



K News from KSU Animal Sciences

- ↪ Plan to attend the **44th Annual Midwest Meat Processing Workshop** on April 29, 2022, at K-State. Join us at the workshop and see, hear, taste, and ask questions as state award winners share their expertise and demonstrate the manufacture and techniques used to make award winning products. Eric Steeves from Timber Creek Meats in Parsons will demonstrate making his award-winning ground and formed jerky and Drew Forster from Farview Farms Meat in Topeka will demonstrate production of his award winning smoked sausage. Francisco Najjar, International Sales Representative from UltraSource, will discuss the basics of purchasing equipment, particularly options for harvest operations. Dylan Walton, Vice President of Sales from Walton's, Inc., will discuss how to build purchase specifications, how to care and store for ingredients, and how to select the best ingredient options for your operations. John Wolf, KSU Meat Lab Manager, will demonstrate using a bowl chopper to make frankfurters. Liz Boyle, KSU, will discuss updates associated with the 2021 version of USDA FSIS Appendix A and B. Jeremy Schooler, Program Manager for the Kansas Department of Agriculture Meat and Poultry Inspection Program, will discuss regulatory expectations with Appendix A and B and other program updates. Lane Egger, KSU Graduate Student, will present recent data on consumer perceptions of ground beef labeling and meat alternative products. Mark your calendar and come to this workshop to learn techniques to improve business strategies, product quality, and safety that could result in tastier product, longer shelf life, and greater sales and business opportunities. Registration is \$100 per plant and includes lunch for two people and a parking permit for one vehicle. For more information, contact Liz Boyle at lboyle@ksu.edu or 785-532-1247.
- ↪ The **2022 K-State Sheep Day** will be held on Saturday, April 30, at Shannon Creek Lamb in Olsburg, KS. This year's sheep day will feature interactive "stops" throughout the sheep operation. Groups will hear about facility considerations, from barns to fencing, as well as technology that can be incorporated into your operation. Participants will also spend time on pasture, observing and discussing the pros and cons of co-grazing. Watch the @ksusheepandgoatextension Facebook page for more information, registration, and program details. The registration deadline is April 18. For more information, contact Alison Crane (arcrane@ksu.edu; 785-532-1672).
- ↪ **Market Beef Nominations Due May 1** - The 2022 state livestock nomination season has arrived! Market beef nominations are due by May 1, 2022. This includes market steers and market heifers. The deadline is a postmark and online submission deadline, but families need to plan ahead and get them submitted as soon as possible. We have transitioned to an online nomination system, so families will need to order DNA envelopes in advance, as well as complete their YQCA certification and the Declaration Form before submitting their nominations. The nomination fee is now paid through purchasing DNA envelopes, which means no payment will be included when the completed and signed DNA envelopes are postmarked. Additionally, no paper forms will be mailed. Families will only send in their completed DNA samples and a copy of the receipt from their online nomination entry submissions. Extension agents and FFA advisors will approve nominations online. Instructions were provided via email the first week of April.
- Nomination information for all species may be found on the KSU Youth Livestock Program website: <https://www.asi.k-state.edu/research-and-extension/youth-programs/nominated-livestock/>. This includes an overview of the new four-step process. The online system is located here: <https://kansasnom.fairwire.com/>. No paper forms or old DNA envelopes will be accepted. Families should use the checklist, make sure the DNA envelopes are signed by all exhibitors within the family, as well as a parent, and cross reference the information submitted online with the DNA envelopes. For more information, contact Lexie Hayes via email at adhayes@ksu.edu or 785-532-1264.

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April 2022 issue



UPCOMING EVENTS...

- ☞ 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. Entries must be submitted online by 5:00 pm on June 15, with payment postmarked the same day. Brochures are available on our website at www.KSUswine.org or www.youthlivestock.ksu.edu, under the “Spring Show” tab. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu) or Lexie Hayes (785-532-1264; adhayes@ksu.edu).
- ☞ Applications are now available for the **2022 K-State Animal Science Leadership Academy**. 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. In 2022, the program will offer two separate sessions to meet increased demand and serve more young people — June 22-25 and June 29-July 2. Each four-day session will focus on increasing knowledge of Kansas’ diverse livestock industry, as well as building participants’ leadership skills. Twenty high school students will be selected to participate in each group based upon educational, community, and agricultural involvement, as reflected through an application process. More information and the application form are available at: <https://www.asi.k-state.edu/research-and-extension/youth-programs/k-state-animal-science-leadership-academy/> For questions about the academy, please contact Sharon Breiner, Director, at sbreiner@ksu.edu.
- ☞ **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 local area. The YQCA program recently transitioned to a new platform, so families will need to create an account using the new website: <https://yqcaprogram.org/>.
- There is also a new option for 7-year-old members to obtain certification. They must participate in an instructor-led class with a parent or guardian. Those who need a web-based option for a 7-year-old exhibitor should contact their local extension office. The YQCA requirement for 7-year-old KJLS exhibitors went into effect in 2021. Families will be prompted to upload their YQCA certificates into the online system while submitting their state livestock nominations. The system will only ask once, so families need to be prepared to upload it upon entering their first animal. More information may be found on the K-State Youth Livestock website (www.YouthLivestock.ksu.edu) under Youth Livestock Quality Assurance, by contacting the local extension office, or via Lexie Hayes at adhayes@ksu.edu or 785-532-1264.
- ☞ **Educational Resources** - There are several livestock project resources available on the KSU YLP website (www.YouthLivestock.ksu.edu), including digital versions of the show guides, videos, and graphics. They may be found under the “Educational Resources” tab. Additionally, shows and activities that are open to participation from outside the local unit are being updated under the “Spring Shows” tab. If you have an opportunity to share, please email it to Lexie Hayes at adhayes@ksu.edu to be added. Information needs to be submitted directly from the local extension unit to be included on the page.
- ☞ Watch the **KSU ASI Headlines** for March 2022 and find out the latest happenings in the department. Follow the link at <https://youtu.be/LX4EHQhngy8>. 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
April 27, 2022	KSRE-KSU Sheep and Goat Management Series	Johnson, KS
April 29, 2022	Midwest Meat Processors Workshop	Manhattan
April 30, 2022	K-State Sheep Day	Olsburg, KS
May 1, 2022	Market Beef Nominations Due	
June 22-25, 2022	K-State Animal Science Leadership Academy	Manhattan
June 29-July 2, 2022	K-State Animal Science Leadership Academy	Manhattan

WHAT'S NEW...

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

“How Do You Evaluate New Technology?”

Technology is everywhere, even in agriculture.

I am continually surprised by the number of operations that don't use established technologies with well-documented, positive economic returns. These are successful operations, and thus I often leave the conversation thinking, “This is a good operation, how good could they be if?” On the other end of the spectrum are operations that have implemented multiple new technologies. Some technologies resulted in positive managerial and economic outcomes, and some did not.

As a manager, what is your attitude toward technology? Do you critically evaluate new technology or do you dismiss new technologies with excuses like “that's probably too expensive” or “that won't work here” without any further evaluation?

Evaluating new technology is difficult, but technology isn't going away. Thus, the ability to critically evaluate, implement and assess new technologies will become an increasingly important skill of a successful manager.

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

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

“Receiving Protocols”

Receiving cattle management and the process of adapting cattle to grain-based finishing diets are important components of managing feedlot cattle that can ultimately impact cattle performance for the remainder of the finishing period. What does a typical industry receiving protocol look like and how does the feeding industry transition cattle to a finishing diet? A recent survey of consulting nutritionists conducted by Samuelson et al. (2016), which summarized responses from 24 consulting nutritionists (servicing more than 14,000,000 head annually), reported that that 66% of the feed yards they service allow cattle to rest 12 to 24 hours prior to initial processing and nearly 30% allow cattle to rest more than 24 hours. The majority of the consulting nutritionists (64%) suggested that cattle should be provided access to hay for 4 days after arrival. Approximately 56% of the nutritionists surveyed used multiple step-up diets with an average forage concentration of 40.7% roughage. On average, four transition diets were used with diets being fed for six days before moving to the next diet. Thus, cattle on average are transitioned to the finishing diet within 24 days of feeding the first step-up diet. Alternatively, approximately 40% of the nutritionists utilize a two-ration blending program to adapt cattle (effectively a starter and finisher diet). Those that used a two-ration program recommended 38% roughage in the starter ration and cattle adapted to the finishing diet within approximately 27 days.

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>.

✉ **Farm Manager – Dairy Unit (Job #512167)** – This is a full-time, unclassified professional staff, term contract position. The KSU Dairy Teaching and Research Center (DTRC) exists to support the dairy teaching, research, and extension missions of the Department of Animal Sciences and Industry. The Farm Manager is responsible for the day-to-day management of the personnel, animals, and unit facilities and equipment in a manner that properly supports the teaching, research, and extension missions. Incumbent functions as the manager of the Dairy Teaching and Research Center and is responsible for ensuring the safety of the cows and other dairy unit employees. Incumbent is responsible for 260 mature cows, 260 replacement animals, 8 full-time employees, and 15-20 undergraduate student employees. Incumbent is responsible for purchasing feed and supplies for the unit. Review of applications begins immediately and continues until the position is filled. For more information, contact 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/512167/farm-manager>.

WHAT'S NEW...

- ☞ **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 Dairy Teaching and Research Center (DTRC) dairy herd, which is used for teaching and research purposes. Review of applications begins immediately and continues until the position is filled. For more information, contact 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>.
- ☞ **Bunk Space Requirements for Growing Beef Cattle Limit-Fed a High-Energy Corn and Corn Co-Product Diet** - The objective of our experiment was to evaluate the effects of bunk allotment on performance of growing beef calves during a 58-day receiving period and investigate possible residual effects of bunk-space allotment on subsequent growth performance during a 90-day grazing season. A group of 385 crossbred steers were purchased in Texas and transported to the Kansas State University Beef Stocker Unit. Calves were blocked by arrival date, assigned to one of four bunk space treatments (i.e., 10, 15, 20, or 25 in of bunk per head), and limit-fed a high-energy corn and corn co-product diet for 58 days. Following the receiving period, steers were blocked by bunk-space treatment, randomly assigned to one of eighteen pastures, and grazed for 90 days.
- The Bottom Line:** We interpreted our data to suggest that bunk allotments of 10, 15, 20, or 25 in per calf had minimal impact on growth performance during a 58-day receiving period and did not affect final body weights following a 90-day grazing season. More information is available on this experiment in the KSU Cattlemen's Day report at www.KSUbeef.org. For more information, contact Dale Blasi (785-532-5427; dblasi@ksu.edu) or KC Olson (785-532-1254; kcolson@ksu.edu).
- ☞ **A Limit-Fed, High-Energy Diet Fed During the Growing Phase Does Not Negatively Affect Subsequent Feedlot Growth Performance or Carcass Merit Compared to Feeding a Traditional Roughage-Based Diet *Ad Libitum* During the Growing Phase** - The objective of this experiment was to compare the subsequent growth performance and carcass impacts of a high-energy diet limit-fed at 2.2% of body weight (BW) or a traditional roughage-based diet fed *ad libitum* during the growing phase. Three hundred seventy crossbred heifers previously used in a 90-day growing study at the Kansas State University Beef Stocker Unit were transported to a commercial feedlot for finishing where cattle were fed a common diet. The two backgrounding diets included: (1) 45 Mcal of net energy for gain (NEg) per 100 lb of dry matter (DM) fed for *ad libitum* intake (45AL), or (2) 60 Mcal NEg per 100 lb of DM limit-fed at 2.2% of BW daily on a DM basis (60LF2.2). Both diets contained 40% of DM as Sweet Bran. Cattle were sorted by weight group (light or heavy) and backgrounding diet (45AL or 60LF2.2) and placed in one of four pens. Finishing growth performance and carcass characteristics were measured. Heifers previously fed 60LF2.2 had greater morbidity than heifers fed 45AL. No effect of backgrounding diet was observed in measured carcass characteristics.
- The Bottom Line:** Although heifers previously limit-fed a high-energy diet during the growing phase appeared to have greater incidence of morbidity in the feedlot compared to heifers previously fed a traditional roughage-based diet, previous backgrounding diet had little or no carryover effect on feedlot growth performance or carcass characteristics measured. More information is available on this experiment in the KSU Cattlemen's Day report at www.KSUbeef.org. For more information, contact Dale Blasi (785-532-5427; dblasi@ksu.edu).
- ☞ **Effect of Holstein and Beef-Dairy Cross Breed Description on the Sale Price of Feeder and Weaned Calf Lots Sold Through Video Auctions** - Objectives were to determine: 1) value of Holstein feeder steer lots compared with steer lots of other breed descriptions, 2) value of beef-dairy cross weaned steer calves compared with either Holstein weaned calves or weaned calves of other breed descriptions, and 3) value of beef-dairy cross weaned calves compared with weaned calves of other beef breed descriptions sold through video auctions. Data on 14,075 feeder steer lots sold in 211 auctions from 2010 through 2018; 763 weaned steer calf lots, and 1,125 weaned steer and heifer calf lots sold via seven auctions in 2020 and 2021 were used. Separate multiple regression models using backwards selection were developed for feeder cattle, weaned steer, and weaned steer and heifer calf lots. The five breed group categories used were English-English crossed, English-Continental crossed, Brahman-influenced, Holstein, and beef-dairy crossed (weaned calves). Breed description of feeder steer, weaned steer calf, and weaned steer and heifer calf lots affected sale price. Among weaned steer calves, beef-dairy crossed lots sold for the second lowest price (\$147.62/cwt), though greater than Holsteins. Among feeder steer lots, Holsteins sold for the lowest sale price (\$110.56/cwt) compared with all other breed groups. Among weaned steer and heifer calves, beef-dairy crosses sold for less than (\$136.39/cwt) all other breed groups.
- The Bottom Line:** Beef-dairy crosses have improved value prospect compared with Holstein steers in the beef supply chain. More information is available on this experiment and others in the KSU Cattlemen's Day report at www.KSUbeef.org. For more information, contact Karol Fike (785-532-1104; karol@ksu.edu) or Dale Blasi (785-532-5427; dblasi@ksu.edu).

WHAT'S NEW...

↪ **Evaluation of How Nursery Pig Performance is Affected by Fermented Corn Protein as a Replacement to Enzymatically Treated Soybean Meal Along with High or Low Branch Chain Amino Acid to Leucine Ratios**

- Two experiments were conducted to determine if fermented corn protein can serve as a replacement to enzymatically treated soybean meal and what the effects may be with high or low branch chain amino acids (BCAA):Leu ratios on nursery pig performance. In Exp. 1, a total of 350 barrows were randomly allotted to 1 of 5 treatments with 5 pigs per pen and 14 replications per treatment. Dietary treatments were arranged in a $2 \times 2 + 1$ factorial with a control diet or diets with 5 or 10% fermented corn protein or enzymatically treated soybean meal. Pigs were fed phase 1 diets for 10 d followed by phase 2 diets for 21 d. There were no interactions observed throughout the experiment. Overall (d 0 to 31), pigs fed increasing levels of fermented corn protein had decreased BW, ADG, and ADFI with no differences in F/G, whereas increasing enzymatically treated soybean meal had no effect on growth performance. Pigs fed enzymatically treated soybean meal had improved BW, ADG, and F/G compared to pigs fed fermented corn protein diets, with no effect on ADFI. In Exp. 2, a total of 350 pigs were used to determine the effects of fermented corn protein with high or low BCAA:Leu ratio on nursery pig growth performance. At weaning, pigs were randomly assigned to pens (5 pigs per pen). On d 24 after weaning (d 0 of the trial), pens of pigs were weighed and then allotted to treatment. Pigs were assigned to 1 of 5 dietary treatments with 14 replications per treatment. Dietary treatments were arranged in a $2 \times 2 + 1$ factorial. Diets consisted of 10 or 20% fermented corn protein either with high or low BCAA:Leu in addition to a control diet. There was no interaction observed between fermented corn protein concentration and BCAA:Leu. Overall (d 0 to 21), BW, ADG, ADFI, and F/G worsened as fermented corn protein increased in the diet. High BCAA:Leu improved F/G compared to low BCAA:Leu with no effect on BW, ADG, and ADFI. In summary, using fermented corn protein to replace enzymatically treated soybean meal in phase 1 and 2 diets of nursery pigs diminished growth performance. Increasing concentrations of fermented corn protein in phase 3 worsened growth performance and increasing BCAA:Leu only improved the feed efficiency. More information is available on this experiment and others in the KSU Swine Day report at www.KSUSwine.org. (This study conducted by Ethan B. Stas, Jenna A. Chance, Robert D. Goodband, Mike D. Tokach, Jason C. Woodworth, Joel M. DeRouchey, and Jordan T. Gebhardt.)

↪ **Effects of Live Yeast and Yeast Extracts with and without Pharmacological Levels of Zinc on Antimicrobial**

Susceptibilities of Fecal Escherichia coli in Nursery Pigs - A total of 360 weaning barrows were used in a 42-d study to evaluate yeast-based pre- and probiotics in diets with or without pharmacological levels of Zn on anti-microbial resistance (AMR) patterns of fecal *Escherichia coli*. Pens were assigned to one of four dietary treatments with five pigs per pen and 18 pens per treatment. Dietary treatments were arranged in a 2×2 factorial with main effects of live yeast-based pre- and probiotics (none vs. 0.10% ActiSafSc 47 HR+, 0.05% SafMannan, and 0.05% NucleoSaf from d 0 to 7, then concentrations were lowered by 50% from day 7 to 21) and pharmacological levels of Zn (110 vs. 3,000 ppm from d 0 to 7, and 2,000 ppm from d 7 to 21 provided by ZnO). All pigs were fed a common diet from d 21 to 42 post-weaning without live yeast-based pre- and probiotics or pharmacological Zn. Fecal samples were collected on d 4, 21, and 42 from the same three pigs per pen for fecal *E. coli* isolation. The identification of *E. coli* was by PCR detection of *uidA* and *clpB* genes. The AMR patterns of *E. coli* were determined by microbroth dilution method using Sensititre CMV3AGNF panel containing 14 different antimicrobials. The addition of pharmacological levels of Zn had a marginally significant effect to increase the minimum inhibitory concentration (MIC) values of ciprofloxacin; however, median MIC values were still under the Clinical and Laboratory Standards Institute classified resistant breakpoint for ciprofloxacin. There was no evidence for differences for yeast additives or Zn for AMR of fecal *E. coli* isolates to any of the remaining antibiotics. In conclusion, pharmacological levels of Zn tended to increase the AMR of fecal *E. coli* to ciprofloxacin while the medians were below a resistant breakpoint. There was no influence of live yeast and yeast extracts on AMR patterns of fecal *E. coli* against tested antimicrobials. More information is available on this experiment in the KSU Swine Day report at www.KSUSwine.org. (This study conducted by Jenna A. Chance, Jordan T. Gebhardt, Joel M. DeRouchey, Raghavendra G. Amachawadi, Victor Ishengoma, T. G. Nagaraja, Qing Kang, Mike D. Tokach, Jason C. Woodworth, Robert D. Goodband, and Joseph A. Loughmiller.)

WHAT'S NEW...

- ☞ **Investigating Potential Additive Effects of Formic Acid and Glycerol Monolaurate in Nursery Pig Diets** - A total of 350 weanling pigs were used in a 42-d study with 5 pigs per pen and 14 replicate pens per treatment. At weaning, pigs were allotted to pens in a completely randomized design and pens of pigs were randomly assigned to one of five dietary treatments: 1) negative control (standard nursery diet with no additives); 2) control diet with 3,000 ppm ZnO included in phase 1 and 2,000 ppm ZnO included in phase 2; 3) control diet with 0.7% formic acid; 4) control diet with 0.18% glycerol monolaurate; and 5) control diet with a 1.0% blend of formic acid, sodium diformate, and glycerol monolaurate. Pigs were fed treatment diets from d 0 to d 28 and were then fed a common diet from d 28 to d 42. This allowed diets to be fed as part of a standard 3-phase nursery program. From d 0 to d 7, pigs fed a diet containing ZnO or the 1.0% blend of formic acid, sodium diformate, and glycerol monolaurate had significantly increased ADG compared to pigs fed the control. Feed intake did not differ during this period. Overall, pigs fed GML had reduced ADG compared to their counterparts fed the negative control, ZnO, or FORMI diets. Feed intake was also not impacted by dietary treatments. Fecal DM was evaluated from d 7 to d 28 and there was a significant treatment × day interaction. Pigs fed GML had significantly lower fecal DM % on d 7, but a higher fecal DM % on d 14 and 21. There was no evidence of difference between treatments for fecal DM by d 28. In summary, there is potential for a blend of formic acid and GML to improve growth performance immediately post-weaning without negatively impacting fecal consistency. Further research is warranted to determine the mode of action of these acids and elucidate their efficacy as alternative feed ingredients to combat post-weaning challenges in swine production. More information is available on this experiment in the KSU Swine Day report at www.KSUSwine.org. (This study conducted by Payton L. Dahmer, Olivia L. Harrison, and Cassandra K. Jones.)
- ☞ **Evaluation of AgriMune Liquid on Growth Performance of Commercial Nursery Pigs** - A total of 1,188 pigs were used in a 40-d trial to determine the effect of a combination of mannan oligosaccharides, yeast culture, and beta-glucans on growth performance, morbidity, and mortality of pigs during the nursery period. Pigs were weaned at approximately 21 d of age and placed in pens (27 pigs per pen) based on initial BW. Pens were randomly assigned to one of two treatments in a randomized complete block design with 22 pens (replications) per treatment. Treatments consisted of the control in which pigs only received water through the water line, or pigs were provided the combination of mannan oligosaccharides, yeast culture, and beta-glucans in the water at a rate of 4 mL per head per day (mL/hd/d) from day 1 to 4 and then 2 mL/hd/d from d 5 until the end of the experiment. All pigs were fed the same commercial diets in three phases for the duration of the trial. Overall, from d 0 to 40, pigs on the control treatment tended to have increased ADFI compared with pigs provided mannan oligosaccharides, yeast culture, and beta-glucans through the water, with no evidence of difference on ADG, F/G, or BW. For mortality and morbidity, there was no evidence of difference observed. In summary, there was no effect on overall nursery performance when a combination of mannan oligosaccharides, yeast culture, and beta-glucans was provided in the water. More information is available on this experiment and others in the KSU Swine Day report at www.KSUSwine.org. (This study conducted by Andres F. Tolosa, Joel M. DeRouchey, Jason C. Woodworth, Mike D. Tokach, Robert D. Goodband, and Jordan T. Gebhardt.)
- ☞ **Effects of Live Yeast and Yeast Extracts with and without Pharmacological Levels of Zinc on Nursery Pig Growth Performance and Fecal Consistency** - A total of 360 weanling barrows were used in a 42-d study to evaluate yeast-based pre- and probiotics in diets with or without pharmacological levels of Zn on growth performance and fecal dry matter (DM). Pens were assigned to 1 of 4 dietary treatments with 5 pigs per pen and 18 pens per treatment. Dietary treatments were arranged in a 2 × 2 factorial with main effects of live yeast-based pre- and probiotics (none vs. 0.10% ActiSaf Sc 47 HR+, 0.05% SafMannan, and 0.05% NucleoSaf from d 0 to 7, then concentrations were lowered by 50% from day 7 to 21) and pharmacological levels of Zn (110 vs. 3,000 ppm from d 0 to 7, and 2,000 ppm from d 7 to 21 provided by ZnO). All pigs were fed a common diet from d 21 to 42 post-weaning. There was no yeast × Zn interactions or effects due to yeast additives observed on any response criteria. From d 0 to 21 and d 0 to 42, pigs fed pharmacological levels of Zn had increased ADG and ADFI. Fecal samples were collected on d 4, 21, and 42 from the same three pigs per pen for DM analysis. On d 4, pigs fed pharmacological levels of Zn had greater fecal DM; however, no differences were observed on d 21 or 42. In conclusion, pharmacological levels of Zn increased ADG, ADFI, and d 4 post-weaning fecal DM. There was no response observed from live yeast and yeast extracts for any growth or fecal DM criteria. 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, Hilda I. Calderón, Mike D. Tokach, Jason C. Woodworth, Robert D. Goodband, and Joseph A. Loughmiller.)

ASI FACULTY SPOTLIGHT...



Ken Odde (kenodde@k-state.edu; 785-532-1227)
Professor, Reproductive Physiology

Dr. Ken Odde received a bachelor's degree in animal science from South Dakota State University, a master's degree in reproductive physiology, a Doctor of Veterinary Medicine and a doctorate in physiology from Kansas State University. Dr. Odde served as Assistant Professor, Associate Professor and Professor at Colorado State University from 1983 to 1994. He taught and conducted research in beef cattle reproduction and health. In 1994, Dr. Odde returned to his home area in South Dakota and joined the technical services team at SmithKline Beecham Animal Health. He was a member of the technical services team at Pfizer Animal Health following its acquisition of SmithKline Beecham Animal Health. In 2000, Dr. Odde left Pfizer to become Vice President of

Veterinary Operations at AgSpan and then had his own consulting business. Dr. Odde joined North Dakota State University as Professor and Head, Department of Animal & Range Sciences, in January of 2003. Starting in June 2005, he served as Professor and Director, Beef Systems-Center of Excellence, a public-private partnership designed to grow cattle feeding and processing in ND, and the research and education support to the beef industry.

Dr. Odde served as Department Head for the Animal Sciences and Industry Department at Kansas State University from 2007 to 2018. Dr. Odde is currently a Professor at Kansas State University with a 30% Teaching and 70% Research appointment specializing in reproductive physiology. Dr. Odde is a member of several associations, including American Society of Animal Science, American Veterinary Medical Association and American Association of Bovine Practitioners and is a frequent speaker at veterinary and cattle producer meetings.



Megan Rolf (megrolf@k-state.edu; 785-532-1450)
Associate Professor, Genetics and Livestock Genomics

Dr. Megan Rolf was raised on a cow-calf operation in east central Kansas and has been involved with livestock her entire life. She received a bachelor's degree in animal science at Kansas State University and a M.S. degree in animal science at the University of Missouri-Columbia. She also earned her Ph.D. in Genetics at the University of Missouri, where her research focused on the use of genomics in beef cattle.

After graduation, Megan was on faculty at Oklahoma State University for four years where she was an Assistant Professor and State Extension Beef Specialist. She joined the faculty at Kansas State University in 2016 with a 60% research and 40% teaching appointment. She teaches undergraduate and graduate courses in genetics and breeding and maintains an active research program related to genetic improvement in livestock.

WHAT PRODUCERS SHOULD BE THINKING ABOUT

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN JUNE...

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

June is a month to let Mother Nature take her course. **Assuming timely precipitation**, native grasses are usually at peak production; therefore, little supplementation is needed, except for some minerals.

Cow-Herd Nutrition

- Provide plenty of clean, fresh water.
- Provide free-choice minerals to correct any mineral deficiencies or imbalances.
- Monitor grazing conditions and rotate pastures if possible and practical.
- Consider creep-feeding if it's cost-effective.

Herd Health

- Monitor and treat pinkeye cases.
- Provide fly control. Consider all options; price and efficiency will dictate the best options to use.
- Monitor and treat for foot rot.
- To reduce heat stress, avoid handling and transporting cattle during the hottest times of the day.

Forage and 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.

Reproductive Management

- If using AI, do not expect all females to conceive. A common practice is to breed once or twice with AI, then turn out cleanup bulls for the balance of a 65-day breeding season. A 42-day AI season with estrus synchronization at the front end gives most females three chances to conceive by AI.
- Watch bulls for libido, mounting and breeding function.
- Record breeding dates to determine calving dates.
- By imposing reproductive pressure (45-day breeding season) on yearling heifers, no late-calving 2-year-olds will result. This will increase lifetime productivity and profits.

Genetic Management

- Monitor herd performance. Then identify candidates to cull because of poor performance.

General Management

- Check equipment (sprayers, dust bags, oilers, haying equipment, etc.), and repair or replace as needed. Have spare parts on hand because downtime 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.*