COWPOKE NEWS

Department of Animal & Food Sciences
Oklahoma State University
Fall 2020

COWPOKE NEWS

Welcome to the Fall 2020 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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This publication, issued by Oklahoma State University as authorized by the Vice President of the Division of Agricultural Sciences & Natural Resources, was printedat a cost of $708.73 for 250 copies.

On the Cover:

Cattle grazing on wheat during the winter is on the cover of this edition. Read about wheat pasture forage on page 16. The photos on the cover and back of this edition were taken by Todd Johnson.

In this Edition

How to keep your pets safe during the holiday season

Photos by Rebekah Alford

During the holidays, many people want to include their pets in all of the fun festivities. It makes sense. For many people, their pets are considered part of the family and they don't want them to be left out of the celebration.

Though many people tend to enjoy all the events revolving around the holiday season, your pets might not feel the same way. All of the changes, guests and activities during holiday get togethers can be extremely stressful or even dangerous for animals.

Dr. Kris Hiney, Oklahoma State University Cooperative Extension equine specialist, has some tips on how to make the holidays a little easier on pets and their owners. Hiney is a dog trainer and teaches agility and pet manners classes. She is also heavily involved in dog agility competitions and pet therapy programs.

There are some things to consider when it comes to holidays and pets, including guests, food, gifts, decorations and costumes.

GUESTS

It is great to spend time with family and friends during the holiday season. While you may love seeing all of your favorite people, your pet may see them as unwelcome strangers. All of the new faces and noises can be too much to handle for some animals.

Cats, in particular, are very sensitive to stress. Owners tend to spend less time with cats on socialization than they do their dogs. Cats might try to escape and hide until the unfamiliar faces and noises leave.

"Letting them have the opportunity to get to a quiet location and have some down time is really important," Hiney said.

Have a designated area your pets can go to when they begin to feel overwhelmed. When choosing a space, consider your animal's needs. Your animal's hideaway should have food, water and a litter box (for cats) since they might be too afraid to leave and seek these things out.

"Look for behavioral changes with them afterwards, because stress in a cat can really cause some health issues for them," Hiney said.

For dogs, it is best to keep them separated from festivities in another room or in their crate. If you do allow them to mingle with everyone else, closely monitor their reactions.

"All of that chaos and disruption to their normal pattern can be fatiguing for them mentally," Hiney said.

Your pets may also pose a threat to your guests. Holiday get togethers can be a stressful situation. This could cause your animals to act poorly due to all the added stimuli and mental fatigue. There is also the possibility that your guests may not enjoy having your pets around.

"A lot of people aren't going to appreciate your animals as much as you do," Hiney said. "Some of the older generations aren't as enamored with pets as the younger generation is."

If you are going to a home with pets and don't want to interact with them, try to not give them any attention. Not making eye contact with dogs or petting them will make them less likely to engage with you. Also, keep your reactions to them dialed down.

"Animals really feed off of your interaction, especially dogs," Hiney said. "Ignoring the animal can decrease their excitement and energy quite a bit."

This approach may not work with cats, who might welcome the 'challenge' of getting your attention.

If there are young kids at your holiday event, don't leave them alone with the animals. This is especially true if they have never interacted before.

FOOD

"Don't trust their manners in the face of temptation," Hiney said.

Food in the kitchen should be put away before sitting down to eat a meal. Unattended food left with unsupervised animals can create a big problem.

"That is so much a temptation. It needs to be monitored," Hiney said. "You do have to take the time to put it all away."

Food left on the kitchen counter isn't safe. If you don't want to wrap everything up, try placing the food in the microwave, oven or refrigerator.

"It is such a big temptation for them, even if they're normally really, really good," Hiney said. "If you leave a turkey carcass on the counter, then you're asking for trouble."

Some people like to share part of their holiday meal with their pets. It is important to make sure whatever food you are sharing is safe for them. Foods containing chocolate, onions, raw bread dough, cooked bones or large, fatty dishes can be unsafe or toxic to your animals.

"We do a lot of 'food, share, love,' where love is food and we want our pets to participate in things like that as well," Hiney said. "But holiday meals tend to have a higher calorie and fat content than our every day meals. If we give them a lot of that, it can cause a lot of GI disruption. You don't want vomiting and diarrhea to be part of your holiday plan."

If you want to share holiday food with your pets, try mixing in small amounts of appropriate food in with their normal food, Hiney said. Because odor is a big part of how an animal experiences food, taking small amounts of what you want to share and mixing it with their dog or cat food will make it a longer lasting, more fun event for them, she added.

"There are ways we can still have them participate safely, but not overwhelm the GI tract," Hiney said.

GIFTS

If you are giving food as a gift, keep it away from your pets. They have a great sense of smell and may be tempted to open and eat your present.

"They smell so well that they know which package has food in it," Hiney said. "If you are going to give food as presents, those need to be in a sealed closet behind a door. It has to be somewhere where you don't forget it, because they will find it."

If you've trained your pets to open packages, then don't expect the presents under the tree to be safe. They may try to open them.

"Even if you don't have food in them, if you taught them they can open their presents then they are going to open presents when you're not home."

Keeping the gifts shut away from the pets is the best way to ensure they stay safe. Pets don't read the tags, and we want to make sure everyone gets to open their own presents on Christmas Day.

If you are getting your pets a special treat for the holidays, make sure to check where it was made and what the ingredients are to ensure safety. Do some research on the item before purchasing it. If you select a large treat, don't let your pet eat it all at once. Large treats can cause digestive upset if the animal gets to gnaw at them for long periods of time.

The Naughty List

We all want our pets to be safe during the holidays. Below are some things that can be harmful, or even deadly, for dogs and cats.

- **Alcohol**
- **Artificial sweeteners**
- **Avocados**
- **Caffeine**
- **Chives**
- **Chocolate**
- **Cooked bones**
- **Corn on the cob**
- **Fat trimmings**
- **Garlic**
- **Grapes**
- **Onions**
- **Macadamia nuts**
- **Milk (dairy products)**
- **Mistletoe**
- **Poinsettias**
- **Raisins**
- **Raw eggs**
- **Raw meat**
- **Stress**
- **Tinsel**
- **Toy stuffing**
- **Yeast dough (uncooked)**

If you are getting your pet a new toy, try to avoid options full of stuffing. They could cause digestive harm if ingested. Instead, consider plush toys that don't come with stuffing or another alternative. Animals should also never be left unattended with a new toy, especially if they are big chewers.

"Dogs love to pull the 'guts' out of stuffed animals," Hiney said, "and if they swallow that it can be potentially really harmful."

There is also a risk of the animal swallowing the toy itself, which can cause choking hazards in addition to the risk of GI issues.

"If you have an animal with any history of foreign object ingestion, then you have to be super diligent about what extra things you bring into the house," Hiney said.

DECORATIONS

Why is the Christmas tree so mesmerizing to pets? Animals are interested in new objects introduced into the home. In addition to all those shiny, sparkling things hanging off the limbs, the tree is also covered in new and exciting smells.

"Bringing that novel object in, that tree is going to be super attractive to them," Hiney said. "The scents on the tree are too tempting for your animals. They will want to investigate the new object and smells."

So how do you keep your tree (and ornaments) safe? One method would be to bring the tree into the house but not decorate it for a couple days. This could give your pets time to lose their curiosity over the tree before you put your decorations on it.

Put the breakable or sentimental ornaments towards the top of the tree to decrease the risk of them getting broken or batted by curious kitties. Owners can also block off the tree area using gates or pens.

Not all decorations are safe. Owners should be very cautious about what they bring into the home during the holidays.

"There should be no tinsel in households with animals, because that tinsel ingestion can cause strangulation in the bowel," Hiney said.

Some plants typically used to decorate during the Christmas holidays can also be dangerous. Mistletoe, holly and poinsettias are all poisonous to your pets.

COSTUMES

A cat in a Santa costume might look adorable, but be sure to gage your pet's emotions when putting them in outfits. Owners should be aware of their animal's feelings, Hiney said.

"If they clearly are unhappy with it, don't [put them in a costume]," Hiney said. "Some cats and dogs don't mind, but if they look stressed or their expression is frozen and they're hunched over - then this is kind of a miserable thing for them to do."

The animal's health is another factor to consider. Owners should observe whether the outfit is too tight or restricts movement. If it is too small, then remove it so the pet doesn't become trapped in it. There is also the possibility of getting tangled or even strangulation, so animals should not be left unattended in their outfits.

"You have to know your animal," Hiney said. "Don't make them do something that makes them miserable."

SAFEST METHOD

In the end, keeping pets separated from festivities is the safest option. The best location for your pets is in another room, fenced yard or crate.

"Because there is so much going on and there isn't enough time to pay attention to the animal, it is best to put them in a separate room or crate them," said Hiney. "While your pet is family, that is often times going to be the best strategy."

Keeping animals away from your holiday gatherings is the best way to ensure everyone's safety. Your pets (and guests) may thank you.

Written by Rebekah Alford

" Don't trust their manners in the face of temptation."

- Dr. Kris Hiney

Staying healthy during the holidays

If you have decided to gather with friends and family this year for the holiday season, chances are the experience is going to be very different in comparison with all the years previous. Lower the chances of you and your loved ones getting sick during the holidays by taking extra safety precautions.

Getting tested for Covid-19 before your gathering can help determine if you are infected and need to stay home. Below are some food safety tips to consider for your holiday get together.

Rethink the Appetizers

Appetizers can be a tasty way to wait on the meal to be ready, but they're also a great way to spread germs. With all the guests sticking their hands in the dishes and hovering around the chip dip, the risk of spreading something increases.

Consider not having appetizers this year. If you do, avoid finger foods and dips or prepare single serve plates ahead of time for guests to grab.

Together... at a Distance

If possible, have family and friends stay sit six feet apart while socializing and eating.

Keep Guests Out of the Kitchen

It is common for family and friends to gather in the kitchen as the food is being prepared, but it is best to keep guests out of the kitchen. The less time guests spend in proximity to the food, the better. It only takes one person sneezing on the mashed potatoes to ruin everyone's day.

Put At-Risk Guests First

Whether you are serving the food buffet-style or having guests dish up at the table, allow the more at risk members of the family to dip up before the other guests. For example, let grandma and grandpa go first.

Act Like a Restaurant

Many restaurants are requiring their employees to wear face masks and disposable gloves while preparing food, and that's a good idea! Wear a face mask and disposable gloves and/or wash your hands frequently while preparing and serving food. Consider having one or two people in charge of preparing everyone's plates. This will decrease the number of people in contact with the food and serving utensils.

Dish Out Desserts

Put desserts on single-serve plates to allow guests to walk up and quickly grab what they want. The less time people spend dipping up and breathing on the food, the better.

Photo by Todd Johnson

OSU Ferguson Family Dairy Visitor Center opens

Oklahoma State University's Ferguson Family Dairy Center opened its new visitor center on Oct. 22.

The visitor center offers a unique and innovative platform to advance the land-grant mission of teaching, research and Extension, said Tom Coon, OSU vice president of agricultural programs. Those goals include:

- Exhibit cutting-edge innovations that are part of the Ferguson Family Dairy Center.
- Provide a firsthand educational environment for school systems that can strengthen the learning experience for students, even those as young as elementary school age.
- Promote increased exposure of ongoing research conducted by OSU dairy faculty and students that benefit the agricultural industry and consumers.
- Showcase research-based dairy management practices, as well as reasons why they are important to producers, animal performance and the food industry at large.
- Share the university's renowned history of dairy programming and advances, going back more than 100 years, giving the public an appreciation for science at work and serving as inspiration for future dairy entrepreneurs and researchers.

"A lot of people have expressed interest in the new robotic milking system," said Clint Rusk, head of the OSU Department of Animal and Food Sciences. "Our cows have been in training for the past several weeks to learn how to interact with the system. Now they love it. The system is a good example of how technological advances can promote production efficiency and animal well-being."

Kayleen Ferguson spoke at the opening of the OSU Ferguson Family Dairy Center's new visitor center, named to honor her, husband Larry Ferguson and their extended family, while grandson Edward Ferguson rested.

OSU alumnus Larry Ferguson discovered the loves of his life when he was working at the OSU Dairy Center in 1975, both in terms of his career and in the former Kayleen Helms. More than 40 years later, the former president and CEO of Schreiber Foods and his wife Kayleen were in Stillwater in 2018 to witness dedication ceremonies for the new OSU Ferguson Family Dairy Center. Kayleen Ferguson was on hand Oct. 22, two years later, for the visitor center's grand opening.

The Fergusons likewise were instrumental in the construction of Helms Hall, the center's student living quarters named in honor of Kayleen's parents, who also met at OSU and had their own connection to the OSU dairy programs. Her father, Kenneth Helms, earned a dairy science degree before marrying Kathleen Cunningham. They both went on to earn master's degrees in education from OSU while teaching and raising two daughters and a son.

Earlier this year, they made a $50 million gift through the Ferguson Family Foundation to rename the college and transform OSU Agriculture programs. It was among the largest gifts in OSU's nearly 130-year history, allowing for the establishment of an endowment for the college's operations, and it kicked off a campaign for a $100 million teaching and research facility.

The opening of the new visitor center builds on the Ferguson family's vision and legacy for OSU dairy programs, Coon said.

"Ongoing improvements at the dairy center will help sustain good husbandry of the cows and calves in our dairy herd, while also promoting environmental stewardship, cost efficiency and safe food-handling practices through on-site practices and improved technologies," he said.

Due to pandemic concerns, the grand opening ceremonies were held virtually. Related media can be watched online.

"We have had hundreds attend our grand opening events in the past, but coronavirus precautions this year led us to emphasize a virtual experience," Coon said.

Information about donor naming opportunities affiliated with the visitor center is available online and by contacting Megan Smith of the OSU Foundation by email or by phone at (405) 385-0743.

Written by Donald Stotts

Photo by Todd Johnson

Robotic milking comes to OSU students at Ferguson Family Dairy Center


Photo by Todd Johnson

Candy is for more than people with a sweet tooth; it's also a great way to train dairy cows how to use a robotic milking system, much to the delight and educational benefit of students working at Oklahoma State University's Ferguson Family Dairy Center.

The robotic milking system highlights how the OSU Department of Animal and Food Sciences provides students with firsthand experience of technological advances that are changing how the dairy industry does business, said Nicole Sanders, OSU alumna and interim dairy herd manager.

"If you want to work with high-tech agricultural companies in developing new programs and supporting new technology, we have that at Oklahoma State," she said. "Not a lot of university [undergraduate and graduate] students in the United States get to work with robotic milking systems."

And, yes, there is candy involved. Training dairy cattle begins with a special kind of pelleted feed with sweets in it that entice the animals to enter the robotic milking system. This goes on for several weeks before the actual milking process starts. The idea is to get the cows used to the presence of the technology – and eating the pellets.

"Everything has gone very well, especially with the Jersey cattle. After a while, it all becomes just a normal part of the cow's day," said Kristin Pronschinske of DeLaval, the manufacturer of the robotic milking system. "The students working at the center have had a lot of fun learning all about the new system and training the cows, and we have had just as much fun working with the students – and the cows."

OSU agribusiness student Lora Wright agreed, citing how student access to cutting-edge technologies at the dairy center, combined with research-based educational experiences focused on best management practices, gives her and her fellow dairy enthusiasts working at the center the practical, applicable skillsets needed to pursue a variety of career options in the dairy industry.

"New technologies are an evolution in the dairy industry," Wright said. "The center was the reason I came to Oklahoma State. Growing up on a registered dairy farm in southwestern Missouri, I wanted to continue that and pursue a degree in agriculture."

Robotic milking systems are increasingly becoming the dairy industry's default mode of business, in turn driving technological enhancements that affect related job functions – from feed advisors to veterinarians who are experienced with the interaction of animal and machine, to designers of dairy and other on-farm equipment.

"OSU's Ferguson Family Dairy Center is a working dairy farm in addition to its role as an historically important research facility. The combination instills students who work there with a perspective that incorporates many different facets of the industry," said Susan Allen, manager of industry affairs at Oklahoma Dairy MAX. "That is a valuable contribution to the industry, and to agriculture in general, in terms of turning out our next generation of producers, dairy scientists, livestock nutritionists, agricultural engineers, economic analysts, educators, entrepreneurs and community and government leaders."

Enrollment in the OSU Department of Animal and Food Sciences typically accounts for about 1,000 students from 40 or so states, making it one of the most popular academic homes for students on campus. Department Head Clint Rusk said a highlight of projects undertaken during the last few years has been improvements at the dairy center.

"The Ferguson Family Dairy Center clearly is an excellent educational and career-building resource for current OSU students, but from the outset, we also envisioned it being a place where busloads of third or fourth graders might come and see the latest innovations related to dairy production and animal management practices, maybe help them learn a little bit more about agriculture," Rusk said. "We thought, potentially, some of them might even want to come to school here someday."

For current student Wright, the technologies and programs at the center are examples of how life is changing for the dairy industry and those pursuing agricultural degrees.

"At OSU, we still milk some animals in the parlor in addition to those going through the robotic milking system," she said. "The combination of traditional and cutting-edge practices gives students the best of both worlds, and the knowledge to operate in each."

After all, adoption of new technologies across an entire industry does not happen all at once. Wright said OSU is helping its dairy students position themselves for whatever comes next, both in terms of a potential career in industry, research and academia, and life in general.

Written by Donald Stotts

Gretchen Mafi receives USDA National Teaching Award

The Association of Public and Land-Grant Universities has honored an Oklahoma State University professor with one of only two national U.S. Department of Agriculture Excellence in College and University Teaching Awards for Food and Agricultural Sciences.

Gretchen Mafi, Ralph and Leila Boulware Endowed Chair professor and undergraduate advising coordinator in OSU's Department of Animal and Food Sciences, has educated and mentored more than 5,000 students in both traditional and online learning during her 14-year tenure at OSU.

"It is humbling to be honored with this prestigious award. My career and achievements wouldn't be possible without all of the support, friendships and collaborations. The Ferguson College of Agriculture, Department of Animal and Food Sciences, Robert M. Kerr Food and Agricultural Products Center and the OSU Meat Science Program are unique because of the great group of people that make every day happen, she said.

"But most important to the success of the program are the students. I have had the privilege and honor to work with truly exceptional students," Mafi said.

Doug Steele, vice president of Food, Agriculture and Natural Resources at APLU, said all of the award winners should be applauded.

"The high bar they've set stands as a powerful example not only to their students, but to other faculty striving to better serve their students," Steele said.

More information about Mafi's award, as well as the other award winners from around the country, is available online.

Written by Trisha Gedon

Mafi is the Ralph & Leila Boulware Endowed Chair Professor and undergraduate advising coordinator for the Oklahoma State University Department of Animal and Food Sciences.

She has received 19 teaching and coaching awards while at OSU and has impacted the lives of over 5,000 undergraduate and graduate students through teaching, mentoring and coaching.

Photo by Todd Johnson

Marcus Washington receives SQFI Foundation Scholarship

Marcus Washington, a food science graduate student at Oklahoma State University, was selected to receive a Food Safety Auditing Scholarship and Education Travel Grant for the 2020 – 2021 academic year from the FMI Foundation. This scholarship is awarded to food and agricultural science majors who have an interest in the field of accredited food safety auditing.

The FMI Foundation scholarship is extremely competitive. The applicants are chosen based on academic ability, leadership potential, motivation and initiative. The scholarship grant provides recipients with $3,000 to be used for educational expenses like tuition, books, room and board and other fees.

Washington received his bachelor's degree in food science with an option in food safety from OSU. He is also a member of the Food Science Club on campus. He was very excited about receiving the scholarship and travel grant.

"It was great. It was a big relief to have all of my school paid for," Washington said. "It completely paid off the remainder of my bursar bill!"

In addition, he received complimentary registration to both a SQF auditing course and the 2020 virtual SQF Global Conference.

"[The conference] was amazing," Washington said. "It was nice to connect with professionals and expand my network."

He is currently working on his master's degree in food science and is being mentored by Ravi Jadeja. Washington has been in Jadeja's program since 2017, and is the fifth graduate student in the program to receive a SQFI foundation scholarship.

He plans to continue his education by earning his Ph.D. in food science. Washington said he is interested in food safety auditing because he wants consumers to have a safe food supply.

"I want to ensure that safe food reaches customers to prevent foodborne illness outbreaks," Washington said. "Food is a necessity, and people shouldn't get sick from it."

Written by Rebekah Alford

" I want to ensure that safe food reaches customers to prevent foodborne illness outbreaks. Food is a necessity, and people shouldn't get sick from it."

- Marcus Washington

Photo by Todd Johnson

Oklahoma State's Horse Judging Team captures national championship

The Oklahoma State University Horse Judging Team has crowned national champions for the fourth time in the past six years, taking the top spot at the 2020 American Quarter Horse Association World Championship Show in Oklahoma City on Nov. 9.

The 2020 team's dedication, positive attitude and commitment to each other was what allowed team members to put together another championship season, which was particularly challenging considering the COVID-19 pandemic, said coach Steven Cooper, an associate professor of equine studies in the OSU Department of Animal and Food Sciences.

"As much as I would like to take credit for this year's success, the true thanks must go to coach Rachel Scott," he said. "Rachel spent countless hours not only coaching these students, but more importantly mentoring team members to be successful within and outside the judging arena."

Scott is an OSU animal science graduate student from Georgetown, Texas, who earned her bachelor's degree at Oklahoma State and was high individual on the OSU Horse Judging Team that earned the world championship in 2018.

OSU fielded two teams at the 2020 AQHA World Championship judging contest, which is considered the preeminent horse judging event. The OSU Pete's team ranked second in halter, first in performance, second in reasons and first overall. The OSU Poke's team was fourth in halter, third in performance, third in reasons and third overall.

OSU student competitors who ranked highly in specific categories included:

Jenna Scali of Adrian, Missouri, who was second in halter and performance, third in reasons and earned high-individual honors overall.

Hannah Tweed of Chouteau, Oklahoma, who finished first in performance, fourth in reasons and earned second-high-individual honors overall.

Holly Beringer of Cascade, Iowa, who was third in halter and finished as the contest's fourth-high-individual overall.

Ariana Horton of Easton, Kansas, who ranked fourth in performance, second in reasons and was the competition's seventh-high-individual overall.

Colton Carter of Owasso, Oklahoma, who ranked seventh in halter.

Sydnee Gerken of Cashion, Oklahoma, who was fourth in halter and seventh in reasons.

Lara Hays of Claremore, Oklahoma, who finished ninth in performance.

Derek Strawn of Columbia, Missouri, who finished 10th in halter and eighth in both performance and reasons.

Other OSU Horse Judging Team members included Sydney Cannon of Newcastle, Oklahoma; Leo Elsasser of Columbia, Missouri; Rachel Martin of McKinney, Texas; Megan Olson of Owasso, Oklahoma; and Sydnie Opolka of Hackett, Arkansas.

"I am extremely proud and thankful to have played a part in the growth and success of our 2020 team members," Scott said. "This championship is the result of a great group of students doing what they love with unyielding determination."

Written by Donald Stotts

OSU 2020 Horse Judging Team: (From left) Leo Elsasser, Derek Strawn, Sydney Cannon, Sydnee Gerken, Rachel Martin, Holly Beringer, Lara Hays, Jenna Scali, Ariana Horton, Hannah Tweed, Megan Olson, Sydnie Opolka, Colton Carter, Coach Rachel Scott and Coach Steven Cooper. (Photo by Shane Rux)

Oklahoma State's Meat Judging Team named reserve national champions

The Oklahoma State University Meat Judging Team started the season by earning the reserve champion titles at the National Western Stock Show and Southwestern Intercollegiate Meat Judging Contest. The team was coached by Gretchen Mafi and Kathryn Hearn.

"The 2020 meat judging season was one unlike any other," Mafi said. "Since March everyone has been through so many struggles and unknowns, I am extremely thankful for this team and their willingness to adapt to all the changes."

The team then went on to compete at Iowa State where they not only won the contest, but set a new reasons record.

Dani LeDonne, Grace Harris and Mamie-Cate Haydon were named 2020 Meat Judging All-Americans. Mamie-Cate Haydon was chosen by her teammates as the Rachel Hamilton Spirit Award winner.

"I appreciate the support of everyone at OSU and all the alumni," Mafi said.

The team went on to win both the South Plains and American Royal contests. They finished the season at the High Plains contest near Hereford, TX, where they were named Reserve National Champions. In addition, the team also scored over 4200 points for the second time in the season. They are the only team in history to accomplish this achievement.

Written by Rebekah Alford

OSU 2020 Meat Judging Team. Front Row: (From left) Coach Kathryn Hearn, Halle Roper, Madelyn Scott, Shannon DeHaan, Anna Campbell, Mamie-cate Haydon, Jaelyn Sewell and Coach Gretchen Mafi.

Back row: (From left) Tanner Komlodi, Shannon Greenwald, Lane Williams, Dani LeDonne, Trey Roberts, Grace Harris, Brock Courtney, Cameron Catrett and Riata Marchant. (Photo provided)

Oklahoma State's Livestock Judging Team makes strong finish to season

The team began the year at the National Western in Denver, Colorado, with a 5th place finish in the NWSS Livestock Judging Contest. Shyann McWhirter finished 6th in the sheep and goat division and was the 7th high individual overall. Tierani Johnson was the 2nd high individual in swine, the high individual in swine reasons, 2nd high in sheep and goats and high individual in sheep and goat reasons. She finished as the 9th high individual overall. Will Shelby was 5th high individual in swine, 7th high individual in cattle and the 4th high individual in reasons.

OSU was also named Reserve Champions in the NWSS Carload Judging contest. Ryan Callahan and Will Shelby finished as the 7th and 8th high individuals overall, respectively.

In February, the team competed at three contests. The team was named Reserve Champions in Fort Worth, winning both the oral reasons and swine divisions. Kaleb Selman won reasons and was the high individual overall in the contest. Shyann McWhirter finished 6th and Rhett Pursley was 7th high individual overall.

OSU won the Dixie National contest in Jackson, Mississippi. Tierani Johnson won oral reasons and was the high individual overall. Shyann McWhirter was 2nd overall while teammates Breydon Codding and Will Shelby tied for 6th overall. Tierani Johnson, Breydon Codding, Shyann McWhirter, Kane Aegerter, Ryan Callahan and Conner Vernon were in the top nine individuals in the continental division.

OSU was the high team in the market steer and continental divisions. Will Shelby was 7th in the Brahman division. Tierani Johnson was 5th overall in the english division. Will Shelby, Tierani Johnson, Shyann McWhirter and Breydon Codding were 3rd, 5th, 7th and 8th, respectively, in the market steer division.

At the Nebraska Cattlemen's Classic in Kearney, Nebraska, the team finished 2nd overall and Kaleb Selman was the high individual overall. Tierani Johnson was 6th overall and Shyann McWhirter was 7th overall. Sarah Harris won reasons.

OSU was the 4th high team overall in the National Swine Judging contest in Des Moines, Iowa. Shyann McWhirter was the high individual in boar judging. In early October, the team competed at the Flint Hills Classic in Hutchinson, Kansas, where they finished as the 7th and 8th high teams overall. Conner Vernon was the 8th high individual in the sheep and goat division. Tyler Sale finished as the 8th high individual in the cattle division and Kaleb Selman was the 8th high individual overall.

Next, the team competed at the Fall Upgrade contest in Grand Island, Nebraska, where they were 6th overall. Conner Vernon was 6th high individual in beef cattle. Kaleb Selman was 5th high individual in swine. Tyler Sale was 7th in oral reasons. Kane Aegerter paced the team finishing as the 12th high individual overall.

In the annual OSU Block and Bridle contest in mid-October, Kaleb Selman won the cattle, swine and oral reason divisions and was the high individual overall, earning the coveted Totusek Award. Will Shelby was high individual in the Buck cattle Company cattle contest in Madill, Oklahoma.

2020 OSU Livestock Judging Team.

Front Row (From left): Sarah Harris, Tierani Johnson, Shyann McWhirter and A.J. Hornback.

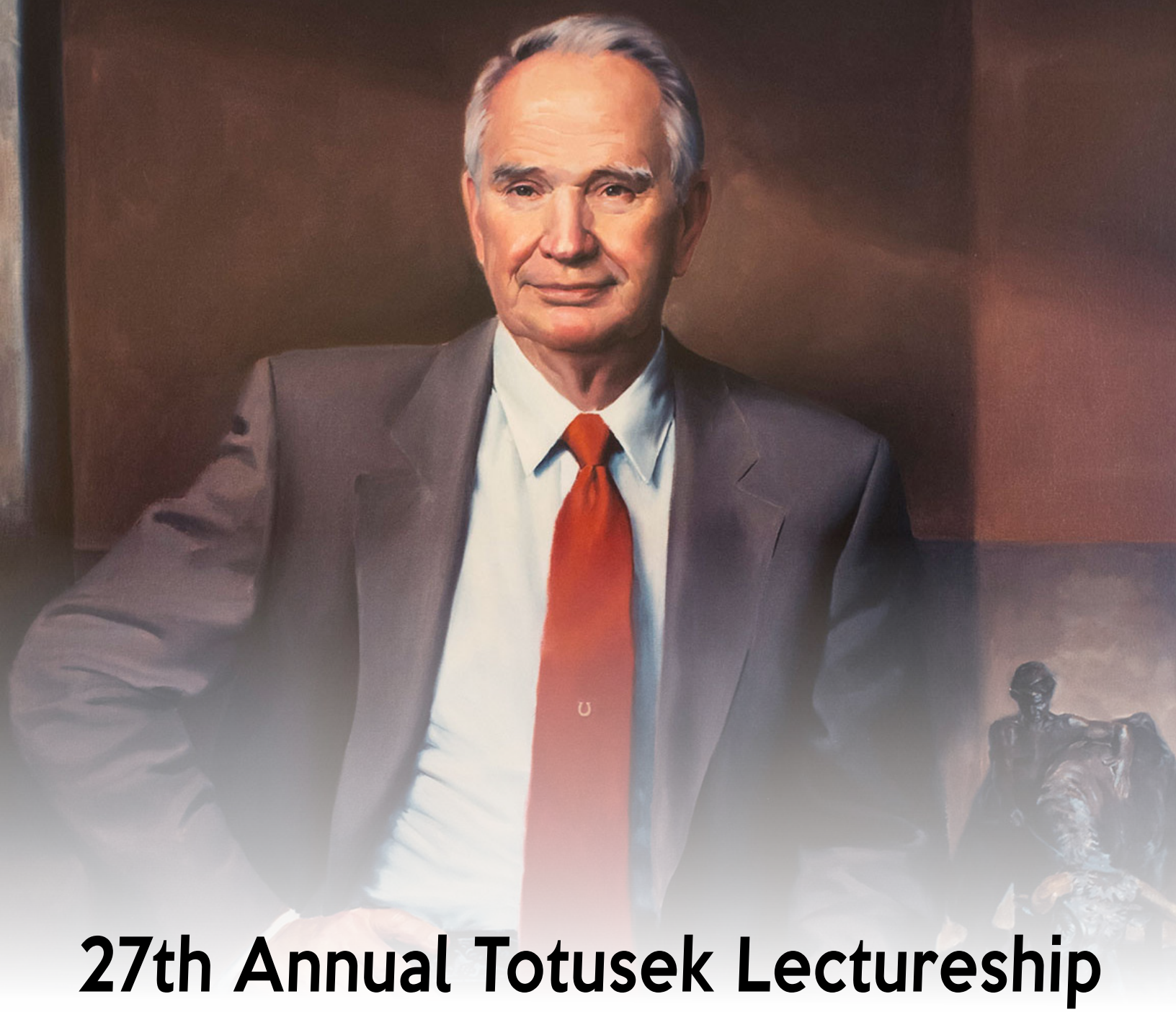
Back Row (From left): Will Shelby, Kane Aegerter, Breyden Codding, Ryan Callahan, Cale Hinrichsen, Tyler Sale, Rhett Pursley, Kaleb Selman, Conner Vernon and Coach Mark Johnson. (Photo provided)

Not pictured: Justin Dewbre.

At the American Royal in Kansas City, Missouri, the team finished 4th overall. Shyann McWhirter was the high individual in the sheep and goat division, 10th high individual in reasons and 10th high individual overall. Tierani Johnson was the 10th high individual in cattle and Kaleb Selman was the 9th high individual in swine.

The team completed the judging season in Louisville. They were the Reserve National Champion Team in the beef cattle and swine divisions, and finished 4th overall. Shyann McWhirter was the 7th high individual in swine. Ryan Callahan was the 10th high individual in beef cattle. Will Shelby was the National Champion high individual in beef cattle, 9th in reasons and the 5th high individual overall. Will Shelby also earned the distinction of being recognized as a member of the 2020 Intercollegiate Livestock Judging All-American Team.

Written by Mark Johnson



27th Annual Totusek Lectureship

The 27th Annual Totusek Lectureship was held on November 6th, 2020. After strong consideration from the Totusek Advisory Committee, the normal evening lectureship was canceled. Instead, the Oklahoma State University Department of Animal and Food Sciences hosted Dr. Mindy Brashears, guest speaker, virtually during the traditional seminar time.

Brashears is the under secretary for food safety in the U.S. Department of Agriculture. As part of her position, she leads the Office of Food Safety and oversees the Food Safety and Inspection Service. This service is responsible for ensuring meat, poultry and processed egg products are safe, wholesome and accurately labeled.

Brashears also serves as chair of the U.S. CODEX Policy Committee. She provides guidance for the CODEX Program, an international food standards-setting group designed to protect consumer health and set international food standards. The CODEX Program membership includes 188 countries.

Brashears gave an hour-long presentation, which was followed by a live Q&A session with graduate students, faculty, staff, alumni and friends of the department. The event was considered a “hybrid” lectureship, with some people attending in person and others attending virtually.

Graduate students were encouraged to attend this meeting in person and to request a seating placement. There were 27 seats available, and students were spread out for social distancing. Faculty and staff were invited to attend the lectureship virtually via Zoom.

The Totusek Lectureship is held every year in honor of the late Bob Totusek. He served as head of the department for 14 years and was beloved by many.

Written by Rebekah Alford

Wheat pasture valuable forage resource when managed properly

Wheat pasture is a valuable resource for many cattle operations, but producers need to ensure they do not turn animals out onto the forage too early, according to Oklahoma State University experts.

Stocker cattle or other livestock should not be turned out onto wheat pasture until the plants are about six inches tall and have become well-rooted. Visually, this is the point at which a person can toss a softball out into the field and it will disappear.

"A producer can test if the plants are well-rooted by going out into a field and pulling on the leaves; if they break off and the plant stays in the ground, then it's okay to let cattle access the pasture," said Ryan Reuter, beef cattle nutritionist and holder of the George Chiga Endowed Professorship in the OSU Department of Animal and Food Sciences.

Reuter recently provided practical management tips for cattle grazing wheat pasture on OSU Extension's agricultural television program SUNUP, available for viewing online.

Historically, about half of the wheat produced in Oklahoma is used as a forage crop. Most of those acres are used for a dual-purpose crop, in which the wheat is planted with the intention of being grazed by livestock – the animals are removed when the wheat reaches first-hollow-stem stage – and then grown to harvest grain later in the crop year.

Wheat is an annual cool season forage that recovers well during and after grazing. It is typically a lower-cost option to establish as well given that seed wheat is readily available, said Josh Bushong, OSU Extension area agronomist.

"If the wheat is too small when grazing is initiated, it will make less forage for the rest of the season," he said. "Larger plants can intercept more sunlight and make more forage than smaller plants, which is why fall wheat pasture is started so early. Grazing is usually initiated mid to late November before the wheat goes dormant, but crop growth is greatly reduced when days get short and soil temperatures drop."

Wheat is highly palatable; cattle will eat it immediately. In fact, wheat is so tasty to cattle that producers need to keep an eye out for cattle that are consuming too much, which can cause an issue called frothy bloat. Bloat occurs when rumen gas production exceeds the rate of gas elimination. The gas accumulates and causes distention of the rumen, which can interfere with animal respiration. The issue can be worsened by the absorption of carbon dioxide from the rumen and can potentially be fatal.

"As a practical matter, try not to turn out hungry cattle onto wheat as they are likely to gorge on it," Reuter said. "Instead, feed them hay in the morning and then turn them out onto wheat pasture in the afternoon."

Research-based fact sheets detailing best management practices for cattle grazing wheat and other types of pasture are available online and through all OSU Extension county offices.

Written by Donald Stotts

Photo by Todd Johnson

EXTENSION

RANCHER'S THURSDAY LUNCHTIME SERIES

Heifer Selection, Development and Breeding

Join our Beef Cattle Extension team, experienced livestock marketers and ranchers to learn and share beef cattle production, management and marketing tips.

- **Thursday, December 3, 2020 |** 12:30 p.m.
  Heifer Selection for Improved Lifetime Productivity
  - Burke Teichert, Retired Vice President and General Manager at Deseret Ranches
- **Thursday, December 10, 2020 |** 12:30 p.m.
  Building an Efficient Cowherd-Reproductive Tract Scoring
  - Dr. Richard Prather, DVM, Ellis County Animal Hospital
- **Thursday, December 17, 2020 |** 12:30 p.m.
  The Genetics of Fertility: Existing and Developing Tools
  - Jared Decker, University of Missouri
- **Thursday, January 7, 2021 |** 12:30 p.m.
  Sire Selection to Minimize Dystocia and Improve Performance
  - Mark Johnson, Oklahoma State University
- **Thursday, January 14, 2021 |** 12:30 p.m.
  The Latest in Synchronization and AI Tools/Systems
  - Jordan Thomas, University of Missouri
- **Thursday, January 21, 2021 |** 12:30 p.m.
  Managing First-Calf Heifers Through the Second Breeding Season
  - Dr. Adam Bassett, DVM, Oklahoma State University College of Veterinary Medicine

LIVE WEBINARS

- **Register Online:**
  dasnr.zoom.us/webinar/register/WN_19yRd78_Q5OwQiggw9tO3Q

CONTACT

- **Dave Lalman**
  Extension Beef Cattle Specialist
  david.lalman@okstate.edu
  405-744-6060

Meet João Moraes

Dr. João Moraes joined the Oklahoma State University Department of Animal and Food Sciences as an assistant professor of reproductive physiology on November 1, 2020.

Moraes grew up in Uberlandia, a city located in the state of Minas Gerais in southeastern Brazil.

“My grandfather was a farmer,” Moraes said. “My father grew up on the farm but moved to the city when he was a teenager to study. I grew up in the city, but I used to go to the farm most weekends.”

His experience on the farm led him to develop a love for animals. He decided to pursue that passion by going to veterinary school. After earning his DVM degree in 2010, Moraes moved to the United States to pursue postgraduate training. He earned a master’s degree in animal sciences (2013) and a residency in dairy production medicine (2014) in the Veterinary Population Medicine Department at the University of Minnesota. After completing the residency, he joined the University of Missouri where he earned a Ph.D. in reproductive physiology. His expertise is in cattle reproduction and health.

“Reproduction and health are among the most important factors affecting profitability of cattle enterprises,” Moraes said. “Early embryonic mortality is a major cause of reproductive wastage in cattle. Thus, I have great interest in studying the biological processes regulating early embryonic development and placentation in cattle.”

Moraes is also interested in investigating the biological, genetic and epigenetic components associated with development of uterine disease, as well as the cellular mechanisms regulating uterine recovery following parturition and uterine infection.

Moraes will teach graduate level courses in reproduction. His appointment is 70% research and 30% teaching.

“The OSU Animal and Food Sciences Department has a great team of people, and outstanding facilities and resources,” Moraes said. “OSU is a land-grant university committed to excellence in research and teaching, and has a tradition in cattle research. Because the cattle industry is very strong in Oklahoma, I believe there are a great deal of opportunities here to do cattle research.”

Photo by Todd Johnson

Meet Morgan Pfeiffer

Dr. Morgan Pfeiffer joined the Oklahoma State University Department of Animal and Food Sciences as an assistant professor of meat science on December 1, 2020.

Pfeiffer is originally from Meeker, Colorado, where she served as the state 4-H president and was actively involved in the show ring, livestock judging and numerous other activities.

She came to OSU in 2010 as an undergraduate student and had many successes, including being a member of the 2012 Meat Judging Team, 2013 Livestock Judging Team and 2014 National Champion Meat Animal Evaluation Team. Pfeiffer was named to both the OSU Meat Judging and Livestock Judging "All-American" Teams.

In 2014, Pfeiffer was named as both an OSU Senior of Significance and the OSU Animal and Food Sciences Outstanding Senior. She received her bachelor's degree in animal science and agriculture communications in 2014. Pfeiffer continued her education at OSU, receiving her master's degree in 2016 and her Ph.D. in 2019. Pfeiffer helped coach three OSU National Champion Meat Judging Teams during her graduate career. Following graduation, she worked with the Oklahoma Beef Council and the American Meat Science Association.

Pfeiffer, along with her husband, Kelsey, live near Orlando, Oklahoma, where they are active members of Pfeiffer Farms.

Photo Provided

Meet Nicole Sanders

Photo by Todd Johnson

Nicole Sanders has accepted our offer to serve as the senior dairy herd manager for the OSU Ferguson Family Dairy Center. Prior to accepting this position, Nicole was serving as the interim dairy herd manager at our dairy. She has been working with our dairy staff and student employees to help our cows adjust to the new robotic milker since early October.

Sanders grew up in Turlock, California, where she worked on her family's dairy farm. She also gained dairy experience as an undergraduate student by working as a student employee at the OSU dairy. Sanders received her bachelor's degree in animal science from OSU in May of 2020.

Want to join our team?

View available job positions online by visiting hr.okstate.edu/employment-opportunities.

Animal science faculty see an increase in grants during 2020

Our faculty have had tremendous success receiving grants this year with more than $2 million secured from federal, industry, and national needs fellowship grants. The success rate of competitive federal grants is less than 10%, and industry grants are based on the national reputation of the PI.

All of these efforts take a tremendous amount of time and perseverance. We are pleased to see our researchers addressing challenges faced by the industry and our stakeholders. We hope to share additional results in the coming months and years. In recent times, we have not had as many faculty receive funding from federal sources at the same time as we have right now. Below is a partial list of recent grant successes in our department. Our faculty members are in bold.

Andrew Foote, **Darren Hagen**, and Steve Hartson. The role of glucose metabolism in the regulation of feed intake and nutrient utilization efficiency of beef cattle. USDA–NIFA Foundational and Applied Science Program.

Andrew Foote and **Paul Beck**. Use of high oleic soybean oil in feedlot rations. Oklahoma Soybean Board.

Mostafa Elshahed, Noah Youssef, and **Andrew Foote**. PurSUit: Discovery, characterization, and elucidation of the global patterns and determinants of anaerobic fungal (Neocallimastigomycota) diversity in the herbivorous gut. National Science Foundation.

Darren Hagen. Ribosome-bound transcriptomics as a link between gene expression to protein translation. USDA–NIFA Foundational and Applied Science Program.

Darren Hagen. Creating transcriptome and epitranscriptome annotation resources to accelerate discovery in honey bee health. USDA–NIFA Foundational and Applied Science Program.

Ravi Jadeja and William McGlynn. Novel antimicrobial interventions to improve microbiological safety of pecans. USDA-AMS.

Janeen Salak-Johnson. Influence of prenatal stress on immune function, behavior, and welfare of the progeny. USDA–NIFA Foundational and Applied Science Program.

Gretchen Mafi and **Ranjith Ramanathan**. Impact of oxygen scavenges on retail product performance and product sensory characteristics. Multisorb Technologies.

Adel Pezeshki. Growth performance, nutrients utilization, and gut microbiota of pigs fed with low protein diets supplemented with isoleucine and valine. USDA–NIFA Foundational and Applied Science Program.

Ranjith Ramanathan, **Darren Hagen**, Steve Hartson, and **Gretchen Mafi**. Multi-disciplinary approach to train next-generation food and animal science leaders in integrated omics. USDA-National Needs Fellowship.

Blake Wilson. Concentrate finishing of beef cattle due to a lack of grazinglands research laboratory cattle finishing infrastructure. USDA-ARS Cooperative Agreement.

Blake Wilson, **Paul Beck**, **Andrew Foote**, and **Ryan Reuter**. Comparison of cotton products to traditional diet ingredients (dry distillers grains and hay) in feedlot steers: Impacts on animal performance, carcass traits, and the ruminal degradation of ingredients and whole diets. Cotton Inc.

Glenn Zhang and Sunil More. Epigenetic regulation of host defense peptide synthesis. USDA–NIFA Foundational and Applied Science Program.

Glenn Zhang. Impact of new peptiva on growth performance and prevention of necrotic enteritis and coccidiosis in broiler chickens. Vitech Bio-Chem Corporation.

Paul Beck, **Blake Wilson**, **Leon Spicer**, **Ryan Reuter**, and **Ranjith Ramanathan** were awarded an industry grant that has a non-disclosure agreement; hence details are not included.

Teaching Facilities

DEPARTMENT OF ANIMAL AND FOOD SCIENCES

The Department of Animal and Food Sciences at Oklahoma State University is home to facilities encompassing more than 13,000 acres. Our units house quality livestock that are used for teaching, research and extension purposes. The farms allow students to gain hands-on experience and apply concepts learned in the classroom to real-world scenarios, whether in class or as a student employee.

Primary Teaching Units

CHARLES AND LINDA CLINE EQUINE TEACHING CENTER

- The equine center is a teaching facility located on approximately 40 acres adjacent to the Totusek Arena.
- The center is home to more than 30 quarter horses used for classes ranging from breaking and training to breeding and foaling.

FERGUSON FAMILY DAIRY CENTER

- The OSU Dairy Center milks 120 registered Holstein and Jersey cows twice a day in a double 6 herringbone milking parlor.
- Heifers have access to just over 300 acres of pasture.

PUREBRED BEEF CATTLE CENTER

- The beef center and purebred range are home to more than 300 mature cows representing five breeds: Angus, Hereford, Brangus, Limousin and Simmental.
- The center hosts the annual Cowboy Classic Sale.

SHEEP AND GOAT CENTER

- The sheep barn is one of the oldest structures on campus (built in 1930), and is located on ~80 acres.
- The farm consists of three breeds of sheep: Suffolk, Hampshire and Dorset, as well as Boer goats.

SWINE RESEARCH AND EDUCATION CENTER

- The swine center is a total confinement facility featuring modern waste and odor management technologies.
- The swine center houses high-quality Yorkshire and crossbred sows, along with commercial pigs used for nutrition research.

TOTUSEK ARENA

- The arena is a state-of-the-art facility that includes a 92' x 192' (17,664 sq. ft.) arena floor with adjacent chair back seating for 779 people.
- The arena was renamed on April 11, 2015, to honor the late Dr. Robert "Bob" Totusek, who fostered a culture of excellence in the department of animal science for more than 60 years.

WILLARD SPARKS BEEF CATTLE RESEARCH CENTER

- The Sparks Center is a feedlot that helps OSU's teaching, research and Extension programs to better serve the beef industry.
- The facility has a dedicated barn with an Insentec feeding system to measure individual feed and water intake in a pen environment.

Other Facilities

CROSS TIMBERS/BLUESTEM RESEARCH RANGE

FEED MILL

NORTH RANGE COW RESEARCH CENTER

POULTRY CENTER

SOUTH RANGE COW RESEARCH CENTER

STILLWATER WHEAT PASTURE FACILITY

DEPARTMENT OF ANIMAL AND FOOD SCIENCES
Oklahoma State University
101 Animal Science | Stillwater, OK 74078
405.744.6062 | afs.okstate.edu

OKSTATEAFS

Awards & Recognition

AFS students awarded at 17th Annual Biological Sciences Symposium

Two animal science graduate students placed in the 17th Annual Biological Sciences Symposium, which was co-hosted by the OSU Department of Biochemistry and Molecular Biology and the OSU Department of Animal and Food Sciences.

Hasitha Premathilake placed 3rd in the oral presentation portion of the symposium. Hasitha is pursuing his Ph.D. in animal science with a focus in genetics. He is mentored by Udaya DeSilva.

Jing Liu placed 2nd in the poster session of the symposium. She is pursuing her Ph.D. in animal science. She is mentored by Glenn Zhang.

Photos Provided

Pictured (From left): Hasitha Premathilake and Jing Liu.

Niblack Research Scholarship

Adelle Crofford, animal science undergraduate student, was selected as a Niblack Research Scholar for the 2020-21 school year. Eleven OSU students were selected in all. Each student will receive $8,000 and the opportunity to conduct research during their undergraduate years.

Adelle (pictured) is majoring in animal science with a degree option in biotechnology. She is mentored by Darren Hagen and will be researching the effect of Wolbachia mechanisms on Drosophila reproductive fitness. After graduating, she plans on attending the veterinary school at OSU.

In addition, Ashley Gin, a Niblack Research Scholar majoring in biochemistry and molecular biology with a pre-veterinary degree option, will be mentored by an animal science professor from our department, Glenn Zhang. Her research project is focused on comparing this efficacy observed in poultry cell lines to the response of human colorectal adenocarcinoma cell lines (HT-29).

Photo by Kevin McCroskey

OSU Seniors of Significance

Three animal science students, Makayla Elliston, Alexis Main and Cathy Mapes, were selected by the Oklahoma State University Alumni Association as OSU Seniors of Significance for the 2020-2021 academic year. This award recognizes OSU students who excelled during their undergraduate academic career in leadership, service and scholarship. The students selected for this honor represent the top one percent of the Class of 2021.

Pictured (From left): Makayla Elliston, Alexis Main and Cathy Mapes.

Our Marketplace

Needing to register for an event or purchase some animal science apparel? Check out our online marketplace store!

It is a one stop shop for hats, t-shirts, hoodies and more! We carry "Eat Beef," OSU meat science, and OSU Purebred Beef Cattle Center apparel in various styles and sizes.

For those interested in our Oklahoma Quality Beef Network program, you can register and purchase tags from our marketplace. Links for OSU Department of Animal and Food Science event registration is also available.

View options online at https://bit.ly/2Vw32il.

Graduate Students - 2020

The Oklahoma State University Department of Animal and Food Sciences offers graduate degrees in both animal science and food science. We have one of the largest graduate programs at Oklahoma State University, and we take pride in teaching, training and mentoring our students as they prepare for their future careers.

Below are the M.S. and Ph.D. animal science and food science students who graduated from our department in 2020. Photos were provided.

Pornpim Aparachita graduated in the fall of 2020 with a Ph.D. in animal science with a focus in swine nutrition. She was mentored by Scott Carter.

Drew Cassens graduated in the spring of 2020 with a Ph.D. in animal science. He was mentored by Gretchen Mafi. His dissertation was titled, "Consumer Perception, Willingness to Pay, Tenderness and Retail Display of Non-Enhanced, Enhanced and High Quality Pork Loins."

Drew is now working as an assistant professor at Tarleton State University.

Jennifer Bedwell graduated in the spring of 2020 with a master's degree in agricultural communications. She was mentored by Shelly Sitton.

Jennifer is now the livestock judging coach at Northern Oklahoma College (NOC).

Morgan Denzer graduated in the spring of 2020 with a master's degree in food science. She is mentored by Ranjith Ramanathan.

Her thesis was titled, "Effects of Enhancement and Nitrite-Embedded Packaging on Dark-Cutting Beef Color."

Morgan is now pursuing her Ph.D. at OSU.

Thiago Belem graduated in the spring of 2020 with a master's degree in food science. He was mentored by Ranjith Ramanathan.

His thesis was titled, "Role of Lactate-Enhancement on Beef Color."

Thiago is now pursuing his Ph.D. at the University of Georgia.

Cheyenne Edmundson graduated in the spring of 2020 with a master's degree in animal science. She was mentored by Dan Stein.

Cheyenne is now working as a program coordinator for the Farm Journal Foundation.

Arjun Bhusal graduated in the summer of 2020 with a master's degree in food science. He was mentored by Peter Muriana.

His thesis was titled, "Isolation of Nitrate Reducing Bacteria for Fermentation of Nitrate and Use of Vegetable-Derived Nitrite to Inhibit Germination of Clostridium Spores in Ready to Eat Meats."

Jocelyn Faisal graduated in the fall of 2020 with a master's degree in animal science with a focus in nutrition. She was mentored by Blake Wilson.

Her thesis was titled, "Effects of Grazing Management and Targeted Anthelmintic Administration on the Performance, Parasite Burden and Hematologic Profiles of Hair Sheep."

Jocelyn is pursuing a career in animal health or nutrition.

Anna Goldkamp graduated in the spring of 2020 with a master's degree in animal science. She was mentored by Darren Hagen.

Anna is now pursuing her Ph.D. at OSU.

Katelee Lehew graduated in the spring of 2020 with a master's degree in animal science. She was mentored by Jerry Fitch.

Katelee is now the FSQA assistant manager at Landmark Snacks.

Charley Green graduated in the fall of 2020 with a master's degree in food science with a focus in meat science. She was mentored by Ravi Jadeja.

Charley now works for Simons Food.

Madison Lockhart graduated in the spring of 2020 with a master's degree in animal science with a focus in nutrition. She was mentored by Ryan Reuter.

Megan Gross graduated in the fall of 2020 with a master's degree in animal science with a focus in nutrition. She was mentored by David Lalman.

Her thesis was titled, "Predicting Dry Matter Intake of Gestating and Lactating Beef Cows."

Megan is now employed by Ralco Nutrition as a nutritional support specialist.

Kynzie McNeill graduated in the spring of 2020 with a master's degree in animal science with a focus in nutrition. She was mentored by Ryan Reuter.

Her thesis was titled, "Effects of Forage Allowance and Supplementation on Performance of Steers Grazing Winter Wheat Pasture."

Kynzie is now working in Canadian, TX.

Jared Harshman graduated in the summer of 2020 with a master's degree in animal science with a focus in swine nutrition. He was mentored by Scott Carter.

His thesis was titled, "Effect of Distillers Dried Grains with Solubles and a Feed Additive Containing Essential Oils on Performance of Wean-to-Finish Pigs."

Jared is now pursuing his Ph.D. at OSU.

Alexi Moehlenpah graduated in the fall of 2020 with a master's degree in animal science with a focus in nutrition. She was mentored by David Lalman.

Her thesis was titled, "Water and Forage Intake, Diet Digestibility and Blood Parameters for Beef Cows and Growing Heifers Consuming Water with Varying Concentration of Total Dissolved Salts."

Corban Hemphill graduated in the summer with a master's degree in animal science. He was mentored by Ryan Reuter. His thesis was titled, "The Effect of Rotational Grazing on the Performance and Grazing Behavior of Cow-Calf Pairs, and the Effectiveness of Frequent Human Interaction in Altering the Temperament of Mature Beef Cows." He is now working for Deseret Cattle and Citrus in St. Cloud, Florida as a foreman in training.

Andrea Northup-Warner graduated in the spring of 2020 with a master's degree in animal science with a focus in nutrition. She was mentored by Blake Wilson.

Her thesis was titled, "Utilization of Cotton Byproducts in Cattle Finishing Diets: Impacts on Performance, Carcass Traits and Ruminal Degradability of Diet Components."

Macy Perry graduated in the spring of 2020 with a master's degree in animal science. She was mentored by Gretchen Mafi.

Her thesis was titled, "Influence of Oxygen Scavenger Technology on Retail Stability of Fresh Beef in Tri-Gas Master Bag Packaging."

She is now attending law school.

Karisa Pfeiffer graduated in the spring of 2020 with a master's degree in animal science with a focus in nutrition. She was mentored by Mellissa Crosswhite.

Kaitlyn Pierce graduated in the summer of 2020 with a master's degree in animal science. She was mentored by Blake Wilson.

Her thesis was titled, "Determining the Existence of Bunk Preference in an Automated Individual Intake System and the Effects of Increased Roughage Late in the Finishing Period on Feedlot Steer Performance, Intake and Efficiency."

Kundan Shah graduated in the fall of 2020 with a master's degree in food science. He was mentored by Peter Muriana.

Sydney Stewart graduated in the summer of 2020 with a master's degree in animal science. She was mentored by Glenn Zhang.

Her thesis was titled, "Association between the Intestinal Microbiota and Production Efficiency of Broiler Chickens."

She is now working in Washington D.C. for CNA Corp as an analyst.

Laura Yoder graduated in the spring of 2020 with a master's degree in animal science. She was mentored by Gretchen Mafi.

Her thesis was titled "Effects of Rosemary and Green Tea Antioxidants on Ground Beef Patties in Traditional and Modified Atmosphere Packaging."

She is now pursuing her Ph.D. at Auburn University.

Dakota Zapalac graduated in the spring of 2020 with a master's degree in animal science with a focus in nutrition. He was mentored by Ryan Reuter.

His thesis was titled, "Comparing Enzyme Efficacy on Total Tract Starch Digestibility in Finishing Cattle Fed High Concentrate Diets."

He is currently attending veterinary school at TAMU.

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