



K News from KSU Animal Sciences

- ☞ **K-State Champions Livestock Judging Camps** have been scheduled. The camp is a three-day, intense judging camp designed for 4-H and FFA members (ages 14-18) who are seriously interested in enhancing their livestock judging and oral communication skills. Prior livestock judging experience is necessary for this camp. Workouts will be conducted similar to those at a collegiate level. Chris Mullinix, KSU Livestock Judging Team Coach, will conduct the training for each camp. The camp will focus primarily on the proper format, terminology, and presentation of oral reasons. Camp participants will also be exposed to livestock evaluation skills and incorporating performance records in the decision-making process. The 2022 camps will be June 6-8 (Monday-Wednesday); June 13-15 (Monday-Wednesday); or June 16-18 (Thursday-Saturday). For a complete schedule and registration information, visit www.asi.k-state.edu/research-and-extension/youth-programs/judging-camps.html. For more information, contact Chris Mullinix (cmullinix@ksu.edu; 785-532-1917).
- ☞ Calling all Youth Horse Judges! Do you want to enhance your evaluation and oral reasons skills? Then make sure to attend the **KSU Youth Horse Judging Camp** where you will work one-on-one with coaches and members of the KSU Intercollegiate Horse Judging Team. The Advanced Section is designed for youth with some experience judging horses and who would like to learn more about note taking and oral reasons. Emphasis will be placed on the placings and reasons of classes commonly seen in Kansas judging contests. The Advanced Camp will be held June 7-8, 2022, in Call Hall.
- The Beginning Section is designed for youth with very little experience judging horses. Campers will learn about note taking and oral reasons. The Beginning Section will be held June 8, 2022, in Call Hall on the KSU campus.
- The 4-H Horse Judging Contest will be held on June 9, 2022, at CiCo Park in Manhattan, Kansas. The 4-H Horse Judging Contest provides youth an opportunity to demonstrate their knowledge of equine-related subject matter, including structure and movement, in a competitive setting. This contest will provide an educational experience for all participants.
- For more information on the Horse Judging Camps and Contest, visit www.asi.k-state.edu/research-and-extension/youth-programs/judging-camps.html. For more information, contact Teresa Douthit (785-532-1268; douthit@ksu.edu) or Clarissa Conrad (clariconrad11@ksu.edu).
- ☞ **Diversifying with Small Ruminants** – Kansas State University, SDSU Extension, and the University of Nebraska will host a series of Diversifying with Small Ruminants workshops June 7 in Salina, KS; June 8 in O'Neill, NE; and June 9 in Chamberlain, SD. The program will go from 10 a.m. to 3 p.m. and lunch will be provided. All are encouraged to attend whether they already own sheep or are considering including them on their operation. The program is primarily sheep centered, but anyone with an interest in goats is also more than welcome. Topics will include multi-species grazing, general sheep production conversations, and marketing your products. Additionally, local experienced producers from each state will be answering questions in a roundtable discussion. Early bird registration of \$25 per family/operation is available if you register by May 25. After that, the cost is \$30 per family/operation. Registration is available at: <https://extension.sdstate.edu/event/diversifying-small-ruminants>. For more information, contact Alison Crane (arcrane@ksu.edu; 785-532-1672).

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May 2022 issue



UPCOMING EVENTS...

↪ **DNA Envelope Order Deadline Approaching** – The state livestock nomination process has transitioned to an online system. The payment of nomination fees is now submitted through purchasing official DNA envelopes in advance. Families will need one DNA envelope per nominated animal. The DNA envelopes must be purchased through the online system (ShoWorks). Due to the length of time it takes the envelopes to get delivered through the mail, families are encouraged to order them as early as possible. The deadline to order DNA envelopes for small livestock families planning to nominate for the Kansas State Fair and/or KJLS is June 8. They will no longer be provided via mail after that point.

↪ **State Livestock Nominations due June 15** – All small livestock and commercial heifer state nominations (non-market beef) are due June 15. This includes commercial heifers, market swine, commercial gilts, market lambs, commercial ewes, and ALL meat goats. Animals must be submitted online by this date, as well as the completed and signed official DNA envelopes being postmarked. Families also need to submit a copy of their receipt showing the list of all animals that were entered in the system for their family.

Both state shows now have a breeding doe show. However, there is not a separate division for registered breeding does at either state show, so all meat goats must be nominated in order to be eligible to show. This year, families must submit the animals under each child within the family for all kids to be eligible to show the animal. All youth must also sign the DNA envelope for each animal. Family nominations are still being honored; families just enter them under each kid online and make sure everyone signs the envelopes. There is a red “auto-fill from previous” button that will allow animals already nominated under one child to quickly be added to other siblings. Families must also designate the market or commercial breeding division for each animal. All females can be dual nominated in both divisions. However, only one DNA envelope needs to be submitted, as it is the same animal.

The 2022 state livestock information has been released and is available from the KSU Youth Livestock Program website (www.asi.k-state.edu/research-and-extension/youth-programs). No paper forms will be accepted this year; all nominations must be submitted online. Several resources are available to guide families in successfully completing their nominations, including the Rookie Guide and Zoom session recordings. Families must plan ahead this year. The general process includes the following four steps:

- 1) Purchase official DNA envelopes in advance through the online system.
- 2) Enter animal data and exhibitor information through the online nomination system by 5:00PM on June 15. This includes uploading each child’s current YQCA certificate (valid through 10/2/22) and the Declaration Form representing the entire family.
- 3) Mail completed DNA envelopes and copy of online submission receipt by June 15 (postmark deadline).
- 4) Nominations will be approved online by Extension Agents and FFA Advisors.

All families are encouraged to use the specie checklist as a guide to ensure their nominations are complete upon submission. This resource may be found on the KSU Youth Livestock Program website or through the local county office. There should NOT be a single exhibitor signature DNA, or animals only entered under one kid online, unless there is only one child eligible to exhibit within the family. Once the first animal nomination is entered for each child, the system will prompt users to upload the child’s YQCA certificate and Declaration Form. YQCA certification must be completed at the time of nomination. The Declaration Form needs to be physically signed or have official digital signatures through the Adobe fill and sign function. Families with young exhibitors are encouraged to have them physically sign the forms. Then, they can be scanned in and uploaded, or families may upload a quality photo of the completed form. Either is acceptable. Once any form is uploaded, the system does not allow families to edit their forms. So, both the YQCA and Declaration Form must be uploaded at the same time in the system.

Youth who only have registered breeding females will submit this information for each show at the time of entry.

Ear notches are also required for swine nominations and full scrapie tag numbers are required for sheep and goats. The scrapie tag number must include the Flock ID and individual animal number (example: KSS0035 16121). Nominations received without this information will be considered incomplete and returned to the family for completion. Resources on reading ear notches and submitting scrapie tag numbers are available on the website.

Confirmation letters will be sent to families once their DNA envelopes are received and nominations have been processed. The reports will be updated on the KSU Youth Livestock Program website on Mondays and Thursdays until we reach the deadline, then more frequently after that. Families are encouraged to use one of these options to verify their nominations. For more information, contact Lexie Hayes (adhayes@ksu.edu; 785-532-1264).

↪ **REMINDER - A complete nomination does NOT constitute show entry.** The Kansas State Fair Grand Drive entries will be available once nominations close. The link to entry will be available on the Grand Drive website (<https://www.kansasstatefair.com/p/competitions/2020-special-edition-4-h--ffa-grand-drive>) and KJLS (<https://kjls.org/>) will release entry information to agents and through its website later this summer. State Fair Grand Drive entries will be due July 15 and KJLS entries will be due August 15. Animals that are nominated, but do not follow the appropriate entry processes set forth by each show, will not be permitted to show. For nomination questions, please contact Lexie Hayes at adhayes@ksu.edu. Questions regarding show rules or entries should be directed to each specific show (KSF Grand Drive 620-669-3623; KJLS 316-706-9750).

UPCOMING EVENTS...

✦ **YQCA Requirement for 2022 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 life skill development, through age-appropriate educational curriculum for youth 7-21 years of age. This program is an annual certification that grows with a young person, so the learning modules are different every year. ALL exhibitors are required to be YQCA certified in order to participate in the 2022 Kansas State Fair Grand Drive and/or Kansas Junior Livestock Show (KJLS). This includes youth who will be showing market animals, commercial breeding females, and/or registered purebred breeding females. Families should contact their local extension office to see what options are available in their area. Certification needs to be completed at the time of nomination or the materials will be considered incomplete. The YQCA program transitioned to a new platform in late March. All families will need to create a new account on www.yqcaprogram.org to register and complete trainings.

Beginning in 2021, 7-year-olds who show at KJLS must be YQCA certified as well. They need to attend an instructor-led course with a parent or legal guardian. Those who need an online option should contact their local extension office or Lexie Hayes with the Youth Livestock Program (adhayes@ksu.edu; 785-532-1264).

✦ **Implementing Your Company's HACCP Plan** will be hosted June 22-24, 2022, in Manhattan, KS. This workshop uses curriculum recognized by the International HACCP Alliance for meat and poultry processors. The registration fee is \$450 per person and is available online at <https://www.asi.k-state.edu/HACCP>. For more information, contact Dr. Liz Boyle (lboyle@ksu.edu; 785-532-1247).

✦ **K-State Animal Science Leadership Academy (KASLA) Program** will offer one session on June 22-25. The goal of this academy will be to further develop young leaders within the livestock industry and prepare them for a successful future in this field. The four-day session will focus on increasing knowledge of Kansas' diverse livestock industry, as well as building participants' leadership skills. For questions about the academy, visit www.asi.ksu.edu/KASLA or contact Sharon Breiner, Director, at sbreiner@ksu.edu or 785-532-6533.

✦ The **2022 Dr. Bob Hines Kansas Swine Classic** is scheduled for July 1-2 at the Riley County Fairgrounds in CiCo Park in Manhattan. This two-day event includes an educational swine skillathon, photography contest, showmanship, and a prospect and market hog show. It is open to all Kansas youth ages 7-18 as of January 1, 2022. Online entries are required at https://kstate.qualtrics.com/jfe/form/SV_6xHq1ry6kmDI43c. Checks to accompany entry receipt must be postmarked by June 15, 2022. Outlined below is a schedule of this year's program.

Friday, July 1

8:30 a.m. Barn open for arrival
 Noon All pigs in place
 1 p.m. Swine photo check-in by the show ring
 1 – 3 p.m. Swine Skillathon in the show ring
 4 p.m. Ice cream party by the show ring
 5:30 p.m. Showmanship contests

Saturday, July 2

8 a.m. Prospect Pig Show followed by Barrow and Gilt Market Pig Show

Watch the youth livestock website, the KSU Swine website and Facebook for the latest details! For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu) or Lexie Hayes (785-532-1264; adhayes@ksu.edu).

✦ Watch the **KSU ASI Headlines** for April 2022 and find out the latest happenings in the department. Follow the link at <https://youtu.be/72JzS3JrxVo>. For questions about the department, contact Dr. Mike Day, ASI Department Head, at 785-532-1259; mlday@ksu.edu.

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
June 6-8, 2022	Champion Livestock Judging Camp	Manhattan
June 7, 2022	Diversifying with Small Ruminants	Salina, KS
June 7-8, 2022	KSU Horse Judging Camp (Advanced Section)	Manhattan
June 8, 2022	DNA Envelope Ordering Deadline	
June 8, 2022	KSU Horse Judging Camp (Beginning Section)	Manhattan
June 9, 2022	4-H Horse Judging Contest	Manhattan
June 13-15, 2022	Champion Livestock Judging Camp	Manhattan
June 15, 2022	State Livestock Nominations Due	
June 16-18, 2022	Champion Livestock Judging Camp	Manhattan
June 22-24, 2022	Implementing your Company's HACCP Plan	Manhattan
June 22-25, 2022	K-State Animal Science Leadership Academy	Manhattan
July 1-2, 2022	Dr. Bob Hines Kansas Swine Classic	Manhattan

WHAT'S NEW...

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

“Agriculture and OSHA”

Agriculture is a high-risk industry, where “near misses,” accidents, and even fatalities unfortunately occur. I recently hosted and participated in a 30-hour Occupation Safety and Health Administration (OSHA) general industry course. One of the major takeaways I gained from this course was that agriculture is not exempt from OSHA regulations. Many agriculture employers (both large and small) erroneously believe they are exempt from OSHA regulations and standards. However, agriculture does fall within the scope of OSHA per the “General Duty Clause” (Section 5.a.1., OSHA 1910) which states that “Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.” I would highly encourage anyone who is not familiar with OSHA and your role and responsibilities as an employer or supervisor to take an OSHA course. There is a wealth of information and resources available online at <https://www.osha.gov/>.

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

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

“Tips for Managing High Commodity Prices”

The increased commodity prices we are currently experiencing, coupled with the persistence of drought conditions in many regions, have cattle producers considering the costs associated with their feeding and management programs. Here are a few tips that producers should consider when evaluating commodities and feeding programs.

- Evaluate commodities on a cost per unit of energy or crude protein basis. These calculations should be done on a dry matter basis to facilitate an appropriate comparison between dry commodities, such as corn, and wet commodities, such as silage or wet distiller’s grains. Additional cost such as freight, grain processing, and shrink may also be included.
- Maximize use of commodities or ration ingredients produced on-farm. I am sure there are many different versions of the old saying “the best way to make a profit with land and livestock is to walk the crops off the farm.” On-farm commodities, especially forages, are usually more cost-effective than purchased commodities. Increasing the inclusion of on-farm produced commodities in the diet or even including a small amount of lower-cost ingredients like straw may reduce ration costs. However, the impacts of these changes must be evaluated against cattle performance.
- Reduce commodity shrink and feed waste. How much of the commodities you purchase are lost in storage and handling before they make it into the bunk? On most operations, these losses range from 2-10% depending on the commodity. Although these losses are minimal, they do add up (1% of a ton = 20 lbs; 1% of 20 tons = 400 lbs). The cost associated with minimal losses may add substantial cost to a commodity (400 lbs at \$250/ton = \$50 or \$2.50/ton). These losses often occur when commodities are handled or being loaded into feed mixers. The key to reducing commodity loss comes down to increased awareness.
- Focus on efficiency. Feed to gain is always important, period. It is the benchmark by which feeding programs can most easily be evaluated on. Feeding technologies like ionophores or feeding management strategies such as limit-feeding should also be considered to further improve feed conversions.
- Seek the counsel of a nutritionist or other professionals. Nutritionists, not only balance rations but also assist producers with evaluating commodities and estimating the effects of any ration changes on animal performance. Most Extension professionals can also assist producers with evaluating commodities or put them in contact with Extension specialists with training in nutrition.

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

✦ **Research Assistant – Beef Stocker Unit (Job #512549)** – This is a full-time, unclassified professional staff, term contract position. This position will function as part of the KSU Beef Stocker Unit by conducting research and basic maintenance operations with undergraduate and graduate students related to stocker cattle health and nutrition management. Review of applications begins April 8, 2022, and continues until the position has been filled. For more information, contact Dale Blasi, Search Committee Chair, at dblasi@ksu.edu or 785-532-5427. To apply, go to <https://careers.k-state.edu/cw/en-us/job/512549/research-assistant-beef-stocker-unit>.

✦ **Animal Technician II – Dairy Unit (Job #510744)** – This is a full-time, university support staff (USS) position. This position exists to milk, feed and provide care of the Dairy Teaching and Research Center (DTRC) dairy herd, which is used for teaching and research purposes. Review of applications begins immediately and continues until position is filled. For more information, contact Dr. Mike Brouk, Search Committee Chair, at mbrouk@ksu.edu or 785-532-1207, To apply go to <https://careers.pageuppeople.com/742/cw/en-us/job/510744/animal-technician-ii>.

WHAT'S NEW...

- ☞ **Office Specialist II – Student Services Office (Job 513013)** – This is a full-time, unclassified professional staff, term contract position. This position provides support to faculty and students in the many diverse teaching activities of the Department of Animal Sciences and Industry. This position will support faculty and students in academics and procedures, answer questions, gather and provide requested information pertaining to academics and procedures. Activities include greeting visitors and staff, assisting in Department events, and project management. Schedules prospective student visits and new student enrollment. Provides support for the Department scholarship allocation process. Assists with the planning and implementation of Department events regarding prospective students and as assigned, including judging camps. Review of applications begins immediately and continues until a suitable candidate is identified. For more information, contact Dr. Cassie Jones, Search Committee Chair, at jonesc@ksu.edu or 785-532-5289. To apply go to <https://careers.k-state.edu/cw/en-us/job/513013/office-specialist-ii>.
- ☞ **Inclusion of Biuret With or Without Bovatec in a Commercial Mineral Supplement Did Not Improve Growth Performance of Yearling Calves Grazing Native Grass: Year 1 of 2** - The objective of this experiment was to measure the effects of non-protein nitrogen (NPN; biuret) or NPN + ruminal modifier (biuret + Bovatec) inclusion in a commercial mineral mix on growth performance of yearling beef calves grazing in the Kansas Flint Hills. Three hundred ninety-five crossbred steers of Texas origin previously backgrounded at the Kansas State University Beef Stocker Unit were used. Three mineral treatments consisting of a basal supplement (control), a basal supplement plus NPN (biuret), and a basal supplement plus NPN and lasalocid (Bovatec) were provided with a 4 oz/head/day mineral consumption target. The three mineral treatments were randomly assigned to one of 18 pastures with a total of six pastures per treatment. Feeders were checked daily to determine days-to-empty and were weighed weekly to determine mineral consumption. Individual weights were collected at the start and end of the 90 days to determine initial and final body weights (BW). There was no difference in final BW, total BW gains, average daily gains, and mineral consumption between mineral treatments. For days-to-empty, there was an interaction between treatment and week of the experiment.
- The Bottom Line:** The data were interpreted to suggest that the addition of biuret or biuret and lasalocid to a commercial mineral supplement did not affect growth performance of yearling beef cattle grazing in the Kansas Flint Hills. More information is available on this experiment and others in the KSU Cattlemen's Day report at www.KSUbeef.org. For more information, contact KC Olson (785-532-1254; kcolson@ksu.edu) or Dale Blasi (785-532-5427; dblasi@ksu.edu)
- ☞ **Impacts of a Post-Transport/Pre-Processing Rest Period on the Growth Performance and Serum Metabolites of Cattle Entering a Feedlot** - The objective of this study was to evaluate the impact of a post-transport rest period on receiving calf growth performance and blood serum metabolites as indicators of immune function. Eighty heifers were purchased from a sale barn and transported 6 hours to the Kansas State University Beef Cattle Research Center where they were processed at one of four times: immediately upon arrival or after a 6-, 24-, or 48-hour rest period. Cattle were then fed for 35 days with growth performance data collected weekly. Blood samples were also collected and analyzed for serum infectious bovine rhinotracheitis (IBR) titer and biochemical parameters. Processing time did not impact heifer average daily gain. Overall, dry matter intake (DMI) decreased linearly as the rest time increased. The number of days for heifers to reach a targeted DMI of 2.5% body weight was linearly increased as time of rest increased. Serum IBR titer for heifers processed at either 0 or 6 hours upon arrival was higher on day 35 compared to day 0. This response was expected, as these cattle were vaccinated immediately or shortly after arrival. Interestingly, no difference in IBR titer was observed between day 0 and day 35 for heifers processed at either 24 or 48 hours upon arrival, indicating potential seroconversion of IBR antibodies before vaccination.
- The Bottom Line:** These results indicate that rest time after arrival and prior to processing may not affect calf growth performance, but there is evidence that a 6-hour rest period could maximize DMI upon arrival to a feedlot. Additional research with greater replication and more industry-standard experimental conditions should be conducted to further evaluate these parameters. More information is available on this experiment and others in the KSU Cattlemen's Day report at www.KSUbeef.org. For more information, contact Cassie Jones (785-477-3293; jonesc@ksu.edu) or A.J. Tarpoff (785-532-1255; tarpoff@ksu.edu).
- ☞ **Effects of Betaine on Protein Deposition in Growing Cattle with Modulated Methyl Group Status** - This study was conducted to evaluate effects of guanidinoacetic acid and creatine supplementation in the presence or absence of supplemental betaine on lean tissue growth in growing cattle. Seven ruminally cannulated Holstein steers were used in an experiment where each steer received each of six treatments. The first treatment set was conducted via abomasal infusion of a saline solution (control), 15 g/day guanidinoacetic acid (GAA), or 16.8 g/day creatine, and the second set was conducted via abomasal infusion of 0 or 5.6 g/day betaine; all treatment combinations were represented. Complete collection of urine and feces was used to determine nitrogen retention as a measure of protein deposition. Steers were limit-fed a corn-based diet similar to that of a production-type setting.
- The Bottom Line:** Supplementing 5.6 g/day betaine increased lean tissue growth in growing steers fed corn-based diets. More information is available on this experiment in the KSU Cattlemen's Day report at www.KSUbeef.org. For more information, contact Evan Titgemeyer (785-532-1220; etitgeme@ksu.edu) or Dale Blasi (785-532-5427; dblasi@ksu.edu).

WHAT'S NEW...

- ↪ **The Effect of Two Combinations of Direct Fed Microbials on Growth Performance of Nursery Pigs Weaned from Sows Fed Diets with or without Yeast Additives** - A total of 330 weaned pigs were used in a 38-d nursery study to evaluate previous sow treatment (control vs. yeast additives) and nursery diets with different combinations of direct fed microbials on nursery pig growth performance. Pigs were placed in pens across two nursery rooms at weaning then pens were assigned to one of three dietary treatments with six pigs per pen and 8 to 10 replications per treatment. Treatments were arranged in a 2 × 3 factorial with main effects of sow treatment (control vs. yeast additives; 0.10% ActiSaf Sc 47 HR+ and 0.025% SafMannan) and nursery treatment (control; DFM 1, 0.05% of SafMannan from d 0 to 38 and NucleoSaf at 0.05% from d 0 to 10 and 0.025% from d 10 to 24; or DFM 2, 0.10% MicroSaf from d 0 to 38 and NucleoSaf at 0.05% from d 0 to 10 and 0.025% from d 10 to 24). Data were analyzed using linear mixed models using the nlme package of R with fixed effects of sow treatment, nursery treatment, and their interaction, and nursery room serving as the random effect. During the first ten days post-weaning, progeny of sows fed yeast additives had improved ADG, ADFI, and G:F. In fact, while pigs weaned from sows fed yeast additives entered the nursery at a lighter BW compared to pigs weaned from sows fed the control diet, by d 10 there was no difference in BW between the two groups. Offspring from sows fed yeast additives tended to have improved overall F/G. Pigs fed DFM 2 had increased ADG from d 24 to 38, and improved end of nursery BW compared to pigs fed the control diet. In conclusion, feeding yeast additives to sows had a positive impact on progeny growth in the early nursery, while the addition of DFMs in nursery diets had more impact on growth later in the nursery period. More information is available on this experiment and others in the KSU Swine Day report at www.KSUSwine.org. (This study conducted by Jenna A. Chance, Jordan T. Gebhardt, Joel M. DeRouchey, Mike D. Tokach, Jason C. Woodworth, Robert D. Goodband, and Joseph A. Loughmiller.)
- ↪ **Effect of Dietary Salt and Zinc Level on Growth Performance and Fecal Dry Matter of Nursery Pigs** - A total of 360 pigs were used to determine the effect of feeding different levels of dietary Na alone or in combination with pharmacological levels of Zn on growth performance and fecal dry matter of nursery pigs. At weaning, pigs were randomly allotted to pens and fed a common diet for 7 days. On d 7 after weaning (d 0 of the trial), pigs were assigned to one of six dietary treatments with ten replications per treatment. Dietary treatments were arranged in a 2 × 3 factorial with main effects of added Zn (0 or 2,000 ppm Zn from ZnO) and Na (0.13, 0.24, or 0.35% from salt). All diets contained 110 ppm of Zn from ZnO from the trace mineral premix. Following a 14-d experimental period, pigs were fed a common phase 3 diet for 21 days. From d 0 to 14, increasing Na increased ADG, ADFI, and BW. The addition of ZnO in the diet also increased ADG, ADFI, and BW. An interaction was observed where increasing Na up to 0.35% improved F/G from d 0 to 14 only when pharmacological levels of Zn were fed. Within the interaction, pigs fed diets without ZnO showed a response in F/G as Na increased. When Na was increased from 0.13 to 0.24% F/G improved, but when Na was further increased to 0.35% F/G worsened. When 2,000 ppm of Zn was added, F/G improved as Na increased. From d 14 to 35 and overall, an interaction was observed for F/G. Within the interaction, pigs fed diets without ZnO showed a linear increase in F/G as Na level increased. On d 7, fecal dry matter decreased and then subsequently increased with increasing Na. Unexpectedly, pigs fed added Zn had decreased fecal dry matter on d 14. In summary, increasing dietary Na and the addition of pharmacological levels of Zn independently improved daily gain and feed intake in nursery pigs, but an improvement in F/G from increasing Na was only observed when pharmacological ZnO was also present. More information is available on this experiment in the KSU Swine Day report at www.KSUSwine.org. (This study conducted by Ethan B. Stas, Mike D. Tokach, Jason C. Woodworth, Joel M. DeRouchey, Robert D. Goodband, and Jordan T. Gebhardt.)
- ↪ **The Effect of Increasing Valine, Isoleucine, and Tryptophan:Lysine Ratios on Pigs' Growth Performance and Carcass Characteristics when Fed Diets with Increased Levels of Dietary Leucine:Lysine** - A total of 4,076 pigs were used across two experiments to evaluate the effect of increasing ratios of Val, Ile, and Trp to Lys on pig growth performance and carcass characteristics in corn-soybean meal-DDGS-based diets containing increased levels of dietary Leu:Lys. In both experiments, the 4 dietary treatments were as follows: 1) high soybean meal and low feed grade amino acids (control); 2) low soybean meal and high feed grade amino acids, with Val:Lys, Ile:Lys, and Trp:Lys at 67, 55, and 18, respectively, (low ratio); 3) same as diet 2 except Val:Lys, Ile:Lys, and Trp:Lys increased to 72, 60, and 21, respectively, (medium ratio); and 4) same as diet 2 except Val:Lys, Ile:Lys, and Trp:Lys increased to 80, 65, and 23, respectively (high ratio). All diets contained 30% DDGS until pigs reached approximately 220 lb, and then 20% DDGS until trial completion. Overall ADG and average ADFI increased (AA ratio) as Val, Ile, and Trp ratios increased from low to high. Pigs fed the control diet exhibited increased ADG when compared to pigs fed low ratio diets, while pigs fed medium and high ratio diets showed intermediate performance. In summary, the soybean meal level can be reduced, and synthetic amino acid levels increased in high DDGS diets as long as ratios of Val, Ile, and Trp to Lys are increased. More information is available on this experiment in the KSU Swine Day report at www.KSUSwine.org. (This study conducted by Hadley R. Williams, Mike D. Tokach, Jason C. Woodworth, Joel M. DeRouchey, Robert D. Goodband, Jordan T. Gebhardt, Chad W. Hastad, and Zach B. Post.)

ASI FACULTY SPOTLIGHT...



KC Olson (kcolson@k-state.edu; 785-532-1254)
Professor, Range Beef Cattle Nutrition and Management

KC is a professor of range beef cattle nutrition and management and the W.M. and F.A. Lewis Distinguished Chair in the Department of Animal Sciences & Industry at Kansas State University. He teaches a number of courses at KSU and takes great pride in helping train the next generation of Great Plains ranchers and farmers. KC's research program addresses questions that affect profitability of the cow-calf and stocker segments of the Kansas beef industry. Specific areas of research include management of invasive range plants; nutritional management of cattle grazing native range; fire ecology; and factors influencing grazing behavior.

KC holds advanced degrees from Kansas State University and North Dakota State University. KC is active in the American Society of Animal Science, the Society for Range Management, the American Registry of Professional Animal Scientists, the American College of Animal Nutrition, the Weed Science Society of America, and the Tallgrass Legacy Alliance. He was the 2019 winner of the Animal Management Award bestowed by the American Society of Animal Science.

KC, his wife Karli, and sons Charles and Theodore, live on a beautiful ranch in North Lyon County. In his off time, KC enjoys spending time with his family, being active in his church, and being one of the most highly leveraged ranchers in the Flint Hills. He has a very close relationship with his banker.



Travis O'Quinn (travisquinn@k-state.edu; 785-532-1450)
Associate Professor, Fresh Meat Quality and Palatability

Dr. Travis O'Quinn was born in League City, TX. Through his youth, Dr. O'Quinn was actively involved in 4-H and FFA, participating on numerous judging teams including meats, livestock, and land. He graduated with his B.S. (2008) and M.S. (2010) degrees from Texas Tech University and earned a Ph.D. in Meat Science from Colorado State University (2012). Upon graduation, he returned to Texas Tech to conduct a post-doctoral research project working to develop a palatability-based beef grading system for the largest beef producer in New Zealand. Travis joined the Department of Animal Sciences and Industry at Kansas State University in July of 2014 with a 60% extension and 40% research appointment. His current appointment is 60% research and 40% teaching.

Dr. O'Quinn's research interests center on beef palatability and the factors affecting the traits of tenderness, juiciness, and flavor. He has conducted research involving more than 13,000 beef consumers from across the country. He has worked extensively to evaluate the factors affecting beef flavor and to identify the production and management practices that can modify the flavor profile of beef. He has also worked to develop a technique to quantify and predict beef juiciness. He oversees the state 4-H and FFA meat judging programs and works to help increase student involvement in the meat industry through the growth of these programs.

Travis enjoys training and mentoring students, both undergraduate and graduate. He currently serves as the faculty advisor and coach of the K-State Meat Judging Team, as well as the K-State Meat Animal Evaluation Team. He is also the faculty advisor to the Meat Science Academic Quiz Bowl team.

In his free time, Travis enjoys spending time with his wife, Megan. The two live in Wamego, KS, and are avid sports fans, keeping up with all things college football, MLB, and NFL.

WHAT PRODUCERS SHOULD BE THINKING ABOUT

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN JULY...

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

Cow Herd Nutrition

- Provide plenty of clean, fresh water.
- Provide free-choice mineral to correct any mineral deficiencies or imbalances.
 - ✓ Monitor intake to ensure levels are consistent with label specifications.
- Monitor grazing conditions and rotate pastures if possible and/or practical.
- If ammoniated wheat straw is planned for winter needs, follow these rules:
 - ✓ Best time is immediately after harvest, prior to weather deterioration.
 - ✓ Ammonization process is temperature sensitive, fastest during hot days.
 - ✓ Apply 3% Anhydrous Ammonia (60 pounds/ton of straw).
 - ✓ Do **not** ammoniate wheat hay or any other intermediate or high-quality forage; production of imidazole can cause cattle hyperactivity and death.
 - ✓ Will double crude protein content, enhances intake, and be cost effective.
- Consider early weaning if drought conditions develop and persist.
- Consider creep feeding only if cost effective.

Herd Health

- Monitor and treat pink eye cases.
- Provide fly control. Consider all options, as price and efficiency will dictate the best option(s) to use.
- Monitor and treat foot rot cases.
- Avoid handling and transporting cattle during the hottest part of the day-reduce heat stress.
- Vaccinate replacement heifers for Brucellosis if within proper age range (4 - 10 months).
- Continue anaplasmosis control program (consult local veterinarian).

Forage/Pasture Management

- Check and maintain summer water supplies.
- Place mineral feeders strategically to enhance grazing distribution.
- Check water gaps after possible washouts.
- Harvest hay in a timely manner, think quality and quantity.
- Harvest sudan and sudan hybrids for hay in the boot stage (normally three to four feet in height). It is a good idea to run a routine nitrate test on a field before harvesting hay.
- Plan hay storage placement wisely. Putting hay conveniently near feeding sites reduces labor, time demands, and equipment repair cost.

General Management

- Good fences and good brands make good neighbors.
- Check equipment (sprayers, dust bags, oilers, haying equipment) and repair or replace as needed. Have spare parts on hand, down time can make a big difference in hay quality.

*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.*