

COWPOKE

Department of Animal & Food Sciences
Oklahoma State University
Fall 2022

NEWS



2022 National Champions



DEPARTMENT OF **ANIMAL AND FOOD SCIENCES**

On the Cover

The 2022 OSU Livestock Judging Team at the Oklahoma State Capital is on the cover of this edition. They were named the 2022 National Champion Livestock Judging Team.

In December 2022, the team was invited to both the Governor's Mansion and the Oklahoma State Capital by Secretary of Agriculture Blayne Arthur. Teams from OSU, NOC and Tuttle FFA were in attendance to honor the three national champion teams from of Oklahoma.

Read more about the team and their recent victory on page 10. All photos of the judging team at the Governor's Mansion and the Oklahoma State Capital were taken by Audrey Ochsner / Oklahoma Department of Agriculture and Forestry.

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Cowpoke News

Cowpoke News is published multiple times a year. We strive to keep students, alumni and friends of the department informed about our activities and successes. We hope you enjoy reading about the Oklahoma State University Department of Animal and Food Sciences.

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Letter from the Department Head

The past four and a half months have been a lot of fun as I had opportunity to travel across Oklahoma and the U.S. and interact with our alumni and stakeholders. I have said many times before that the alumni and stakeholders of the Department of Animal and Food Sciences at Oklahoma State University are the most passionate and engaged alumni bar none! There are several reasons they have such a high affinity for the department, but the prevailing reason relates to the relationships our faculty and staff fostered with them during their time at OSU.

As I visit with them about what made their experience in Animal and Food Sciences meaningful and impactful, they will all talk about the faculty and staff that went out of their way to help them be successful. It might have been their advisor who helped point them to an internship that opened their eyes to their future career, or perhaps always had an encouraging word when things were going tough. For others it was an instructor who went the extra mile to help them master a difficult concept, or who held their feet to the fire and pushed them to learn more than they thought they could in a challenging course. For still others it might have been that animal unit manager who pushed them as a student worker to learn more about hands-on, practical animal production and the need to be at work when you were scheduled because the animals had to be cared for properly. In all cases, it was the people who made their time here at OSU of tremendous value.

I say that to highlight what we all know - we are so fortunate to have dedicated faculty and staff in the Department of Animal and Food Sciences who care deeply for our students (both undergraduate and graduate) and are committed to the success of the department. They quietly and without fanfare go about their work every day not because they want recognition or a pat on the back, but simply because they care. That's why they spend countless hours preparing lectures and labs, advising students, serving as club advisors, providing career mentorship, caring for the animals at our animal units and serving our students in a myriad of additional ways. And then, on top of that they conduct research and provide outreach programs to positively impact our stakeholders. What a blessing to work alongside such wonderful people!

As you read through the pages of this edition of Cowpoke News, you will find information about the activities and recognitions of many of our amazing faculty and staff members. You will also learn about some of the outstanding students we have in the department, and in most cases, they are achieving success because of the efforts of our faculty and staff. Don't forget to let them know how much you appreciate all they do and the wonderful ambassadors they are for the department.

GO POKES!

Richard Coffey



Our Faculty

Beck, Paul - Beef Cattle Nutrition
Research & Extension

Carter, Scott - Swine Nutrition, Waste Management
Research, Teaching & Graduate Coordinator

Coffey, Richard - Department Head

Cooper, Steven - Equine
Teaching, Scholarship Coordinator

Crosswhite, Justin - Clinical Instructor

Crosswhite, Mellissa - Clinical Instructor

DeSilva, Udaya - Molecular Genetics
Research & Teaching

Fitch, Jerry - Sheep Teaching & Extension, Teaching
Coordinator

Foote, Andrew - Ruminant Nutrition
Research & Teaching

Hagen, Darren - Animal Genomics
Research & Teaching

Henley, Parker - Teaching & Extension

Hiney, Kris - Equine
Research & Extension

Jadeja, Ravi - Food Safety
Teaching & Extension

Jaroni, Divya - Meat Safety
Research & Teaching

Johnson, Mark - Animal Breeding
Teaching & Extension

Lalman, Dave - Beef Cattle Nutrition
Research & Extension

Mafi, Gretchen - Meats
Teaching & Research

Moraes, Joao - Physiology, Research, Teaching

Muriana, Peter - Food Microbiology
Teaching, Research & Extension

Pezeshki, Adel - Monogastric Nutrition
Teaching & Research

Pfeiffer, Morgan - Food Science
Research, Teaching

Ramanathan, Ranjith - Meat Science
Teaching, Research & Research Coordinator

Reuter, Ryan - Range Beef Cattle Nutrition
Teaching & Research

Salak-Johnson, Janeen - Animal Behavior & Well-Being
Research & Teaching

Stein, Dan - Livestock Production
Teaching & Extension

Wilson, Blake - Beef Cattle Nutrition
Teaching & Research

Zhang, Guolong - Animal Molecular Biology
Research & Teaching

Emeriti Faculty

Berry, Joe - Poultry Science, Extension

Buchanan, David - Animal Breeding, Teaching Coordinator

Freeman, Dave - Equine Specialist, Extension

Gill, Don - Beef Cattle Nutrition, Extension

Horn, Gerald - Beef Cattle Nutrition

Kropp, Bob - Beef Cattle Nutrition, OBI

Maxwell, Charles - Swine Nutrition & Management

Owens, Fredric - Ruminant Nutrition

Ray, Fred - Meat Science, Extension

Selk, Glenn - Reproductive Physiology, Extension

Spicer, Leon - Reproductive Physiology

Teeter, Robert - Poultry Nutrition

Wagner, Don - Department Head

Wettemann, Bob - Reproductive Physiology

The spice of life

Dr. Leon Spicer retires after 34 years at OSU

Leon Spicer, animal science professor, retired after 34 years at Oklahoma State University. Spicer originally came to OSU in 1988 as a reproductive physiologist to conduct research at the dairy, which led to over 30 peer-reviewed research papers published. To date, he has published over 200 peer-reviewed manuscripts and obtained funding from USDA, NIH and private companies.

Spicer had important roles in both research and teaching within the department. He was a recipient of both the Regents Distinguished Teaching Award and the Regents Distinguished Research Award. His courses focused on animal reproduction and dairy cattle science. Working with and advising students was the favorite part of his job, Spicer said.

“In particular, (my favorite part was) working in the laboratory with both undergraduate and graduate students, helping them develop an understanding of the scientific process and agricultural research,” said Spicer.

He didn’t grow up on a farm, but started working on dairy farms during high school in Pardeeville, Wisconsin.

“I grew up in a small dairy farming community,” said Spicer. “It drew my interest to the extent that I worked on dairy farms throughout high school. Then as an undergraduate student at the University of Minnesota, I worked at the University of Minnesota Dairy Farm on the St. Paul campus.”

During his time at OSU, Spicer has served as advisor for the OSU Dairy Science Club and facility supervisor of the OSU Ferguson Family Dairy Center. He found the long hours attending regional dairy club meetings and conducting fundraising activities with students to be rewarding experiences, said Spicer.

“Over the years, serving as advisor to one of the oldest dairy science clubs in the USA has been a privilege and pleasure working with students interested in dairy cattle and seeing how many of them become successful leaders in the dairy industry after graduation,” said Spicer.

In addition to teaching and advising, he has also led study abroad courses in Italy and Ireland for over 200 students who learned the differences in agricultural research and production systems between the USA and the countries visited.

Spicer believes these experiences are extremely beneficial for students. In addition to the education they receive, they have the chance to create life-long friendships and international connections.

“Study abroad trips are important to students because it gives them a chance to see the world, experience new cultures and languages and better appreciate what we have in the USA and indeed to see where we may improve,” said Spicer. “These trips add to the students’

life experiences and provides them additional perspectives for personal development, new interests and career/educational opportunities.”

Spicer has a keen interest in traveling, and has visited 26 countries. He also spent a one-year sabbatical at the Stanford University School of Medicine and a six-month sabbatical in Italy at three different universities.

His research focuses on reproductive physiology and has led to the identification of possible roles for Indian hedgehog protein, brain ribonuclease and FGF9 in ovarian follicular development in cattle. His research has contributed to the understanding of intra-ovarian control of ovarian function in livestock species.

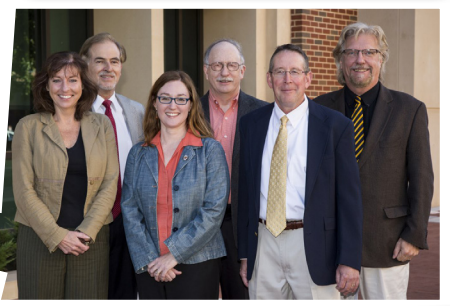
“My laboratory was one of the first to describe the effects of IGF1, leptin and other metabolites on steroidogenesis in granulosa and theca cells,” said Spicer. “Using microarray techniques, my collaborators and I have also discovered several unique genes involved in ovarian follicular development in pigs and dairy cattle.”

Spicer plans to continue serving on editorial boards for two international journals reviewing submitted publications. He also plans on spending more time with his family and friends and continuing to expand his international travel experiences. Spicer is a certified SCUBA diver and plans to do more diving.

A list of Leon Spicer’s publications is available online at: <https://bit.ly/3W12X3Q>.

Written by Rebekah Alford





SPICER SHERIFF



Photo Provided by the Jersey Journal

Animal Science Weekend

2023 Schedule

April 14, Friday - Animal and Food Sciences Scholarship Banquet

April 15, Saturday - ASAA Gala Reunion, Scholarship Auction, ASAA Membership Meeting and Lunch

This year, the 44th Annual Cowboy Classic will be held two weeks before Animal Science Weekend on April 2, 2023.

Information, updates and registration for these events will be available online at afs.okstate.edu/weekend.



Photo provided by Genesee Photos.

Homecoming 2022

Our departmental student clubs did a great job participating in the 2022 OSU Homecoming activities.

The OSU Horseman's Association and OSU Ranch Horse Team were 3rd place in the Sea of Orange Parade and the Chili Cook-Off.

The OSU Dairy Science Club received 2nd place in the Sea of Orange Parade.

OSU Block and Bridle received 1st place in the Chili Cook-Off.

The Oklahoma Collegiate Cattlemen's Association and Oklahoma Collegiate Cattlewomen won 2nd place in the student organization Sweepstakes!

In addition, the OSU Ferguson College of Agriculture was named the Most Spirited College.



OSU livestock judging team wins national championship for second year in a row

The Oklahoma State University livestock judging team won high team overall at the 2022 North American International Livestock Exposition on Nov. 14.

This fall marks the 22nd year OSU has brought home a national championship since its first win in 1925. Also in 2022, the university's head judging coach, Parker Henley, was named Coach of the Year for the second time in two years. Henley is an assistant professor in the OSU Department of Animal and Food Sciences and an OSU Extension specialist in beef seedstock management.

Henley and assistant coaches Macey Goretzka and Phoebe Rogers led the team to not only a first-place finish overall, but also helped the group achieve high scores in both the cattle and reasons divisions.

OSU is home to one of the most successful judging programs in

the nation, earning five national championships within the past six years. In the 2022 series of competition, OSU also earned high team honors at the Cattlemen's Congress, Dixie National, Aksarben Livestock Show, Tulsa State Fair and American Royal.

"The team has tremendous knowledge of livestock in general, and they're sharp stockmen and women who love thriving under pressure," Henley said. "Any time there's a big contest or new goal, they pull through with a win."

Individual NAILE placings include:

Caden Arnold – 2nd high individual overall, high individual cattle, 9th high individual swine, 5th high individual reasons, high individual performance cattle

Kylar W. Lee – 6th high individual overall, 2nd high individual cattle, 8th high individual sheep/goats

Kyler Vernon – 8th high individual overall, 6th high individual cattle, 2nd high individual reasons

Hunter Lock – 11th high individual overall, 6th high individual sheep/goats, 9th high individual reasons

Cal Schultz – 15th high individual overall, 10th high individual reasons

Other team members include Garrett Vaughan, Hadley Albracht, Riley Smith, Jett Smith, Eva Hinrichsen, Lauren Erickson, Madison Goecke and Kaitlin Taylor.

The OSU livestock judging team will next compete at the Cattlemen's Congress in Oklahoma City in January as well as contests in Denver, Fort Worth, San Antonio and Houston later this spring.

Media Contact: Gail Ellis





Parker Henley named Coach of the Year

Parker Henley began coaching the livestock judging team in 2021. Prior to joining Oklahoma State University as a faculty member, Henley coached livestock judging at the University of Illinois while attending graduate school.

“My favorite thing about coaching is interacting with passionate young people that share similar interests as me and watching them learn and grow as young professionals,” said Henley.

Each OSU Livestock Judging Team Henley has coached has gone on to win the National Champion title. He was named Coach of the Year by the National Collegiate Livestock Coaches’ Association in both 2021 and 2022.

“The 2022 OSU team was comprised of 13 members from all across the U.S. with very diverse livestock backgrounds,” said Henley.

“They were a tremendously talented group that was named High Team overall at our very first contest at the Cattlemen’s Congress. Their passion for livestock, competition and OSU has been contagious. I’ve really looked forward to traveling the country with them, as they are an enjoyable and motivated group.”

In December 2022, the team was invited to both the Governor’s Mansion and the Oklahoma State Capital by Secretary of Agriculture Blayne Arthur. Teams from OSU, NOC and Tuttle FFA were in attendance to honor the three national champion teams from Oklahoma.

“It has been an incredibly humbling and rewarding experience to get to work with the nation’s best students,” said Henley. “I have been very thankful for the tremendous amount of alumni,

stakeholder and university support that is given to our program on an annual basis.”

In addition to his coaching duties, Henley has had a role in some important youth Extension events. He has helped coordinate the OSU Livestock Judging Camp for the past three years and was co-coordinator for the 2022 Big 3 Field Days. He was the lead instructor for both events.

“The impact that we can have on young people in three days at the OSU judging camp is astounding and tremendously rewarding. I look forward to these events in the future.”

Henley plans to continue being involved in these youth events and his coaching duties at OSU.

Written by Rebekah Alford

Roy family, OSU celebrate 100 years of Oklahoma King

This fall marks the centennial crowning of Oklahoma King, a progeny of Oklahoma State University's purebred Duroc operation that was declared Grand Champion Barrow at the 1922 International Livestock Show.

At 14 months old and weighing in at 550 pounds, The Duroc Journal reported that Oklahoma King reigned the land: "In competition with all breeds and when the smoke cleared away, he was given the purple (ribbon) as being the best barrow in the world."

A century ago, when the international show was held in Chicago, Oklahoma King was praised for his superiority of the Duroc breed, and OSU swine herdsman Felix Roy established himself as one of the most skilled and knowledgeable swine nutrition experts in the country.

In a 1922 edition of *The Duroc Digest*, Oklahoma King and the Duroc breed were raved about: "Red hogs will take hogs of any and all other colors to a cleaning right along. But when this Duroc barrow of unsurpassed conformation and finish carried off the premier honor at this greatest of livestock shows, there was recorded the absolute and undisputed proof of the value and effectiveness of Pig Club Work."

The writer's reference to Pig Club represented one of the many commodity clubs in the U.S., a precursor to today's 4-H Youth Development organization. Roy was 21 at the time of Oklahoma King's fame. Although he passed away in 1992, he left an extensive autobiography for his family to read and share.

Pig Club Success

The Roy clan was originally from Indiana and relocated to Enid in 1905. Roy wrote in his autobiography that at age 5, he remembers his father searching for part-time work and a farm where the family could settle. It was two years before Oklahoma statehood and a few months after the Oklahoma land run. His father purchased land in the Yukon area, eventually raising chickens, purebred Duroc hogs and a few Shorthorn cows.



Felix Roy and the Oklahoma King.

When a county Extension agent visited the farm one day, Roy was recruited to join the Pig Club. He began showing hogs at the county and state fairs, recounting the challenging experience as "a new era of responsibility ... because we were asked to keep a current record of the amount of feed and costs of the project through the year. We also had to record our show winnings and sales returns," Roy said.

He also competed in livestock judging contests, explaining how the activity helped prepare him for his future.

"The personnel with the Oklahoma State University Extension service is due much credit for the devoted time, work and training they gave to thousands of boys and girls," Roy said.

In 1920, OSU (then Oklahoma A&M College) hired Roy to manage the school's swine herd, and he helped OSU win Duroc breed honors at the International Livestock Show in 1920 and 1921. Following his supreme win with Oklahoma King in 1922, Felix resigned from his OSU position to partner with his older brother in another swine operation. The Duroc Journal reported Oklahoma King was sold for \$36 per hundred weight and was exhibited for educational purposes.

The Duroc Journal reflected on Roy's win and Oklahoma King with these words: "Tenacity of purpose and determination are grounded into these boys in their club work. How thankful should we in the Duroc breed be that this boy joined a pig club and through it, decided on breeding Durocs as his life work. All around us on our farms today are countless thousands of Felix Roys. Diamonds in the rough they are, waiting only the opportunity that will develop their latent talents."

Felix Roy's legacy

Roy spent the rest of his life in Oklahoma and had five children with his first wife, Agnes. He accepted a position with the new Oklahoma Rural Rehabilitation Corporation in 1935 and retired from the agency in 1965. After Agnes' death from a severe illness in 1952, Roy later remarried to a woman named Helen and welcomed her son, John, to the family.

Since his days as OSU swine herdsman, the Roy family has celebrated 38 family members graduating from OSU. The legacy of this champion showman and the great Oklahoma King live on.

"Felix was indeed a soft spoken and gentle man but firm in his convictions and very strong in his work ethic, which he passed on to his family," said Larry Roy, the patriarch's oldest

grandson. "I remember him telling us kids that we should give a good day's work for a day's pay, and that you can learn a lot if you just listen."

Grandson Steven Felix Roy also inherited his grandfather's strong work ethic.

"We learned to apply our best effort in our work at all times from him," Steven Felix Roy said. "He told us of leaving school in the third grade to help on the farm. Being part of the Pig Club were some of the best days of his life. All things revolved around hard work with him or so it seemed."

Roy wrote: "It may appear that I was overworked in my youth and teenage years. This is not the case at all. Those were the years I learned how to work, manage, assume responsibility for my future and work with people."

He concluded his autobiography with, "The key to a useful life is the application of proper judgment and faith in action for the well-being of all mankind."

Happy 100 years to Oklahoma King's grand exhibition for OSU Agriculture and the legend of the man who made it possible.

Media Contact: Gail Ellis



The OSU Swine Club dedicated their Homecoming 2022 activities to Felix Roy and the Oklahoma King.



OSU researcher studying gut bacteria to improve disease resistance in chickens

An Oklahoma State University researcher is trying to find the cure for a poultry disease that costs the industry \$6 billion per year.

Necrotic enteritis is a disease that causes severe intestinal lesions, growth retardation and low mortality to poultry, according to Glenn Zhang, OSU professor of animal and food sciences. Zhang said there has been a significant increase in the prevalence of the disease worldwide following the industry banning the use of antibiotics because the drugs can be passed along to people, causing an immunity to antibiotic medications.

With antibiotics no longer a factor, it is important to find alternatives that will combat the disease, Zhang said, and solving the problem starts with genetics.

“For this project, we are trying to identify specific microbes and metabolites associated with resistance

to necrotic enteritis in chickens,” he said. “We know there are certain breeds of chickens that are naturally resistant to infections, while there are other genetically related breeds that are relatively susceptible. I am searching for the differences in the composition and function of the gut bacteria among different breeds of chickens when it comes to infection.”

The \$300,000 project, funded by the National Institute of Food and Agriculture, is a collaborative project among OSU, Iowa State University and the U.S. Department of Agriculture’s Agricultural Research Service in East Lansing, Michigan.

Zhang’s team has conducted animal trials and is in the process of using a combination of metagenomics and metabolomics technologies to identify the bacteria and their metabolites in resistant chicken breeds. Once they are identified, the next phase of research

is to introduce them into susceptible and commercial breeds of chickens to prove the hypothesis that it is this bacteria and their metabolites that are responsible for disease resistance.

“It will be a dream come true for me if we can develop these gut bacteria or metabolites as alternatives to antibiotics for growth promotion and disease resistance,” Zhang said.

This material is based upon work supported by the Foundational and Applied Science Program under award number 2022-67016-37208 for \$300,000 from the USDA National Institute of Food and Agriculture. Any opinions, findings, conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

Media Contact: Alisa Gore





ANIMAL SCIENCE
ALUMNI ASSOCIATION

ASAA RAFFLE

April 15, 2023 | Tickets \$100 each

Don't miss out on a chance to win these premier items and support animal and food science student scholarships. Three winners will be drawn during the ASAA Gala (you do not have to be present to win) and may select from the following prizes:

- Custom Handmade Luxury OSU Steak Knife Set
- Yoder Smoker YS480S Competition Pellet Grill
- \$1,000 worth of USDA Prime Steaks



Join the Animal Science Alumni Association for the **2023 ANIMAL SCIENCE WEEKEND**

April 15, 2023

ConocoPhillips OSU Alumni Center | Stillwater, OK

Honoring Minnie Lou Bradley as the Hall of Fame Chairback Recipient, 1973 50-year Livestock & Meat Judging Teams and recognizing the 1973, 1998 and 2013 animal science graduates.

For more information on Animal Science Weekend or to purchase raffle tickets visit

www.ASAAGala.givesmart.com,

scan the QR code or call 405.747.1977.





Hunter McConnell discusses benefits of undergraduate research programs

Hunter McConnell grew up in a suburb of Tulsa, Oklahoma. She joined FFA in high school where she was able to exhibit livestock, attend classes and participate in competitive activities. It was during this time that she became interested in animal science research.

"I discovered in high school my passion for food security," said Hunter. "This came about at the same time I was studying CRISPR and GE-EPDs for competitive public speaking."

Learning about the benefits of food production and food security peaked her interest, said Hunter.

"I had been interested in science before, but that was the first time I saw a niche that I could fit into. Being able to combine genetics with food security made animal science research a very natural pursuit."

Hunter decided to come to Oklahoma State University to pursue an animal science degree with a focus in animal biotechnology. During the beginning of her sophomore year, she decided to

join the department's Undergraduate Research Scholar program.

The program provides research opportunities for animal science and food science undergraduate students, and helps them build a solid foundation in research methods to better prepare them for industry and academic careers.

"I knew when I came to OSU that I wanted a research career, but I didn't understand the path to get there and I lacked confidence that it was something I could do," said Hunter. "Meeting people in the same area has clarified the path for me and working in research has assured me that this is something I can do professionally."

Selected applicants get paired with a faculty mentor to guide them in conducting research in their area of interest. Hunter was mentored by Andrew Foote, who guided her throughout her research project.

"Having a faculty mentor is a critical part of my experience," said Hunter.

"Dr. Foote is always encouraging me to learn new techniques and take advantage of opportunities presented to me. He has been integral in making sure I have experiences such as attending professional conferences and leading research projects."

In September 2022, the department held the first ever reception for undergraduate research scholars, who were able to learn more about the program and hear from both previous and current scholars. Hunter attended and spoke at the event.

After participating in the UGRS program for a year, she was selected for both the Wentz and Niblack Research Scholar programs at OSU. She decided to decline the Wentz scholarship in favor of the Niblack scholarship, and completed the Niblack program in October 2022.

"My career interests are in animal genetics/genomics, but my current research is in ruminant nutrition which has been quite interesting as well," said Hunter.

Her most recent research project is titled, "The Effect of Dietary Fatty Acid Source on Gene Expression in the Rumen of Cattle." The project investigated whether a correlation between elevated concentrations of linoleic acid in the rumen and reduced feed efficiency was linked to the inflammatory effect linoleic acid can have on metabolic tissues.

"It has been a phenomenal experience participating in the UGRS program," said Hunter. "I have gained countless skills and had amazing experiences. In addition to that, I have developed my network here with faculty and graduate students, as well as at other universities by having the opportunity to travel and present my research."

"If you're interested in research, you should absolutely take advantage of the opportunities here and get involved. You never know what you'll learn and the experiences you can have without trying. The best thing I've done in college was getting involved in undergraduate research. It has allowed me to explore different areas of research and gain confidence in my career path."

Next January, Hunter will begin a Ph.D. program at Mizzou studying animal genomics. After that, She plans to continue in research professionally.

Students in the Undergraduate Research Scholar program benefit from the continued support of endowment thanks to the vision and contribution of donors. Special thanks to Steve

Armbruster, Gerald Horn and Bob Wettemann for their support of the program.

If you are interested in supporting the program, please visit <https://secure.osugiving.com/s/giving> or contact the OSU Foundation.

Learn more about the Undergraduate Research Scholars program and view a list of current scholars online at <https://agriculture.okstate.edu/departments-programs/afs/undergraduate/research.html>.

Written by Rebekah Alford

The Effect of Dietary Fatty Acid Source on Gene Expression in the Rumen of Cattle.

"My most recent project addressed the effect of linoleic acid on gene expression in the rumen. Some previous research indicated a correlation between elevated concentrations of linoleic acid in the rumen and reduced feed efficiency. We wanted to test whether this effect was linked to the inflammatory effect linoleic acid can have on metabolic tissues. To do so, we formulated two diets to include 5% of either commodity or high oleic soybean oil. Commodity soybean oil is known to be high in linoleic acid. High oleic soybean oil was designed for reduced concentrations of linoleic acid, compensated for with increased concentrations of oleic acid. We fed each of these diets to eight rumen cannulated Holstein steers for 16 days at the end of which we took biopsies from the rumen papillae. RNA was extracted from the rumen papillae and sequenced. The results from sequencing did indicate an increase in the expression of inflammatory and immune-related genes in the rumen epithelium of steers on the diet containing commodity soybean oil."

- Hunter McConnell

Drs. Dan Stein and Ranjith Ramanathan speak to students at first ever reception for Undergraduate Research Scholars.



Ali Bowman named 1st Alternate in National Jersey Queen Competition

Ali Bowman is a junior at Oklahoma State University majoring in animal science. Ali grew up in Glencoe, Oklahoma, at the Okie-Bow Dairy where she was first introduced to the dairy industry. She showed Jersey cattle at the local, state and national levels and was heavily involved in 4-H and FFA programs.

Ali is a student worker at the OSU Ferguson Family Dairy Center where she milks and feeds the cows. She is also very involved in student activities on campus. She is president of the OSU Dairy Science Club, which passed out 1,600 cheese sticks donated by DairyMax to the crowd at the 2022 Homecoming parade.

“Since I started showing and my parents started milking when I was young, the interest in cows and the dairy industry has always been there,” said Ali, “but it wasn’t until I had been introduced to the leadership and advocacy side of the industry that I recognized my passion for dairy.”

Ali was selected as the 2022-2023 Oklahoma Dairy Ambassador. The scholarship program provides one person the opportunity to represent the Oklahoma dairy industry and participate in various events.

“The first thing I wanted to do was establish a social media presence so I could share my experiences

with Oklahoma dairy producers and supporters,” said Ali.

Ali has been sharing her journey on Facebook as she takes part in various activities, including the Sooner State Dairy Show, State Fair of Oklahoma, Tulsa State Fair and county and state dairy shows.

“My favorite part about being the Oklahoma Dairy Ambassador is having the opportunity to be an intermediary resource between the dairy industry and consumers of dairy in Oklahoma. Because I grew up on a dairy and have experience within the industry, I try to bring an honest perspective to consumers and supporters about



the authenticity of the dairy industry, its people and the products that come from it.”

During the All-American Jersey Show in Louisville, Kentucky, Ali had the opportunity to run for National Jersey Queen. Twelve young women who were knowledgeable about Jersey cattle were selected to compete.

“During the week, the queen contestants were able to sit ringside of the All-American Jersey Junior and Open Shows, where some of the best cattle you’ll ever see grace the green shavings,” said Ali. “I knew most of the contestants because we have spent many weeks together at other youth programs, so it was almost like a reunion for old friends. The camaraderie and conversations were never dull.”

Ali was selected as 1st Alternate to the National Jersey Queen, and received a monetary scholarship.

“As a young woman from a small dairy in Oklahoma, being chosen out of this group was something I never dreamed that I could do,” said Ali. “My experiences on the farm, in the Oklahoma Dairy Ambassador program and my time at OSU have readied me to advocate for myself and the dairy industry so that I could compete at the National Jersey Queen Contest.”

Ali’s passion for dairy is undeniable, whether it is milking cows, advocating for the industry, leading student organizations or taking part in dairy related events. Anyone interested in Ali’s journey can follow her activities on Facebook at <https://www.facebook.com/okdairyambassador>.

Written by Rebekah Alford



OSU wins the Premiere Sire Award

The Oklahoma State University Swine Research and Education Center was awarded the coveted Premier Sire Award at the National Swine Registry Fall Classic Show and Sale on October 22, 2022, in Duncan, Oklahoma.

This award is based on the number of boars and gilts exhibited at the show sired by a particular boar and how they placed in the show. The 2022 Premier Sire was OSU 36-1 Freight Train. He is bred and owned by Oklahoma State University.

The swine center houses high-quality Yorkshire and crossbred sows, along with commercial pigs, used for teaching, judging team practice and nutrition research. The herd is known for its outstanding purebreds with numerous national show champions and high-selling boars through the years.

OSU is one of the few universities that maintains a purebred swine herd. OSU will show and sell breeding swine at three to five national shows each year. OSU still holds the record for the highest selling purebred boar at auction by a college or university, when in 2001 they sold a Yorkshire boar for \$70,000 at a National Type Conference. The herd is managed by Jim Coakley.

The swine center was dedicated in 2004 as a total confinement facility that features modern waste and odor management technologies, as well as an indoor facility for swine judging. The swine herd and facilities are used in both undergraduate and graduate courses. In addition, the center receives approximately 100 different visits each year by 4-H, FFA and collegiate livestock teams. The center hires OSU student employees and has housing available for up to four students.

Media Contact: Jim Coakley



Anna Goldkamp receives travel award

Anna Goldkamp was awarded the Neal A. Jorgenson Travel Award to attend the International Plant and Animal Genome Conference. She will be traveling to the conference in January where she will give a presentation on her work.

Anna is pursuing a Ph.D. in animal science with a focus is in genetics. She is mentored by Darren Hagen.



Top 20 Freshmen

Each year, the Oklahoma State University chapter of the Mortar Board honor society selects 20 men and 20 women to be Top 20 Freshmen. The students listed below are animal and food science students who were selected based on their outstanding performance during their freshman year.

In addition to this award, Liberty Carson and Edgar Jerónimo Lara were selected as Top 10 Freshmen.

Liberty Carson

Major: animal science and agribusiness
Yukon, Oklahoma

Edgar Jerónimo Lara

Major: animal science
Shattuck, Oklahoma

Blake Robbins

Major: food science
Pauls Valley, Oklahoma

OSU Seniors of Significance

Two animal science students were selected as 2022-2023 OSU Seniors of Significance. Selected students excelled in scholarship, leadership and service.

Madelyn Gerken

Major: animal science
Kingfisher, Oklahoma

Kaitlin Taylor

Major: animal science and political science
Milton, Tennessee

Creative feed strategies for wintering cows are helpful but costly

With hay in short supply, producers are trying to avoid cattle herd liquidation this winter by feeding their cattle alternative feedstuffs.

Paul Beck, Oklahoma State University Extension specialist in beef nutrition, said there are several ways concentrate feed can be used to meet a cow's nutrient requirements. Although these other feed resources are available, all feed costs are high and will require additional labor and management for a winter feeding program.

Producers can incorporate the following strategies with concentrate feed:

- Limit feeding hay by unrolling or distributing hay in measured amounts to meet daily needs, then providing concentrate feed to supplement for deficient nutrients.
- Provide a total mixed ration of hay and concentrate mixed at an

amount that only supports the required nutrients.

- Provide free-choice hay and feed a lower-energy supplement in an amount that will reduce hay intake.

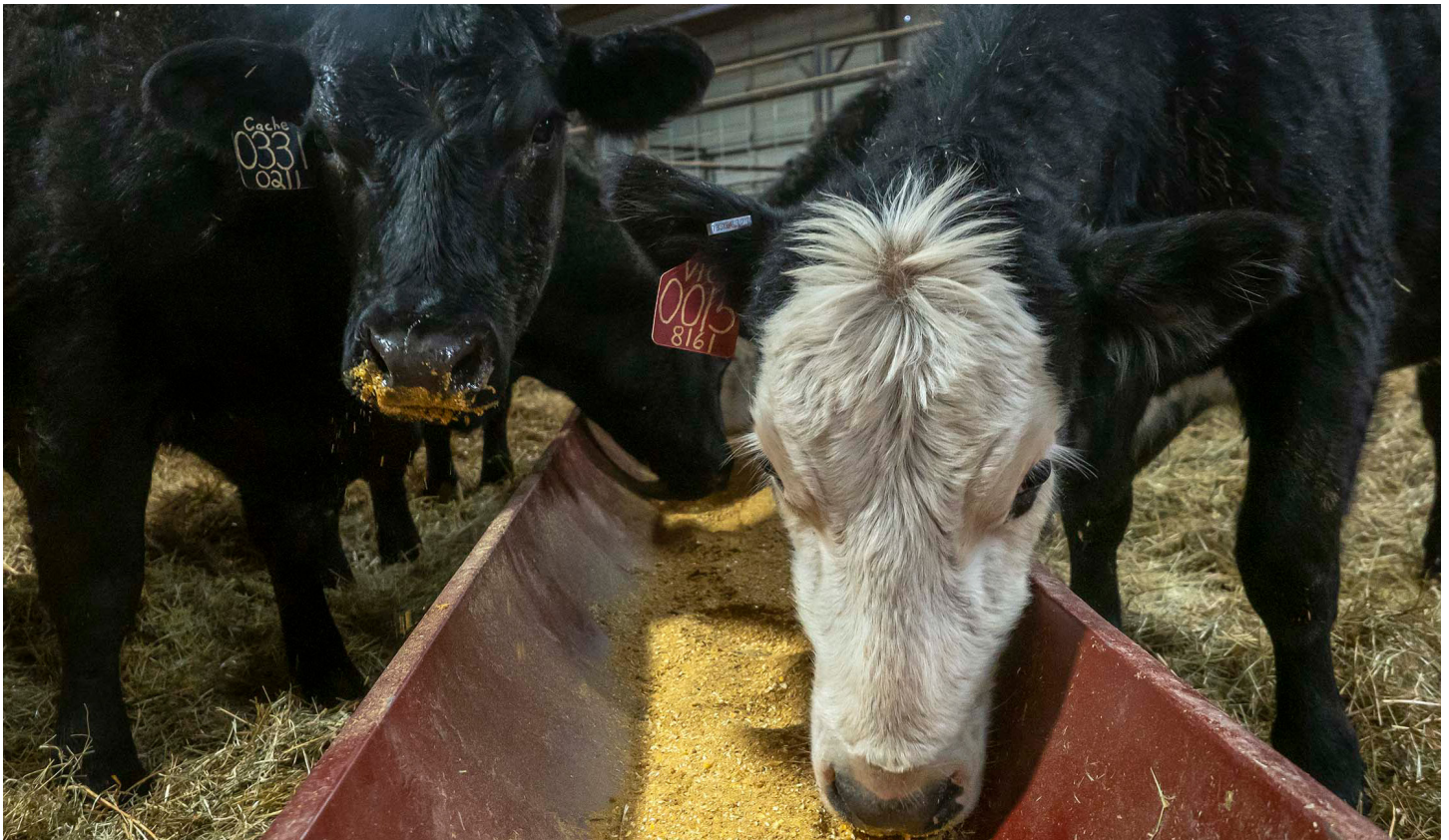
Beck said in all scenarios, it is best to feed cows their supplement and hay at the same time each day. Reducing hay amounts and limiting the time cattle have access to hay will result in very low hay waste, as well as daily feeding processed hay in a total mixed ration. Feeding free-choice hay with high supplement levels will result in high levels of hay waste and sorting.

“Concentrate feeding levels required to reduce hay intake will need to be over 0.7 to 1% of body weight of dry matter or more, so a 1,200-pound cow will need to be fed up to 13 to 14 pounds of feed a day,” Beck said. “This can be fairly low in energy to meet the cow's requirements.”

The OSU Extension Rancher's Thursday Lunchtime Series this month on feeding cows through the winter addresses supplementation with concentrate feed and other challenges related to hay shortages. Learn more about limiting hay access with supplements in this recent session from Harold Stephens, county Extension director and agriculture educator in Atoka County.

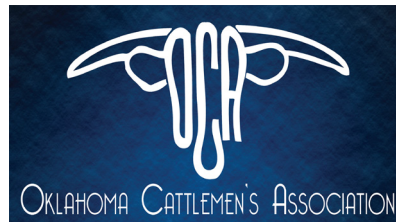
Producers can also request assistance from OSU Extension educators in evaluating their current feeding practices through a feeder calibration clinic, featured on OSU Extension's agriculture television show, SUNUP. For more information, contact Dana Zook, OSU Extension west district area livestock specialist, at 580-237-7677 or dana.zook@okstate.edu.

Media Contact: Gail Ellis



Thank You!

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