse



Learn about farming and food production

Visit Blarney Castle & Irish Derby

Visit Glendalough

Visit Univ. College Dublin

ITALY

**MARCH 13-22
2020**

INFORMATION:

In 8 days, visit Rome, Naples, Pompeii, Sorrento, Florence, Pisa, Bologna, Modena, Parma, Venice & Milan. Learn about Italian agriculture & production of Parmesan & mozzarella cheese, Balsamic vinegar, Prosciutto ham, & Chianti wine. See the Rome colosseum & Pantheon, ruins of Pompeii, beautiful canals of Venice, leaning Tower of Pisa, shopping in Milan & wonders of renaissance Florence.

COURSE CREDIT

3 hours of "I" (AG3803)

Undergrad or graduate credit.

(or ANSI5000)

COST

\$2700 plus airfare and tuition.



CONTACT

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MILANI



Pisa

Learn about farming & food production.



Visit Naples.



Visit Rome.



Visit Venice.



Visit Florence.



NEW ZEALAND

MAY 12-25, 2020

INFORMATION:

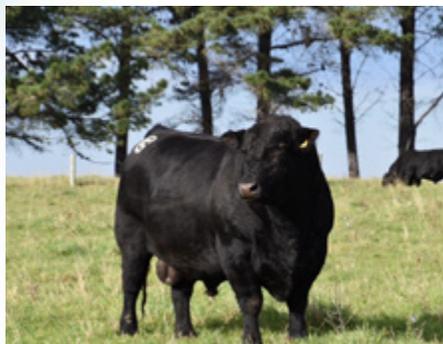
- **Ag Production:** beef cattle, dairy cattle, Red Deer, sheep, and fruit orchards
- **Natural Resources:** nature preserves
- **Wildlife Conservation:** protecting the Kiwi bird
- **Culture and Business:** learn about the Maori culture and experience a booming Agri-tourism industry

COURSE CREDIT

- 3 Credit Hours

CONTACT

Dr. Clint Rusk, Department Head
101B Animal Science
(405) 744-6062



Thank You!

To the following sponsors of the OSU Department of Animal and Food Sciences





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