



News from KSU Animal Sciences

↪ The **KSU Dairy Days** will be hosted on Wednesday, January 22, 2020, in Whiteside, KS, and Thursday, January 23, 2020, in Seneca, KS. Dairy Days are hosted annually to update and inform dairy producers and allied industry on hot topics and findings from research projects relevant to the Kansas dairy industry. The Kansas Dairy Commission is the lunch sponsor for both meetings and the Whiteside meeting will be hosted in conjunction with the Reno County DHIA Annual Meeting. Both days will begin at 9:45 a.m. and adjourn at 3:05 p.m.

For a complete schedule and more information, visit www.asi.k-state.edu/research-and-extension/dairy/dairy-days.html. People interested in attending are encouraged to pre-register. For the Whiteside location, call 620-662-2371 or e-mail darrenbusick@ksu.edu; Seneca location call 785-336-2184 or e-mail jholthau@ksu.edu. For more information, contact Luis Mendonca at mendonca@ksu.edu or 785-532-2652.

↪ **Kansas 4-H EID Livestock Tag Orders** are now open and can be submitted to the KSU Youth Livestock Program. This process has been transitioned to campus following the retirement of Dave Kehler. All market animals or commercial females that will be nominated for the 2020 Kansas State Fair Grand Drive and/or Kansas Junior Livestock Show (KJLS) must be tagged with an official Kansas 4-H EID tag. The market beef tag order deadline has passed. Please contact Lexie immediately if you did not submit an order and are still in need of beef tags for this year. Small livestock tag orders are due January 24, 2020. The order forms and other tagging resources, including current order summaries for each specie, may be found on the KSU Youth Livestock Program, under Kansas 4-H EID Tags (<https://www.asi.k-state.edu/research-and-extension/youth-programs/>). Payment must accompany the order form. Extension units must designate an agent to be responsible for their tags, as well as keep records of the families in which each tag is applied to a project. For more information, contact Lexie Hayes as adhayes@ksu.edu or 785-532-1264.

↪ **K-State's Winter Ranch Management Series** - Kansas State University will host its annual Winter Ranch Management seminar series at five Kansas locations in January and February. Dr. Bob Weaber, a cow-calf specialist with K-State Research and Extension, and other state, district and local extension staff will be on hand to answer producers' questions on beef cattle issues including animal health, nutrition, management, genetics and reproduction. Dates and locations for the five Winter Ranch Management Workshops include:

Date/time:	Location:	Information Contact:
Jan. 30, noon-3	Ulysses	Elizabeth Kissick, Grant County Extension
Jan. 30, evening	Ashland	Elly Sneath, Meade County Extension
Feb. 11, noon-3	Plainville	Rachael Boyle, Phillips-Rooks Extension District
Feb. 11, evening	Mankato	Brett Melton, River Valley Extension District
Feb. 27, evening	Yates Center	Christopher Petty, Southwind Extension District

Please RSVP to your selected location contacts by close of business one week before the event. 40 RSVP'd attendees requested for each location. Locations with fewer than 40 confirmed attendees may be cancelled. Registration fees and payment forms may vary by site. Contact your local host contact for registration/RSVP details. Meal is included in the registration fee. Online updates to the seminar information can be found on the Animal Sciences website at: <http://www.KSUBeef.org>.

For more information, contact the host location or Bob Weaber at 785-532-1240; bweaber@ksu.edu.

Department of Animal Sciences and Industry

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January 2020 issue



↪ The 2020 **K-State Swine Profitability Conference** has been scheduled for Tuesday, February 4, 2020, at the Stanley Stout Center, Manhattan, KS. The schedule includes:

- 9:15 a.m. Coffee and Donuts
- 9:30 a.m. Welcome
- 9:45 a.m. Our Business Approach to Risk Management –
Bob Taubert, Managing Partner, New Horizon Farms, Pipestone, MN
- 10:30 a.m. 2020 World Meat Dynamics and US Pork Price Outlook - *Joe Kerns, Kerns and Associates*
- 11:15 a.m. Development of our Kansas Swine Business - *Kaden and Emily Roush, R Family Farms*
- 12:00 noon Lunch
- 1:15 p.m. Field-based Strategies to Prevent, Significantly Control and/or Eliminate Swine Infectious Diseases - *Dr. Daniel Linhares, Vet Diagnostic & Production Animal Medicine; ISU*
- 2:00 p.m. Bio-security: Achievements, Gaps and Future Action
Dr. Steve Dritz, DVM, PhD; Diagnostic Medicine/Pathobiology; KSU
- 3:00 p.m. Adjourn

Pre-registration fee is \$25 per participant by January 24; registration at the door is \$50 per participant. The complete schedule and online registration information can be found at www.KSUswine.org. For more information, contact Lois at lschrein@ksu.edu or 785-532-1267.

↪ **SowBridge**, the distance educational series for those who work with sows, boars and piglets, and with genetic and reproductive issues, begins its next program year in February 2020, and registration is now underway. This low-tech opportunity pairs electronically provided materials with live presentations via teleconference.

The distance learning approach allows people to take part without having to travel, take time from work or worry about weather conditions. During each session, participants can ask questions of the industry expert presenter and discuss with other participants from the comfort of their home, office or swine unit.

The SowBridge Series cost of \$200 includes all 12 sessions and supporting materials. Additional subscriptions from same operation are half that cost. Registration deadline is Jan. 15, 2020, to ensure participants will receive materials for the first session on Feb. 5. For a complete schedule and registration form, visit www.KSUswine.org. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu).

↪ **2020 PorkBridge Grow-Finish Education Series** enrollment is now available. The 15th year of the PorkBridge distance education series begins February 6, 2020. *PorkBridge* combines electronic materials with live presentations from topic experts by teleconference six times each program year on an every-other-month basis. All session audio is recorded and made available to ensure participants don't miss a thing! 2020 dates include February 6; April 2; May 28; August 6; October 1; and December 3. Sessions are scheduled starting at 11:30 a.m. CST and last about 60 minutes.

The cost is \$100 for the entire 2020 PorkBridge program year. Subscription deadline is January 15 to assure receipt of program materials in time for the first session on Feb. 6. For a complete schedule and registration form, visit www.KSUswine.org. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu).

↪ **Junior Beef Producer Day** is scheduled for Saturday, February 29, 2020, in Weber Arena on the K-State campus in Manhattan. This one-day educational event is devoted to the selection and management of beef projects. All ages and knowledge levels are invited! K-State faculty members, graduate students and guest speakers will cover topics including selection, nutrition and feeding, meat science and alternative proteins, grooming and clipping, low stress cattle handling, the state livestock nomination process, herd health, reproduction, and showmanship. An optional instructor-led YQCA training will also be held at the conclusion of the program. The cost for junior beef producer day is \$15 per person, if registration is submitted by February 7, 2020, or \$20 per person after the early deadline. All attendees, including youth and adults, must register. All participants who sign up by February 7 will also receive a t-shirt. Families may register online at <http://bit.ly/ksuasiregister> or by downloading the flyer (<http://bit.ly/ksujrproducerdays>), completing the bottom portion of the flyer and mailing it, with payment, to the KSU Youth Livestock Program. Those who plan to attend the YQCA certification will need to register separately for that portion through www.yqca.org. Detailed instructions will be emailed to those families who indicate they plan to attend YQCA on their junior day registration materials. For more information, contact Lexie Hayes at adhayes@ksu.edu or 785-532-1264.

↪ The **50th Annual LMIC Stockman's Dinner** will be held on Thursday, March 5, at 6 p.m. at the Four Points by Sheraton, Manhattan, KS. Dr. Patsy Houghton will be honored as Stockman of the Year. To register online, go to www.asi.ksu.edu/stockmensdinner. For questions, contact Lois at lschrein@ksu.edu or 785-532-1267.

↪ **Make plans to attend Cattlemen's Day 2020** –The 107th annual Cattlemen's Day will be hosted Friday, March 6, 2020. The trade show and educational exhibits will open at 8 a.m. in Weber Arena.

Registration for KSU Cattlemen's Day will be \$25 per person in advance or \$35 per person at the door. Morning refreshments and lunch are included with registration. A complete schedule will be coming soon to www.asi.ksu.edu/cattlemensday or call 785-532-1267.

If you are interested in exhibiting at Cattlemen's Day or have any questions, please contact Dale Blasi (dblasi@ksu.edu; 785-532-5427).

↪ The **43rd Annual Legacy Bull and Heifer Sale** will be March 6, 2020, at 4 p.m. at the Stanley Stout Center. Visit www.asi.ksu.edu/bullsale for more information, as it becomes available, including the sale catalog.

↪ **Junior Sheep Producer Day** will be hosted on Saturday, March 14, 2020, in Weber Arena on the K-State campus in Manhattan. This one-day educational event is devoted to the selection and management of youth sheep projects. All ages and knowledge levels are invited! K-State faculty members, graduate students, and guest speakers will cover topics including selection, nutrition, the state nomination process, flock management, herd health, facilities and equipment, clipping, and showmanship. An optional instructor-led YQCA training will also be held at the conclusion of the program. The cost for junior sheep producer day is \$15 per person, if registration is submitted by February 21, 2020, or \$20 per person after the early deadline. All attendees, including youth and adults, must register. All participants who sign up by February 21 will also receive a t-shirt. Families may register online at <http://bit.ly/ksuasiregister> or by downloading the flyer (<http://bit.ly/ksujrproducerdays>), completing the bottom portion of the flyer and mailing it, with payment, to the KSU Youth Livestock Program. Those who plan to attend the YQCA certification will need to register separately for that portion through www.yqca.org. Detailed instructions will be emailed to those families who indicate they plan to attend YQCA on their junior day registration materials. For more information, contact Lexie Hayes at adhayes@ksu.edu or 785-532-1264.

↪ **KSU Sheep Producer Day** will be held on Saturday, March 21, 2020, at the Stanley Stout Center. Watch for more details coming soon. For more information, contact Alison Crane (arcrane@ksu.edu; 785-532-1672).

↪ **Livestock County Fair Management Clinics** are scheduled for April 7 and 8. Every other year, K-State Research and Extension and the Department of Animal Sciences and Industry host a Livestock Fair Management Clinic for county fair board members, extension agents, and other adult volunteers involved in local livestock fair management and leadership. This professional development opportunity provides a forum for open communication for individuals with local livestock fairs across Kansas. There will be two different locations on two different days with the same general agenda. Tuesday, April 7, will be the first session at the Sedgwick County Extension Office in Wichita. The second session will be held on Wednesday, April 8, at the Logan County Fairgrounds in Oakley. Lunch and refreshments will be provided. The registration fee is \$15/person and is due by March 27. Checks can be made payable to "KSU-ASI" and mailed to Livestock Fair Management Clinic, Attn: Lexie Hayes, 214 Weber Hall, KSU, Manhattan, KS 66506. For a registration form and a detailed agenda, please visit the website, www.YouthLivestock.KSU.edu. Information is linked to the event on the calendar at the top of the page. If you have any questions, please contact Lexie Hayes at 785-532-1264 or adhayes@ksu.edu or Joel DeRouchey at 785-532-2280 or jderouch@ksu.edu.

↪ **K-State Animal Sciences Leadership Academy** - Kansas State University will host the K-State Animal Sciences Leadership Academy on June 24-27, 2020, for young livestock industry leaders. This four-day event will focus on increasing young leaders' knowledge of Kansas' diverse livestock industry as well as building participant's leadership skills. Students will stay in university housing with event staff for the duration of the event.

The program's itinerary will feature interactive workshops, tours and faculty mentor time with animal sciences and industry professors. Industry leaders will also join the participants frequently to share their knowledge and expertise. Throughout the week, participants will work in teams to evaluate current events within the animal science industry and educate others. This experience will culminate with team presentations and a closing reception on Saturday morning.

Twenty high school students (current 9th-12th graders) will be selected to participate. The application deadline is April 15, 2020. Application forms are available at www.asi.k-state.edu/research-and-extension/youth-programs/k-state-animal-science-leadership-academy/. For more information, please contact academy director, Sharon Breiner at sbreiner@ksu.edu.



YQCA Requirement for 2020 State Shows – Youth for the Quality Care of Animals (YQCA) is a national, multi-species youth livestock quality assurance program that focuses on food safety, animal well-being, and character development, through age-appropriate educational curriculum for youth 8-21 years of age. This program is an annual certification that grows with a young person, so the learning modules are different every year. The third year of curriculum materials were launched in October 2019, and youth are welcome to begin completing the training at any time. Last year was the first year quality assurance certification was required for Kansas State Fair Grand Drive and Kansas Junior Livestock Show (KJLS) exhibitors. The requirement is expected to continue for 2020. ALL exhibitors, including youth who will be showing market animals, commercial breeding females, and/or registered purebred breeding females, will need to complete the training. Youth may obtain their YQCA certification using one of the following methods: -Instructor-led Training - \$3/child; the Online Course - \$12/child; or the Test-Out Option – only 12 & 15 year olds are eligible; online only; cost varies based on age division; Valid Youth PQA+ Number – in lieu of YQCA certification. Youth need to complete their YQCA certification by June 15, 2020. Certification numbers must be valid through October 4, 2020 to be accepted. More information may be found on the KSU Youth Livestock Website, under Youth Livestock Quality Assurance (<https://www.asi.k-state.edu/research-and-extension/youth-programs/YQCA.html>), by contacting the local extension office, or via Lexie Hayes at adhayes@ksu.edu or 785-532-1264.



Local Youth Livestock Opportunities - Any county that has a youth livestock educational opportunity open to youth outside of the county is invited to share that information with Lexie Hayes (adhayes@ksu.edu). This includes spring shows, showmanship clinics, skillathons, field days, etc. These opportunities will be included on the youth livestock website. Information on the site is updated as 2020 opportunities are submitted.

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
January 22, 2020	KSU Dairy Days	Whiteside, KS
January 23, 2020	KSU Dairy Days	Seneca, KS
January 24, 2020	Small Livestock Nomination Tag Orders Due	
January 30, 2020	KSU Winter Ranch Management Workshop	Ulysses, KS
January 30, 2020	KSU Winter Ranch Management Workshop	Ashland, KS
February 4, 2020	KSU Swine Profitability Conference	Manhattan
February 5, 2020	SowBridge Series begins	
February 6, 2020	PorkBridge Grow-Finish Education Series begins	
February 11, 2020	KSU Winter Ranch Management Workshop	Plainville, KS
February 11, 2020	KSU Winter Ranch Management Workshop	Mankato, KS
February 27, 2020	KSU Winter Ranch Management Workshop	Yates Center, KS
February 29, 2020	Kansas Junior Beef Producer Day	Manhattan
March 5, 2020	LMIC Stockman's Dinner	Manhattan
March 6, 2020	KSU Cattlemen's Day	Manhattan
March 6, 2020	Legacy Bull and Heifer Sale	Manhattan
March 14, 2020	Kansas Junior Sheep Producer Day	Manhattan
March 21, 2020	KSU Sheep Day	Manhattan
April 7, 2020	Livestock County Fair Management Clinic	Wichita, KS
April 8, 2020	Livestock County Fair Management Clinic	Oakley, KS

What's New.....

↪ **Management Minute** – Justin Waggoner, Ph.D., Beef Systems Specialist

“How to Find More Time in the New Year”

One of the more common New Year's resolutions is to find more time for family, friends, exercise or some new activity. However, the question becomes, how can we find more time within the day or week for the aforementioned activity of choice. One of the ways that many people try to find more time (including myself) is the “do I really need that much sleep” method of finding more time. Although, this method does work; it may also result in some undesirable outcomes, especially if the activity involves interacting with others. Time management experts suggest that the best way to make more time for any new activity is to become more efficient within our day. Efficiency is essentially organizing and prioritizing the daily “to do list” but it also includes looking for places in our day where we simply waste time. The most common “time waster” for many people involves a computer or a phone in today's world. Procrastination is also another common “time waster” that reduces our ability to get things done. Many strategies have been developed to combat procrastination. One simple strategy that I recently came across is the two-minute rule and it essentially targets all those little things that we encounter during the day that eventually add up. This informal rule essentially says that when we encounter anything in our day that will take less than two-minutes that we should do it, be it a quick email response or cleaning up our computer files. It is difficult to find more time in our busy work schedules, but one thing is clear seconds turn into minutes, minutes into hours, hours into days and so forth, which proves that little things do add up over time.

For more information, contact Justin Waggoner at jwaggon@ksu.edu.

↪ **Feedlot Facts** – Justin Waggoner, Ph.D., Beef Systems Specialist

“Supplementing Cows During Cold Weather”

The New Year often brings with it some of the coldest months of the year. Most cattle producers know and appreciate that cold weather increases nutrient requirements. However, the real question is what should producers feed or supplement when the wind blows and the mercury barely registers on the thermometer.

Cattle are most comfortable within the thermoneutral zone when temperatures are neither too warm nor cold. During the winter months, cattle experience cold stress anytime the effective ambient temperature, which takes into account wind chill, humidity, etc., drops below the lower critical temperature. The lower critical temperature is influenced by both environmental and animal factors including hair coat and tissue insulation (body condition). The table below lists the estimated lower critical temperatures of cattle in good body condition with different hair coats. In wet conditions, cattle can begin experiencing cold stress at 59°F, which would be a relatively mild winter day. However, if cattle have time to develop a sufficient winter coat, the estimated lower critical temperature under dry conditions is 18°F.

Estimated lower critical temperatures for beef cattle	
Coat Condition	Critical Temperature
Wet or summer coat	59°F
Dry fall coat	45°F
Dry winter coat	32°F
Dry heavy winter coat	18°F

Cold stress increases maintenance energy requirements but does not impact protein, mineral or vitamin requirements. The general rule of thumb (for a cow in good body condition, BCS = 5 or greater) is to increase the energy density of the ration by 1% for each degree (Fahrenheit) below the lower critical temperature. The classic response to cold stress in confinement situations is an increase in voluntary intake. However, it has been documented that grazing beef cows may spend less time grazing as temperatures decline below freezing, which reduces forage intake, and makes the challenge of meeting the cow's nutrient requirements even greater. In many cases, feeding a greater amount of low-quality hay will replace grazed forages but may not provide sufficient energy. Therefore, providing additional energy by feeding a relatively higher-quality hay or fiber-based supplement (DDGS, Corn gluten feed, or Soybean Hulls) may be required. If fiber-based energy sources are not available, small amounts (2-3 lbs) starch-based concentrates may also be used as energy supplements.

For more information, contact Justin Waggoner at jwaggon@ksu.edu.



Effect of Feeding Duration of Increased Lysine and Energy Prior to Farrowing on Sow Performance and Colostrum Quality

A total of 467 sows were used in a study to evaluate the effect of feeding duration of increased lysine (Lys) and energy prior to farrowing on sow and litter performance, piglet survival, and colostrum quality. Sows were blocked by body weight and parity category on d 106 of gestation, and allotted to one of three dietary treatments: 1) 4.5 lb/d gestation feed (12.5 g SID Lys and 6.5 Mcal ME) until d 113 of gestation, then 6 lb/d lactation feed (28 g SID Lys and 9.4 Mcal ME) until parturition; 2) 4.5 lb/d gestation feed (12.5 g SID Lys and 6.5 Mcal ME) until d 113 of gestation, then 8.3 lb/d lactation feed (40 g SID Lys and 13.3 Mcal ME) until parturition; or 3) 8.3 lb/d lactation feed (40 g SID Lys and 13.3 Mcal ME) from d 107 of gestation until parturition. Data were analyzed for treatment within parity effects using the GLIMMIX procedure of SAS. Increasing the duration of feeding additional standardized ileal digestible (SID) Lys and energy increased sow weight gain from d 106 to 113. Sow backfat gain from d 106 to 113 of gestation increased in gilts and sows fed 8.3 lb/d of the lactation diet starting on d 107 vs. the control diet. There was no evidence for difference in female body weight (BW) or backfat loss from d 113 of gestation until weaning between treatments. Average total born and born alive piglet birth weight was greater in gilts fed 8.3 lb/d lactation diet starting on d 107 or 113 vs. control, with no evidence for difference in average piglet birth weight in sows or weaning weight in gilts and sows. Piglet mortality after cross-foster to weaning was decreased ($P < 0.05$) in sows fed 8.3 lb/d lactation diet starting on d 113 vs. control or increased lactation diet starting on d 107, but not in gilts. However, litter gain from 48 h to weaning was decreased in gilts fed 8.3 lb/d lactation diet starting on d 107 compared to control, with no difference in sows. For colostrum composition, fat and total solids were decreased in sows fed 8.3 lb/d of the lactation diet starting on d 107 compared to the control, with no difference observed in gilts. There was no evidence for difference in colostrum protein or lactose concentrations due to dietary treatment. Colostrum immunoglobulin G was increased in gilts and sows fed 8.3 lb/d of the lactation diet starting on d 113 compared to control. Piglet colostrum intake and colostrum yield were not different due to dietary treatment fed pre-farrow. For subsequent female performance, there was no evidence for difference among treatments in the wean-to-estrus interval, percentage of females in estrus by d 7, farrowing rate, or subsequent litter characteristics. In summary, providing high Lys and energy intake from d 107 or 113 to farrowing increased piglet birth weight in gilts; however, litter gain to weaning was reduced when gilts started on high lactation feed intake at d 107 compared to gilts not fed increased Lys and energy. Providing high Lys and energy intake from d 113 increased pre-weaning piglet survival in sows. Colostrum intake and yield, and subsequent reproductive performance were unaffected by dietary treatments.

Bottom Line... In conclusion, ad libitum feeding of a lactation diet when gilts are loaded into the farrowing house may be adequate to meet the additional Lys and energy requirements for fetal growth. However, further research is needed to determine why a reduced litter growth occurred in gilts fed increased Lys and energy prior to farrowing. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by K.M. Gourley, A.J. Swanson, J.C. Woodworth, J.M. DeRouchey, M.D. Tokach, S.S. Dritz, and R.D. Goodband)



Effect of Supplementation of Monomix and/or Pharmacological Levels of Zinc Oxide on Growth Performance of Nursery Pigs

A total of 354 pigs were used in a 35-d growth trial to evaluate the effects of a short and medium chain fatty acid product added alone or in combination with pharmacological levels of ZnO on nursery pig performance. Upon arrival to the nursery research facility, pigs were randomly assigned to pens (5 pigs per pen) and pens were allotted to one of four dietary treatments with 18 pens per treatment. Dietary treatments were arranged in a 2 × 2 factorial with main effects of added ZnO (0 vs. 3,000 ppm/2,000 ppm in phases 1 and 2, respectively) and Monomix (0 vs. 0.4% in phases 1, 2, and 3). Treatment diets were formulated in three dietary phases fed from d 0 to 7, 7 to 18, and 18 to 35 post-weaning and were formulated to be isocaloric. No ZnO × Monomix interactions were observed throughout the 35-d study. There was no evidence for differences for the pigs consuming diets with added Monomix, other than decreased feed intake and average daily gain (ADG) from d 0 to 7, resulting in decreased body weight (BW) at d 7. From d 0 to 7 and 7 to 18, pigs fed diets with added ZnO had increased ADG average daily feed intake (ADFI), and BW, and improved feed efficiency (F/G). Overall from d 0 to 35, pigs fed diets with added ZnO in phases 1 and 2 had increased ADG, ADFI, and d 35 BW, with no evidence for differences in performance in pigs fed diets with Monomix.

Bottom Line... In summary, the addition of Monomix did not improve pig performance, whereas pharmacological levels of ZnO improved ADG and ADFI similarly to previous studies. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by K.L. Batson, L.L. Thomas, J.C. Woodworth, M.T. Tokach, R.D. Goodband, S.S. Dritz, J.M. DeRouchey, and J. Bryte)

ASI Faculty Spotlight



Evan Titgemeyer (etitgeme@k-state.edu; 785-532-1220)
Professor/Research Coordinator

Evan Titgemeyer grew up on a small family farm in northwest Ohio. Following completion of a B.S. degree at The Ohio State University, he completed both M.S. and Ph.D. degrees at the University of Illinois. His graduate work focused on determining amino acid requirements of growing cattle; this is an area of research where he is still active. Following post-doctoral training in the area of fiber chemistry, he was hired as a faculty member at Kansas State University in 1992. He is currently a professor in the Department of Animal Sciences and Industry, with specialization in the area of ruminant nutrition.

Dr. Titgemeyer's research program focuses on protein and amino acid utilization by beef and dairy cattle, an area where he is a world-renowned authority. Notably, Dr. Titgemeyer's research has demonstrated that there are differences among the amino acids in terms of how efficiently they are used for growth by cattle. Moreover, his research has demonstrated that cattle use amino acids for growth much less efficiently than predicted by most mathematical models of amino acid requirements. Recent research projects have evaluated the effect of methyl group availability on amino acid metabolism, growth, and immune function of cattle.

Dr. Titgemeyer's teaching commitments include three graduate nutrition courses: Nutritional Physiology (ASI 826), Protein Nutrition (ASI 921, team taught with Dr. Bob Goodband), and Analytical Techniques (ASI 860/861/862).

From January 2018 through August 2019, Dr. Titgemeyer served as interim head for the department. His current schedule leaves significantly more time for enjoying K-State sporting events, entertaining his wife, Lori, and embarrassing his two teenage children, Taylor and Jack.



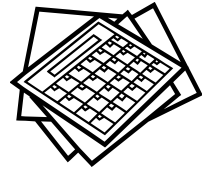
Alison Crane (arcrane@k-state.edu; 785-532-1672)
Assistant Professor/Extension Specialist, Sheep Management

Dr. Alison Crane was raised in Warrior, Alabama, on a small horse farm, assisting her father in shoeing horses as well as barrel racing and team roping. Alison's interest in agriculture grew through her father's business, and also working for a Brangus ranch and large animal veterinarian in North Alabama. Alison attended high school at the Alabama School of Fine Arts where she was a dance major. She graduated with her bachelor's in Animal Science (minor: chemistry and religion) from Berry College in 2012 and her M.S. (2014) and Ph.D. (2017) in Ruminant Nutrition and Reproductive Physiology from North Dakota State University. She was hired in 2017 as the State Sheep and Meat Goat Extension Specialist for Kansas State University with a 70% Extension and 30% Teaching appointment.

A brief listing of Alison's Extension and Research interests involve: 1) Mentor and train graduate students with a sheep and meat goat interest; 2) Conduct applied sheep and meat goat nutrition, reproduction, and management research; 3) Provide information and education to sheep and meat goat producers for increased efficiency and streamlined production; and 4) Coordinate youth and college sheep and meat goat activities to increase industry knowledge and awareness of career opportunities in sheep and meat goat production.

What Producers Should Be Thinking About.....

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN MARCH.....



BEEF -- *Tips by Dale Blasi, Extension Beef Specialist*

- Manage calving pens and pastures to minimize human, cow and calf stress. Stay organized.
- An observation schedule should be implemented for calving first-calf heifers and cows. First-calf heifers should be checked every two to three hours.
- Sanitation is key to reducing and/or eliminating calf scours. An excellent calving pasture management plan by Dr. David Smith from the University of Nebraska - Lincoln, can be found at <https://beef.unl.edu/a95e3e40-93f8-4893-a296-d706fb4aec9a.pdf>.
- Make sure every calf consumes adequate colostrum during the first four to 12 hours after birth.
- Keep accurate calving records, including cow identification (ID), calf ID, birth date, calving difficulty score and birth weight. Other traits to consider recording are teat and udder scores, calf vigor score, and other pertinent information. This information, along with Angus sire information, is vital for enrolling cattle into the AngusSourceSM program.
- Calving books are essential sources of information; make sure you have a backup copy.
- Body condition score (BCS) cows. Thin and young cows will need extra energy to maintain yearly calving interval.
- If cow diets are going to be shifted from low- (poor quality forage or dormant grass) to high-quality forage (lush green grass) programs, begin a grass tetany prevention program at least three weeks prior to the forage switch.
- Given the high price of mineral supplements, conduct a needs assessment of your cow herd. Moreover, closely monitor daily intake to insure that it is consistent with label directions.
- When making genetic selections, use the most recent National Cattle Evaluation (NCE) and herd records judiciously.
- If new bulls are purchased, now is the time to start preparing them for their first breeding season. Bulls need to be properly vaccinated and conditioned to be athletic. Moderate body condition with abundant exercise is ideal.
- After calving and before breeding, vaccinate cows as recommended by your veterinarian.
- Plan to attend beef production meetings.

*We need your input! If you have any suggestions or comments on **News from KSU Animal Sciences**, please let us know by e-mail to lschrein@ksu.edu or phone 785-532-1267.*