



WEBER HALL
ANIMAL SCIENCE & INDUSTRY



K News from KSU Animal Sciences

- ✦ **DNA Envelope Order Deadline Approaching for State Nominations-** The state livestock nomination process transitioned to an online system in 2022. 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 hogs, sheep, or meat goats for the Kansas State Fair and/or KJLS is June 5. After that date, the only way to get an envelope is to pick it up in person, or pay the \$50 expedited shipping fee.
- ✦ **Implementing Your Company's HACCP Plan** will be hosted June 6-8, 2023, 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 <http://bit.ly/HACCPCourse>. For more information, contact Dr. Liz Boyle (lboyle@ksu.edu or 785-532-1247.)
- ✦ **KSU Youth Horse Judging Camps-** The K-State Horse Judging Team will be hosting two camps this summer where youth 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 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 hosted June 13-14 on K-State campus and is \$200 to register. The beginning section is designed for youth with very little to no experience. Emphasis will be focused on the placings of classes commonly seen at horse judging contests and the basics of oral reasons. The beginning section will be hosted June 14 on K-State campus and costs \$100 to register. A zoom option will be available during the beginners' camp for any 4-H leader, volunteer, FFA Advisor or anyone else wishing to learn about horse judging. Contact Celsey Crabtree for the zoom link or additional information. The 4-H Horse Judging contest will be hosted on June 15 in Salina, KS. 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.ksu.edu/horsejudging or contact Celsey Crabtree (celseyb@ksu.edu or 785-532-1193.)
- ✦ **Champions Livestock Judging Camp** – This three-day, intense judging camp is 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. Current and future coaches Chris Mullinix and Payton Dahmer 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 2023 camp sessions will be June 5-7 (Monday-Wednesday); June 12-14 (Monday-Wednesday); or June 15-17 (Thursday-Saturday) on K-State campus. The cost to register is \$350 for a camper and \$100 for a chaperone. The camp is filled on a first-come, first-served basis. The deadline to register for any camp is Saturday, May 20. For more information and registration, visit www.asi.ksu.edu/championscamp or contact Rachael Stadel (rmkstadel@ksu.edu or 785-532-2996.)

Department of Animal Sciences and Industry

Kansas State University
218 Weber Hall, 1424 Claflin Road
Manhattan, KS 66506
785-532-6533

www.asi.ksu.edu - [Facebook.com/KSUASI](https://www.facebook.com/KSUASI)

May 2023



UPCOMING EVENTS...

☞ **State Livestock Nominations due June 15-** All small livestock and commercial heifer state nominations 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 through ShoWorks 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 and tag numbers that were entered in the system under each child 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. 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. If you don’t have a receipt showing a specific tag number under a child, that animal has not been submitted online and the child will not be eligible to show it. Enter all animals under all kids in the system and have all kids sign the DNA envelopes to have the most flexibility with your family’s livestock projects.

Families must also designate the market or commercial breeding division for each animal. New this year, females can be dual nominated in both divisions. However, they must be nominated under the market division and then the “Dual Nominate” checkbox slid to “Yes”.

The 2023 state livestock information 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. The general process includes these steps:

- 1) Exhibitors complete [YQCA](#) training and download certificate. Must be valid through 10/1/23 to be accepted.
- 2) Locate KSU Family Name & Nomination #. Returning families can be found on the [list](#) posted on the website. New families nominating for the first time need to request one [here](#).
- 3) Complete [Declaration Form](#) representing entire family and all species that will be exhibited.
- 4) Login to ShoWorks account for [online nomination system](#).
Returning exhibitors – login to ShoWorks account using last year’s credentials.
New exhibitors – create a new account for each child who will be showing.
- 5) Enter animal data and exhibitor information as “entries” through the online nomination system.
This includes tag numbers, breeds, secondary ID for animals and uploading the two (2) required documents for each child:
Current YQCA certificate (valid through 10/1/23)
[Declaration Form](#) (representing the entire family)
- 6) Purchase official DNA envelopes in advance through the online system, under “3 – Items”. One (1) envelope/animal.
May skip ahead in system to order DNA envelopes before entering animals, using the [instructions](#).
Must return to link before June 15 to enter animals in system.
- 7) Mail completed DNA envelopes and copy of online submission receipt (with list of animals) by June 15 (postmark deadline).
Send certified, or via a tracking method that provides a receipt as proof of mailing.
- 8) Nominations will be approved online by Extension Agents and FFA Advisors.
- 9) Review confirmation letter received after signed DNA envelopes are processed.
- 10) Enter [Kansas State Fair Grand Drive](#) and [KJLS](#) using entry links provided by each show.

Exhibitors will use account and password created for nominations to login, enter, and pay fees for each show. 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. There should NOT be a single exhibitor signature on 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. Both forms must be uploaded at the same time. The system accepts PDF documents or image files. YQCA certification must be completed at the time of nomination. Once any form is uploaded, the system does not allow families to edit their forms.

Ear notches are also required for swine nominations and full scrapie tag numbers are required for sheep and meat 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 2-3 times/week 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 or 785-532-1264).

UPCOMING EVENTS...

- ↪ **REMINDER - A complete nomination does NOT constitute show entry!** The Kansas State Fair Grand Drive entries will be available once nominations close, approximately July 1. 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).
- ↪ **YQCA Requirement for 2023 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 2023 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. Families who have not yet created a new account on the new [YQCA](#) platform will need to do so. Everyone is highly encouraged to use the instructions shared in the help document posted on their website, as well as the video on registering for and completing the training. Youth who are 7-years-old 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).
- ↪ **K-State Animal Science Leadership Academy (KASLA) Program** will offer one session on June 21-24. 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 (sbreiner@ksu.edu or 785-532-6533.)
- ↪ The **2023 Dr. Bob Hines Kansas Swine Classic** is scheduled for June 30-July 1 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, 2023. Online entries are required at www.asi.ksu.edu/swineclassic. Checks to accompany entry receipt must be postmarked by June 15, 2023. Outlined below is a schedule of this year's program.
- Friday, June 30
- 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. Skillathon in the show ring
 - 4 p.m. Ice cream party by the show ring
 - 5:30 p.m. Showmanship contests
- Saturday, July 1
- 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 or jderouch@ksu.edu) or Lexie Hayes (785-532-1264 or adhayes@ksu.edu).

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
June 5-7, 2023	Champions Livestock Judging Camp A	Manhattan
June 6-8, 2023	HACCP Workshop	Manhattan
June 12-14, 2023	Champions Livestock Judging Camp B	Manhattan
June 13-14, 2023	KSU Youth Horse Judging Camp- Advanced Section	Manhattan
June 14, 2023	KSU Youth Horse Judging Camp- Beginning Section	Manhattan
June 15, 2023	Kansas State 4-H Horse Judging Contest	Salina, KS
June 15-17, 2023	Champions Livestock Judging Camp C	Manhattan
June 21-24, 2023	K-State Animal Science Leadership Academy	Manhattan
June 30-July 1, 2023	Dr. Bob Hines Kansas Swine Classic	Manhattan
August 19-20	Livestock Sweepstakes	Manhattan

What's New...

- ✦ **Office Specialist III/Travel and Student Hiring Associate- Business Office (Job # 514260)**- This is a full-time, unclassified professional staff, term contract position. This position processes payment documents, primarily travel-related documents (authorizations and reimbursements) for the department. Manages undergraduate hiring processes with support provided by the Budget/Fiscal Coordinator and Human Capital Representative as needed. Supports Meat Lab, Call Hall Dairy Bar, Dairy Plant, KABSU, other earnings units and FSI (as needed) for ASI, inclusive of deposits processing. Screening of applicants begins immediately and will continue until the position is filled. For more information, contact Morgan Zumbaugh, Search Committee Chair, at mdzumbaugh@ksu.edu or 785-532-1253. To apply go to <https://careers.k-state.edu/cw/en-us/job/514260/travel-and-student-hiring-associate>.
- ✦ **Farm Manager- Beef Cattle Research Center (Job # 514869)**- This is a full-time, unclassified professional staff, term contract position. This position takes care of the daily operations of the Beef Cattle Research Center at KSU within the Department of Animal Sciences & Industry. This position will maintain appropriate inventories of feed, pharmaceuticals, and livestock as dictated by teaching and research functions of Research Center. Purchase feedstuffs (forage and special feedstuffs) and schedule delivery of grains and supplements from ASI and GRSCI feed mills. Incumbent will assist with coordination of basic and applied research activities at the Beef Cattle Research Center. Responsibilities include; execution, documentation, and auditing of research projects, as well as statistical analysis of data and preparation of final research reports. This position is responsible for oversight and completion of daily feeding and health management of all animals on the premises, as well as maintenance and improvement of research facilities. Screening of applicants begins immediately and continues until suitable candidate is identified. For more information, contact James Drouillard, Search Committee Chair, at jdrouill@ksu.edu or 785-532-1204. To apply go to <https://careers.k-state.edu/cw/en-us/job/514869/farm-manager>.
- ✦ **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>.
- ✦ **Animal Technician II - Dairy Unit (Job # 512403)**- This is a full-time, University Support Staff (USS) position. This position exists to operate and maintain the feed mill facility and feed the milk herd at the Dairy Teaching and Research Center. Review of applicants 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/512403/animal-technician-ii>
- ✦ **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>.
- ✦ **Animal Technician II – Dairy Unit (Job # 513849)** – This is a part-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. This is an **AS NEEDED** position. The incumbent could be called to fill in for Emergency situations, 24 hours a day 7 days a week. 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.k-state.edu/cw/en-us/job/513849/animal-technician-ii>.

What's New for Beef Cattle Producers

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

"Hiring the Right Person"

Whether you are a small business with just a few employees or a larger enterprise with several employees, hiring the right person for a position is essential. Making a good hiring decision can inspire others and improve the operations productivity. The unfortunate truth is that the number of qualified applicants for most skilled position isn't large "Good people are truly hard to find." So what can you as a potential employer do to attract and hire the best person for a position? There are many thoughts on this topic. However, most experts agree that knowing what you are looking for and clearly stating the roles and responsibilities of the position is a great place to start. Applicants want/need to know what the expectations of the position are. Another point of consensus on the topic is to involve others in the hiring process. Allowing the candidates to interact with others in the organization through tours, or an informal dinner, can be great way to know whether a person is a good fit. An informal setting often allows an employer to gather more information about the applicant than the traditional interview questions can allow. People spend a great deal of time at work, thus co-workers, colleagues and the culture of the organization is important to both parties. Additionally, different people have different perspectives on the applicants, and usually there is some degree of consensus. Lastly, be prepared to move quickly with a competitive offer. The best people will usually have multiple opportunities.

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

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

"Early Weaning: How Early and How Much Will I Gain?"

A couple of questions have come up recently regarding early weaning: 1). How early can I wean a calf and 2.) What is the expected benefit of early-weaning? Early weaning is not a term that is well defined, but in general refers to weaning a calf at less than 200 days of age (conventional weaning 180-220 days of age). Calves raised in conventional extensive environments have a functional rumen at approximately 45 days of age and are capable of using dry feeds. However, various research suggests that 120-150 days of age is optimal for implementing an early program. In terms of what can be gained by early weaning. Early weaning is one of the easiest ways to manage cow nutrient demands and reduces the energy requirements of the cow by 25-30%. This effectively means that the nutrients consumed by the cow that were being used to sustain lactation may now be used to improve cow condition. A study designed to evaluate preconditioning duration conducted at K-State documented that cow body condition scores improved as calf age at weaning decreased. The cows on this study remained on native grass pastures following weaning and the observed increase in body condition score in this study occurred over a 60 day period. The results of this study suggest that early weaning calves may improve body condition of cows (up to 0.5 Body condition score) grazing native pastures late in the grazing season.

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

Table 1: Effect of calf age at weaning on cow body condition score (Bolte et al., 2007)

Item	Calf Age, days					SEM	P-value
	160	145	130	115	100		
<i>BCS^a</i>							
Initial ^b	5.46	5.41	5.48	5.50	5.46	0.091	0.87
Final ^c	5.46	5.67	5.85	5.99	5.90	0.091	0.01
Change	0.02	0.25	0.37	0.50	0.43	0.118	0.01

^a Body condition score (scale = 1 to 9; 1 = emaciated, 9 = obese)
^b Initial BCS was measured 60 d before calves were shipped to feedlot (d -60 weaning)
^c Final BCS was measured 60 d after calves were shipped to feedlot

KSU Cow-Calf Checklist – May 2023

Management Considerations for July 2023

By Jason M. Warner, Ph.D., Extension Cow-Calf Specialist

Cow Herd Management

- For spring-calving cow herds:
 - Score cows for BCS concurrent with grass growth.
 - 2-4 year old females and thin females will respond most to early-weaning.
 - If you plan to early-wean:
 - Develop your plan for feeding and marketing calves.
 - Prepare weaning/receiving pens and waterers in advance.
 - If feeding early-weaned calves, test your forages and have your ration plan and ingredients in place 2-3 weeks prior to weaning.
 - Schedule early pregnancy checking activities if not already done.
- For late-summer and early-fall calving cowherds:
 - Evaluate cows for BCS and adjust your plan to ensure mature cows are ≥ 5.0 and 2-4 year old females are ≥ 6.0 at calving.
 - The final 60 days prior to calving represents the last opportunity to add BCS economically.
 - Review your calving health protocols as needed.
- Closely manage free-choice salt and mineral programs.
 - Record date and amount of salt and mineral offered and calculate herd consumption on a pasture or group basis.
 - Adjust how you are offering product to cattle if needed to achieve target intake.
 - If consumption is 2X the target intake, then cost will be too!
 - Properly store bags and pallets to avoid damage and product loss.
- Continue to monitor bulls and their activity throughout the breeding season.
 - Monitor BCS, particularly on young bulls.
 - If pulling bulls from cows to manage the length of the breeding season, schedule those dates and have them on the calendar in advance.
 - If bulls are BCS ≤ 5.0 after breeding, consider supplementing to regain BCS going into fall.

Calf Management

- If creep feeding calves, closely monitor intake and calf condition/fleshiness.
- Monitor calves for summer respiratory illness.
- Schedule any pre-weaning vaccination or processing activities.

General Management

- Evaluate grass growth and adjust your grazing plan as needed.
- Continue efforts to control invasive species in pastures.
- Employ multiple strategies, chemistries for late-season fly/insect control.
- Begin taking inventory of harvested forages for fall feed needs.
- If planning to harvest corn silage, prepare your pile/bunker site and equipment.
- Use the Management Minder tool on KSUBeef.org to plan key management activities for your cow herd for the rest of the year.
- With high feeder calf prices, consider price risk management tools.
- Visit with your local FSA and extension office if you plan to utilize CRP acres for emergency forage use or other assistance programs.

What's New for Beef Producers

↪ **Effects of Limit Feeding and Shade Allocation on Growing Calf Performance, Water Usage, and Animal Comfort-** The objective of this study was to evaluate the impact of limit feeding in conjunction with shade allotment on animal performance, animal comfort, and water usage during periods of heat stress. During the summers of 2021 and 2022, 852 heifers were assigned to one of four treatments: limit-fed high-energy ration or high-roughage ration fed for *ad libitum* intake with or without access to shade. Growth performance and water usage were measured during a 90-day growing period. Calves were fed a gut equilibration diet for 7 days to account for gut fill.

The Bottom Line: Limit feeding a high-energy ration at 2.2% of body weight daily on a dry matter basis in combination with shade can improve animal efficiency, reduce water consumption, and improve animal comfort during periods of heat stress. More information is available on this experiment and others in the KSU Cattlemen's Day report at www.KSUbeef.org. For more information, contact Dale Blasi (785-532-5427; dblasi@ksu.edu) or A.J. Tarpoff (785-532-1255; tarpoff@ksu.edu)

↪ **Evaluating the Effect of Accelerated Aging at Different Temperature and Time Points on Beef Quality and Enzyme Activity of Lower Quality Beef Cuts-** This study aimed to explore the effects of four accelerated aging (AA) methods at different temperature and time points on meat quality and enzymatic activity of two lower quality beef cuts. Shoulder clod and top round were collected from 10 U.S. Department of Agriculture choice beef carcasses, fabricated into steaks, and assigned to one of six treatments: 3 days postmortem (control), cooler aged for 21 days, AA 120°F for 2 h, AA 120°F for 3 h, AA 130°F for 2 h, and AA 130°F for 3 h. Yield was calculated based on loss during AA and cooking loss, and purge was collected for collagen analysis. Warner-Bratzler shear force (WBSF) was determined, and purge for microbial analysis was collected from primal bags as well as the package after AA treatment. Steak surfaces were swabbed on the anterior side prior to AA treatment, then swabbed on the posterior side after treatment. Aerobic plate counts (APC) were performed on purge and swab samples. Cathepsin activity was determined through zymography. Soluble collagen content and total collagen in the purge were determined through hydroxyproline content.

Results: All AA treatments decreased APC on the steak surfaces ($P < 0.01$) and in the purge ($P < 0.05$). The 130°F samples had a lower yield after AA than the 120°F groups ($P < 0.05$). The cooler aged samples had a lower cook yield than all of the AA samples ($P < 0.01$), and shoulder clod samples displayed higher cooking yield than the top round ($P < 0.01$). The WBSF results showed that AA 120°F for 3 h samples and both AA 130°F samples displayed similar tenderness to the samples that were cooler aged for 21 days ($P < 0.01$). All the AA treatments had higher collagen in the purge than the control or cooler aged samples ($P < 0.01$). There was heightened cathepsin enzymatic activity during all treatments when compared to the control samples, and the AA at 120°F for 3 h treatment displayed the highest activity compared to other AA treatments ($P < 0.01$).

The Bottom Line: Accelerated aging has shown to be a promising technique to increase value in lower priced beef cuts through increasing enzymatic activity and tenderness without accelerating microorganism growth. More information is available on this experiment and others in the KSU Cattlemen's Day report at www.KSUbeef.org. For more information, contact Michael Chao (785-532-1230; mdchao@ksu.edu) or Liz Boyle (785-532-1247; lboyle@ksu.edu)

What's New for Swine Producers

☞ **Evaluation of Corn Protein Source on Feed Intake Preference in Nursery Pigs**- A total of 180 pigs (241 × 600, DNA; initially 17.0 ±1.6 lb) were used to determine feed intake preference from various corn protein sources. A series of 5-day preference trials were used with two diets offered within each comparison with feeder location rotated daily within each pen. Feed consumption was used to determine preference between each diet comparison. There were 6 replicates of each diet comparison. The corn protein sources utilized in this experiment included: fermented corn protein, high protein distillers dried grains with solubles (HPDDGs), whole stillage solids (approximately 2/3 content of fermented corn protein), and thin stillage solids (approximately 1/3 content of fermented corn protein). Fermented corn protein and HPDDGs were included in the diet at 15% as a replacement for corn. Whole stillage solids and thin stillage solids were included in the diet at 10% and 5%, respectively, as a replacement to corn to match its contribution in fermented corn protein. The control diet was a standard nursery diet. Diet comparisons included: 1) Control vs. Fermented corn protein; 2) Whole stillage solids vs. Fermented corn protein; 3) Thin stillage solids vs. Fermented corn protein; 4) HPDDGs vs. Fermented corn protein; 5) Control vs. Whole stillage solids; 6) Control vs. Thin stillage solids. For comparison 1, pigs preferred ($P < 0.001$) the control diet by consuming 82.5% of their intake with this diet compared with the diet containing fermented corn protein. For comparison 2, there was no difference ($P > 0.05$) in feed consumption of diets containing whole stillage solids and the fermented corn protein. For comparison 3, pigs preferred ($P = 0.001$) the diet containing thin stillage solids by consuming 75.8% of their intake with this diet compared to the diet containing fermented corn protein. There was no difference when comparing fermented corn protein and whole stillage solids, but thin stillage solids had a higher percentage intake than fermented corn protein. Therefore, it is likely that whole stillage solids are the component of fermented corn protein that negatively affect feed consumption. 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, Robert D. Goodband, Mike D. Tokach, Jason C. Woodworth, Joel M. DeRouchey and Jordan T. Gebhardt.)

☞ **Prevalence of Escherichia coli in a Swine Nursery Facility Pre- and Post-Disinfection**- During the spring of 2021, the Kansas State University Swine Early Wean Facility (SEW) experienced a notable increase in piglet morbidity and mortality. Piglet diarrhea was observed approximately 2 to 3 weeks post-weaning along with an increase in number of sudden mortalities. Necropsy samples were collected and confirmed for clinical diagnosis of *Escherichia coli* K88 infection by the Kansas State University Veterinary Diagnostic Laboratory. *E. coli* K88 can negatively impact performance of pigs and typically manifests as diarrhea, which can continue until death because of severe dehydration and metabolic acidosis or from terminal septicemia. Once present, *E. coli*, including *E. coli* K88, tends to persist in the environment unless vigorous efforts are successful at sanitation and disinfection. Therefore, the overall objective of this study was to determine the critical areas in need of improved disinfection at the nursery facility and to make recommendations based on environmental sampling results. The research team surveyed the most probable areas of contamination before sampling and identified six locations from which to collect environmental samples in each pen. These six locations, in addition to other common-use areas in the barn, were sampled using sponges and swabs from 10 pens at random both pre- and post-disinfection. After the completion of sampling, samples were enumerated using Sorbitol MacConkey Agar with cefixime and tellurite (CT-SMAC). *E. coli* was not detected from the common-use areas such as the water lines, office water faucets, and feed buckets. The dirtiest pen sample areas pre-disinfection included under rubber mats, inside and outside of waterers, and the floor slats. Disinfection significantly reduced ($P < 0.05$) contamination of the floor slats and the waterer (inside and outside). While the slats were initially among the dirtiest samples, after cleaning, a 6.5 log reduction was observed. Conversely, contamination on the feeder surface and lip of the feeder was not significantly reduced post-disinfection ($P > 0.05$). *E. coli* was recovered from every sample type post-sanitation. While the current cleaning process was successful in reducing bacterial contamination, these data suggest it could be further improved by using a more effective and thorough cleaning process, as some residual contamination remained. Recommendations might include the use of a stronger disinfectant with power washing, higher water pressure, and increased water temperatures, among others. Perhaps physical scrubbing in hard-to-reach locations, such as rubber mats and water cups might also be helpful. More information is available on this experiment and others in the KSU Swine Day report at www.KSUSwine.org. (This study conducted by Macie E. Reeb, Kellen Habib, Jason C. Woodworth, Joel M. DeRouchey, Mike D. Tokach, Robert D. Goodband, Jordan T. Gebhardt and Sara E. Gragg.)

What's New for Dairy Producers

↪ **Kansas Dairy Producers' Needs Survey: Results on herd demographics, milk production and quality** – The KS dairy industry has grown and rapidly changed over the years as a reflection of the hard work performed by farmers and supported by government entities, allied industries, and academia. With such changes, an assessment of the KS modern dairy producers' needs seemed necessary to target future paths for extension and research programs. Thus, from Fall 2021 to Summer 2022, a survey was conducted with dairy farmers in KS. This article will cover only the results on herd demographics and milk production. Among all the grade A dairy producers in KS, about 20% of them participated in this voluntary and anonymous initiative. Moreover, 68% of the responses were from dairy herds with < 250 lactating cows, 13% between 251 and 500 lactating cows, and 19% from herds with > 1,000 lactating cows. This is a good representation of the KS dairy herd size distribution, and for this article, we will refer to them as small, medium, and large herds. Small herds had various percentages of primiparous cows (15% of herds had < 20% of primiparous; 27% of herds had 21 to 30% of primiparous; 31% of herds had 31 to 40% of primiparous; 19% of herds had 41 to 50% of primiparous cows). In contrast, 60% of medium herds had 31 to 40% of primiparous cows, while 70% of large herds had 41 to 50%. This is perhaps a representation of the growing stage of large herds in KS, which follows the national industry trend. An opportunity is observed for those small herds with lower primiparous percentages because new animals with better genetics could be introduced to the herd faster to impact profitability. The responses were quite interesting regarding milk production and quality and also provided some opportunities. **Table 1A** displays the result of the herd distribution in percentages for each of the milk production categories in lbs. per cow per day during the colder months of the year (October to May), while **Table 1B** displays the herd distribution in somatic cell count.

The Bottom Line: As observed in the table, some herds have the opportunity to improve milk production and quality. The growth of the KS dairy industry and the opportunities revealed by this survey make our state a great place to work with dairy. Milk production and quality could be enhanced through parlor management, genetics, cow comfort, etc. As an initial outcome of this study, Dr. Victor Gomez-Leon is offering milking schools focused on good practices and why producers or technicians should care about it. If you are interested in scheduling a milking school for your herd, please contact Dr. Victor Gomez-Leon (vgomezleon@ksu.edu or 785-532-2652.) For more information visit www.asi.k-state.edu/extension/dairy.

Table 1. Percentages of farms divided by herd size (Small: < 250 cows, Medium: 251 to 500 cows, Large: > 1,000 cows) and milk production per cow per day (A) or somatic cell count (B)

A)		Milk production per cow per day in lbs.					
Herd size	< 40	41 to 50	51 to 60	61 to 70	71 to 80	> 81	
Small	23%	12%	15%	8%	19%	23%	
Medium	0%	0%	0%	40%	20%	40%	
Large	0%	0%	0%	14%	71%	15%	
		Somatic cell count in 100,000 of cells					
Herd size	< 160	161 to 180	181 to 200	201 to 240	> 241	NR	
Small	35%	15%	8%	8%	31%	4%	
Medium	40%	0%	40%	20%	0%	0%	
Large	71%	0%	0%	14%	14%	0%	

NR: No responses.

ASI FACULTY SPOTLIGHT...



Joann Kouba (jkouba@ksu.edu; 785-532-1240)

Associate Professor, Equine Physiology

Dr. Kouba was born and raised in Bellevue, Nebraska. She entered Northeast Missouri State University in 1989, majoring in Animal Science with an Equine emphasis. Following graduation, she began her graduate career in Animal Physiology at Clemson University in Clemson, South Carolina. While at Clemson, she was actively involved in their undergraduate teaching program and her thesis focused on the use of Domperidone to treat pregnant mares grazing endophyte-infected tall fescue. She then moved to Texas and started on her Ph.D. in Equine Reproductive Physiology at Texas A&M University. While at A&M, Dr. Kouba was also heavily involved in their undergraduate program, teaching courses in horse training, horsemanship, reproduction and management, as well as the introductory animal science labs. Her dissertation dealt with the control of prolactin secretion in the pregnant mare, and the interaction between various reproductive hormones and endogenous opioids.

In the fall of 2001, Dr. Kouba joined the KSU faculty as the horse teaching and research specialist with a 80% teaching and 20% research appointment. Since 2001, she has taught 10 on-campus equine courses as well as 2 distance courses, advises ~60 students annually, and mentors equine graduate students pursuing advanced degrees with a reproductive physiology emphasis. Beyond her on-campus classes, Dr. Kouba also believes in enhancing educational opportunities for students through international experiences. She has led 3 equine study tours, visiting England, Scotland, Ireland, Spain, Portugal and Morocco. Her research program focuses on understanding how reproduction is controlled in the mare and stallion, and the interaction between nutrition and reproductive function. In addition to her equine interests, Dr. Kouba and her family also enjoy showing and breeding German Shepherds.



Randall Phebus (phebus@ksu.edu; 785-532-1215)

Professor, Food Microbiology and Safety

Dr. Randy Phebus is from Waverly, Tennessee, a small town 70 miles west of Nashville. He attended the University of Tennessee in Knoxville from 1981-1992, earning B.S. (Animal Science), M.S. and Ph.D. degrees (Food Science). Dr. Phebus joined the K-State ASI department in 1992 and has a 30% teaching and 70% research appointment within the Food Science discipline group. He teaches both undergraduate and graduate level courses in Food Science and is active in the distance learning Global Campus Food Science program and student recruitment. He specializes in food microbiology, food safety, food biosecurity and defense, and public health.

Dr. Phebus coordinates an active applied food safety research program spanning most food categories. He is a member of the K-State Food Science Institute, and holds graduate faculty status in Food Science, Animal Sciences, and Pathobiology. He works closely with food processors, regulators, and technology providers across the country to improve food quality and safety through laboratory-based and processing-based research and troubleshooting activities. Dr. Phebus has served two appointments by the U.S. Secretary of Agriculture on the National Advisory Committee on Meat and Poultry Inspection. He is a research fellow at the K-State Biosecurity Research Institute, where his team conducts large-scale pathogen-inoculated studies under biocontainment to support food industry food safety needs.

Personally, Dr. Phebus cheers on his Tennessee Volunteers and K-State Wildcats. All of Dr. Phebus' spare time is spent on home improvement and gardening projects that never seem to be completed, and on riding his motorcycle around the beautiful Kansas Flint Hills.

*We need your input! If you have any suggestions or comments on **News from KSU Animal Sciences**, please let us know by email to katiesmith@ksu.edu*