News from KSU Animal Sciences

UPCOMING EVENTS…

- **Developing and Implementing a HACCP Plan for Meat and Poultry Workshop** will be June 5-7, 2018, in Weber Hall, Kansas State University, Manhattan, Kansas. This three-day workshop uses curriculum recognized by the International HACCP Alliance for meat and poultry processors and is led by an International HACCP Alliance Lead Instructor. The workshop fee is $450 per person, and participants will be presented with a certificate with an International HACCP Alliance seal upon completion of the course. Registration is limited to 25 participants. For more information, contact Dr. Liz Boyle (lboyle@ksu.edu; 785-532-1247). Registration is online at http:/haccp.unl.edu.

- There are still spots available for the upcoming **KSU Youth Horse Judging Camp – Beginning Section** which will be held June 6, 2018, and the **KSU Youth Horse Judging Camp – Advanced Section** to be held June 4-5, 2018. Both camps will be hosted in Weber Arena on the KSU Campus. Registration for both camps must be paid by May 11, 2018. For more information, visit the website http://www.asi.k-state.edu/research-and-extension/youth-programs/judging-camps.html. You can also contact James Lattimer (785-532-2840; jlattimer@ksu.edu).

- **K-State Livestock Judging Camps 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 2018 camps will be: June 6-8 (Wednesday-Friday); June 11-13 (Monday-Wednesday); or June 15-17 (Friday-Sunday). For a complete schedule and registration information, visit http://www.asi.k-state.edu/research-and-extension/youth-programs/judging-camps.html. The registration deadline is May 21. For more information, contact Chris Mullinix (785-532-1917; cmullinix@k-state.edu).

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May, 2018 issue

Kansas State University Animal Sciences and Industry
K-STATE Research and Extension

- **State Livestock Nominations - Due June 15th -** All state small livestock nominations (non-market beef) must be postmarked by June 15th. This includes commercial heifers, market swine, commercial gilts, market lambs, commercial ewes, and ALL meat goats. 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. The 2018 nomination information has been distributed to county offices and may be found on the Youth Livestock Program website (www.youthlivestock.ksu.edu). The current 2018 Declaration and Specie Nomination Forms MUST be used for nominations to be accepted. The correct forms have "February 2018" printed on the bottom of the form. Anyone who turns in an old form or incorrect form will have it returned and must follow the incomplete nomination protocol to re-submit them. The "Extra" Nomination Forms have also been reinstated for sheep and swine. Please keep in mind that these forms are ONLY to be used in addition to the regular specie nomination form for those who are nominating more animals than will fit on the regular form. If families only turn in the "Extra" form, their nominations will be returned, they will also be required to follow the incomplete nomination protocol, and they will be directed to their local extension office to rectify their nominations. All families are encouraged to use the specie checklist as a guide to ensure their nominations are complete upon original submission. This resource may be found on the Youth Livestock Program website or through the local county office. Please double check that there are not any blank fields or questions on the Declaration and Nomination Forms before placing them in the mail. In addition to submitting complete or correct information, families must also pay a $20 fee if any component of their nomination is incomplete. First-time nominating families are also encouraged to use the Rookie Guide as a resource to guide them in completing their livestock nominations.

  As a reminder, ear notches are required for swine nominations and scrapie tag numbers are required for sheep and goats. Ear notches must be written and drawn in the appropriate fields of the nomination form to be accepted. The full scrapie tag number is required, which includes the flock/premise ID and individual animal number (Ex. KSS0035 16151). Nominations received without this information will be considered incomplete and returned to the family for completion. Confirmation letters will be sent to families once their nominations have been processed, and reports will regularly be posted on the Youth Livestock Program website. Families are encouraged to use one of these options to verify their nominations. A complete nomination does NOT constitute show entry. The Kansas State Fair and KJLS will release entry information through their respective websites. Both will be using online entry systems, similar to last year. The Kansas State Fair entry system is already available through the Grand Drive page. State Fair Grand Drive entries will be due July 15th, and KJLS entries will be due August 15th. Animals who 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 (785)532-1264 or adhayes@ksu.edu.

- The **2018 Dr. Bob Hines Kansas Swine Classic** is scheduled for July 6-7, 2018, at CiCo Park in Manhattan. This two-day event includes educational workshops, showmanship contest, and a prospect and market hog show. It is open to all Kansas youth ages 7 through 18 as of January 1, 2018. Again, this year all market pigs will be shown together and divided into classes based on weight.

  This year's Classic will feature a swine photography contest along with a swine skillathon. For the Swine Photography Contest, youth may submit up to two swine photos. Photos should be 8x10" size and should not be framed or matted. Photos will be placed in plastic sleeves and displayed throughout the weekend. Outlined below is a schedule of this year's program.

Friday, July 6

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

Saturday, July 7

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

Entries must be postmarked by June 25, 2018. More information and registration is available at www.KSUswine.org. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu) or Lexie Hayes (785-532-1264; adhayes@ksu.edu).

- **K-State Ranching Summit** - The KSU Beef Team is pleased to invite you to the 2018 K-State Ranching Summit on August 15, 2018, at the Alumni Center in Manhattan, KS. The theme of the program is "*Beef 2030 – Pursuing technology, transparency and profitability*." A tentative agenda is below:

8:30 AM	Registration
9:00 AM	Welcome, Goals
9:15 AM	Pursuing, adopting and leveraging technology - **Mark Gardiner, Gardiner Angus, Ashland, KS**
10:00 AM	What can we learn from consumer trends - **(TBD)**
10:45 AM	Break
11:15 AM	Managerial accounting: key numbers for ranch managers - **Tyson Johnson, Sooner Land and Cattle, Pawhuska, OK**
12:00 PM	Response to morning session followed by Q & A - **Matt Perrier, Dalebanks Angus, Eureka, KS**
12:15 PM	Lunch
1:00 PM	Disruptive technologies and the Beef Industry - **Tom Field, University of Nebraska, Lincoln, NE**
1:45 PM	A look at specific disruptive technologies
2:30 PM	Break
3:00 PM	A vision of the Beef Industry in 2030 - **John Butler, Innovative Livestock Services, Manhattan, KS**
3:45 PM	Response to afternoon session followed by Q & A - **Dale Blasi, K-State, Manhattan, KS**
4:00 PM	Adjourn

Early registration (by August 8) is $40 for individuals or $70 for two attendees from the same operation. Students are $20. Registration August 9 and later, including at the door, is $70, no discount offered for second attendee from same operation. Pre-registration is encouraged to accommodate catering.

A block of rooms has been reserved at the Holiday Inn at the Campus under "K-State Ranching Summit." Reservations must be made by **July 20** to receive the rate of $99.95 plus tax. Participants may make reservations directly with the hotel at 785-539-7531 or online at www.holidayinn.com/universityks, using the group code RAN. For registration and schedule updates, visit www.KSUbeef.org. For more information, contact Bob Weaber (785-532-1460; bweaber@ksu.edu).

- **Kansas 4-H Livestock Sweepstakes August 18-19!** - The 2018 Kansas 4-H Livestock Sweepstakes will be August 18-19 on the K-State campus in Manhattan, KS. Mark your calendars! This is the corresponding date to previous years. The 4-H Livestock Sweepstakes event includes the state 4-H livestock judging contest, meat judging contest, livestock skillathon, and livestock quiz bowl. The members who will represent Kansas at the national 4-H contest for each of these events will be selected during the livestock sweepstakes weekend. The deadline to enter will be August 1. All entries must be made by the local Extension Office using Cvent. Additional details will be released in June. For more information, contact Lexie Hayes at (785)532-1264 or adhayes@ksu.edu.

- October 12, 2018, is the date set for the **4th Annual ASI Family and Friends Reunion**. This year we will be honoring CattleFax with the Don L. Good Impact Award. Watch for more details coming soon.

- KSU Animal Sciences and Industry Department will be hosing the **2018 Kansas Certified Wool Classing School and Kansas Sheep Shearing School** on October 19-21, 2018. Watch for more details. For more information, contact Alison Crane (arcrane@ksu.edu; 785-532-1672)

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
June 4-5, 2018	KSU Youth Horse Judging Camp – Advanced Section	Manhattan
June 5-7, 2018	Introduction to HACCP Workshop	Manhattan
June 6, 2018	KSU Youth Horse Judging Camp – Beginning Section	Manhattan
June 6-8, 2018	K-State Livestock Judging Camp	Manhattan
June 11-13, 2018	K-State Livestock Judging Camp	Manhattan
June 15, 2018	All Other Species Nominations due	
June 15-17, 2018	K-State Livestock Judging Camp	Manhattan
July 6-7, 2018	Dr. Bob Hines Swine Classic	Manhattan
August 15, 2018	K-State Ranching Summit	Manhattan
August 18-19, 2018	Kansas 4-H Livestock Sweepstakes	Manhattan
October 12, 2018	4th Annual ASI Family and Friends Reunion	Manhattan
October 19-21, 2018	Kansas Certified Wool Classing School	Manhattan
October 19-21, 2018	Kansas Sheep Shearing School	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

"How Much Water Does a Cow Need?"

Most cattle producers fully understand the importance of water. After all, providing an adequate supply of clean, fresh water is the cornerstone of animal husbandry and there are very few things that compare to the feeling of finding thirsty cows grouped around a dry tank on a hot day. Water is important, and in situations where the water supply is limited or we are forced to haul water, one of the first questions we find ourselves asking is, "How much water do those cows need?" The old rule of thumb is that cattle should consume 1-2 gallons of water per 100 lbs of bodyweight. Accurately determining the amount of water cows will voluntarily consume is difficult and is influenced by several factors (ambient temperature, moisture and salt content of the diet, body weight, lactation, etc.). Water consumption increases linearly as ambient temperature increases above 40° Fahrenheit such that cows require an additional gallon of water for every 10 degree increase in temperature. Additionally, lactation also directly increases the amount of water required by beef cows. The table below summarizes the daily water requirements of beef cows of several different body weights, milk production levels and ambient temperatures.

		Average Daily Temperature, °F		
		40	65	90
Cow weight, lb	Milk Production, lb/d	Gallons of Water/day		
1100	0	8.2	10.8	13.4
	10	10.5	13.1	15.7
	25	12.8	15.4	17.9
1300	0	9.2	11.8	14.3
	10	12.2	14.8	17.4
	25	14.5	17.1	19.7
1500	0	10.2	12.7	15.3
	10	14.0	16.5	19.1
	25	16.3	18.8	21.4

The daily water requirements of beef cows represented are estimates and water consumption varies greatly during the summer months when temperatures exceed 90° Fahrenheit. Therefore, these recommendations should be regarded as minimum guidelines.

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

- **Research Assistant (Beef Cattle Research Center – BCRC) –** The Department of Animal Sciences and Industry is looking for a full-time, unclassified staff position (Job no 503750). This position will direct, supervise and coordinate daily activities at the Beef Cattle Research Center (BCRC) including employee supervision, posting research data, maintaining herd health programs and coordinating daily work and research activities of part-time employees. Application deadline: Screening begins immediately and will continue until a suitable candidate is identified. For more information, contact Dr. Jim Drouillard, Search Committee Chair, at 532-1204 or jdrouill@k-state.edu. To apply, go to http://careers.k-state.edu/cw/en-us/job/503750/research-assistant-feedlot-manager.

- **Marketing Youth Livestock Educational Opportunities** - Counties that have spring shows or other educational opportunities, such as camps, clinics, or skillathons, are invited to share that information with the youth livestock program by emailing Lexie at adhayes@ksu.edu. We have created a new tab on the youth livestock page to share these events: Camps, Clinics & Local Events. We will still accept spring shows to post as well. Please send these updates to Lexie at adhayes@ksu.edu.

- **Youth PQA Plus Program Discontinuing** - Swine exhibitors for the Kansas State Fair Grand Drive and KJLS must have a valid Youth PQA Plus or YQCA certification number in order to participate. The certification numbers are submitted as part of the state livestock nomination process. The National Pork Board will be discontinuing the Youth PQA Plus program on May 31, 2018. After this date, youth will no longer be able to certify or re-certify using the Youth PQA Plus program. However, the National Pork Board will honor Youth PQA certifications until they expire, including youth who earn multi-year certification by "testing out". So youth who plan to nominate swine for the Kansas State Fair or KJLS are HIGHLY encouraged to complete their Youth PQA training by the end of May. Youth who need quality assurance certification after May 31 will need to use the Youth for the Quality Care of Animals (YQCA) program. This is the program the National Pork Board will be transitioning their participants to in the future. Face-to-face sessions may be taken for $3/child, or the online version is available for $12/child. Families interested in livestock quality assurance certification are encouraged to contact their local extension office for options available in their local area.

- **Grazing Diets of Mature Ewes in the Flint Hills Contain a Significant Proportion of Sericea Lespedeza** - The objective of this study was to characterize diets selected by sheep grazing sericea lespedeza (Lespedeza cuneata) infested native tallgrass pastures and contrast these diets to those of cattle grazing the same range earlier in the grazing season. Multi-species grazing may provide an additional tool to aid landholders in the control of sericea lespedeza compared to cattle grazing only. The study was conducted on eight native tallgrass pastures grazed by more than 800 mature ewes. Pastures were infested with sericea lespedeza (basal frequency = 2.9 ± 2.43%) and stocked with yearling steers at a relatively high stocking rate (2.7 acres/steer) from April 15 to July 15 and subsequently grazed by sheep from July 30 to October 1.

  Fecal samples were collected from individual sheep on August 15 and on September 15 for 2 years. Samples were prepared and viewed under a compound microscope to identify and count plant fragments. These data were used to determine frequency at which each plant species appeared in diets selected by freely-grazing sheep.

  Bottom Line… Sericea lespedeza comprised approximately 1.5% of sheep diets. Consumption at that level is likely sufficient to control seed production by that plant. Grazing of small ruminants in addition to cattle in a grazing system may provide landholders an additional tool for control of sericea lespedeza. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact KC Olson (785-532-1254; kcolson@ksu.edu) or Bob Weaber (785-532-1460; bweaber@ksu.edu).

- **Programming a Variety of Gains Is Possible by Controlling Intake of a Single High-Energy By-Product-Based Diet Early in the Receiving/Growing Period without Affecting Efficiency** - The objective of this study was to analyze the effects on performance when feeding a high-energy by-product-based diet to newly received growing cattle. A total of 400 Angus × Hereford heifers originating from Montana were used to determine the effects on performance when intake of a high-energy corn by-product-based diet is increased to near ad libitum intake.

  Bottom Line… One high-energy diet based on wet corn gluten feed can be offered to achieve a variety of gains efficiently by only altering the amount of feed offered. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Dale Blasi (785-532-5427; dblasi@ksu.edu).

- **Relationship of Myofibrillar Fragmentation Index to Warner-Bratzler Shear Force and Palatability Tenderness of Longissimus Lumborum and Semitendinosus Steaks -** The objective of this study was to determine the relationship between the myofibrillar fragmentation index, Warner-Bratzler shear force and sensory traits of longissimus lumborum (strip loin), and the semitendinosus (eye of round) steaks. Forty beef strip loins and 40 eye of rounds were collected, divided into anatomical location, and cut into steaks.

Steaks used for Warner-Bratzler shear force and sensory panel review were cooked to 160°F. For Warner-Bratzler, six 0.4-in cores were sheared with a Warner-Bratzler shear head. Sensory steaks were served to panelists trained according to American Meat Science Association guidelines for sensory evaluation. Procedures described by Culler et al. (1978) were used to determine myofibrillar fragmentation index.

Bottom Line… The correlation between myofibrillar fragmentation index, Warner-Bratzler shear force, and sensory measures of tenderness were weak, indicating myofibrillar fragmentation index was not a reliable indicator of beef tenderness for the muscles evaluated. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, Travis O'Quinn (785-532-3469; travisoquinn@ksu.edu) or Terry Houser (785-532-1253; houser@ksu.edu).

- **Effect of Parity and Stage of Gestation on Growth and Feed Efficiency of Gestating Sows -** The effects of parity and stage of gestation on female growth criteria and reproductive performance were evaluated at a commercial sow farm. A total of 712 females were group-housed and individually fed with electronic sow feeders. Gilts (parity 1) and sows were offered 4.4 and 5.0 lb of feed per day (4.7 and 5.3 Mcal NE per d), respectively. Females were moved from the breeding stall to pens on d 5 of gestation. A scale was located in the alleyway to weigh sows as they left individual feeding stations. Feed intake and BW were recorded daily throughout gestation, generating values for ADFI, ADG, and G:F for each sow. Data were divided into three parity groups: 1, 2, and 3+, and gestation was divided into 3 periods: day 5 to 39, 40 to 74, and 75 to 109.

  From day 5 to 39, ADFI was decreased for parity 3+ sows compared to the other periods of gestation. Parity 2 sows, although provided the same feed allowance, had greater ADFI during the first period of gestation than parity 3+ sows. Parity 1 and 2 sow ADG increased from day 39 to 74 of gestation, then decreased from day 74 to 109 of gestation. Parity 3+ sow ADG increased in each subsequent period of gestation. Parity 1 sows had the greatest ADG in comparison to parity 2 and 3+ sows in each period of gestation. Regardless of parity group, G:F was poorest from d 5 to 39 of gestation compared with sequential periods of gestation. Parity 1 sow G:F was greater than parity 2 and 3+ sows for all periods of gestation. Backfat gain indicated that parity 1 sows maintained backfat (approximately 0.7 in.) while parity 2 and 3+ sows gained approximately 0.04 in. backfat throughout gestation. Total born was greatest for parity 3+ sows with parity 1 sows marginally greater than parity 2 sows.

  Bottom Line…Although there was evidence for positive correlations between BW gain and total born in parities 1, 2, and 3+, these correlations were considered weak. Overall, this study indicates that parity 1 sows have the best feed efficiency in gestation and lack strong correlations between feed intake or growth and reproductive performance. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. *(This study conducted by L.L. Thomas, R.D. Goodband, M.D. Tokach, J.C. Woodworth, J.M. DeRouchey, and S.S. Dritz*)

- **Split Suckling, Birth Order, and Birth Weight Affects Colostrum Intake and Pre-Weaning Weight Gain -** Thirty sows and litters were used to determine the effects of split suckling on immunocrit, colostrum intake, and growth of low birth weight pigs and pigs that farrow last in the birth order. Three treatments were used 1) control, all pigs suckled ad libitum; 2) weight based, the heaviest six pigs were removed for 1.5 h; or 3) birth order based, the first half of the litter was removed for 1.5 h.

  Bottom Line… Over all litters, heavier pigs at birth had greater colostrum intake and pigs born in the last half of the litter had lower immunocrits (a measure of circulating immunoglobulins) than pigs born in the first half of the litter. Removing the heaviest six pigs for 1.5 hours beginning 6 hours after farrowing resulted in increased weight gain by day 7. A tendency for treatment × birth order interactions suggests that split suckling increased colostrum intake for the later born pigs. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J.M. Morton, A.J. Langemeier, T. Rathbun, and D.L. Davis)

- **Effects of Increasing Salt Concentrations on Growth Performance of Pigs Weighing 60 to 140 lb** - A total of 1,188 pigs were used in a 44-day growth trial to determine the effects of added salt on the growth performance of pigs weighing approximately 60 to 140 lb in a commercial setting. Pens of pigs were blocked by BW and randomly assigned to one of four dietary treatments in a completely randomized block design with 27 pigs per pen and 11 pens per treatment. Dietary treatments were corn soybean meal-based with 20% dried distillers grain with soluble containing either 0.10, 0.33, 0.55, or 0.75% of added salt, which resulted in calculated dietary Na levels of 0.10, 0.19, 0.28, and 0.36%; and calculated Cl levels of 0.23, 0.36, 0.49, and 0.61%. From day 0 to 44, there was no evidence of difference to indicate that increasing salt beyond 0.10% influenced ADG, ADFI, F/G, or BW.

  Bottom Line… This study reported that 0.10% of added salt in a diet containing 20% dried distillers grain with solubles was adequate for maximum growth performance in 60- to 140-lb grower pigs. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. *(This study conducted by* D.J. Shawk, S.S. Dritz, M.D. Tokach, R.D. Goodband, J.C. Woodworth, and J.M. DeRouchey)

AS&I Faculty Spotlight

Jim Nelssen (jnelssen@k-state.edu; 785-532-1251)
Professor/Extension Swine Specialist

Dr. Jim Nelssen is an extension specialist and swine nutritionist at Kansas State University. His current position is 41% Extension and 41% Research.

Dr. Nelssen grew up in Smith Center, Kansas, where he was active in 4-H and FFA. Jim received his B.S. in Animal Science (1978) and his M.S. in swine reproductive physiology (1980) from Kansas State University. He received his Ph.D. in Swine Nutrition from the University of Nebraska in 1983. Later that year, Jim started his career at Kansas State University as an Assistant Professor and Extension Swine Specialist. He was promoted to associate professor in 1989 and a full professor in 1995.

Jim's focus is transferring information to swine producers and conducting practical nutrition research. Jim has presented invited seminars at more than 190 animal and veterinary science meetings around the world in addition to numerous presentations to local producer groups. Jim has authored or co-authored 123 refereed journal papers, 320 abstracts, 492 extension publications, and four book chapters. In 2005, Jim was named one of the 50 people that have made the greatest impact on the swine industry in the last 50 years by the *National Hog Farmer* Magazine.

Jim has three children.

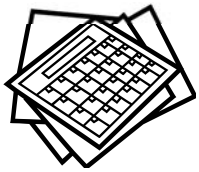
Abbey Nutsch (anutsch@k-state.edu; 785-532-4549)
Assistant Professor/Food Microbiology

Dr. Abbey Nutsch received B.S. (1994) and Ph.D. (1998) degrees in Food Science from Kansas State University. A food microbiologist by training, her area of expertise is the microbiological safety of meat products, with particular emphasis on the application of antimicrobial interventions for both fresh and processed meat products. After spending five years as the Director of Technical Services for a commercial food testing and research laboratory, Dr. Nutsch returned to K-State in 2002 to serve within the Food Science Institute as a coordinator for a multi-institutional carcass disposal working group. In 2004, she joined the Department of Animal Sciences & Industry as an assistant professor of food safety and security. Originally from WaKeeney, Kansas, she and her husband, Todd, currently live in Wamego, Kansas, with their two children, Gracyn and Hayden.

Dr. Nutsch teaches graduate-level courses addressing food safety and food protection & defense, as well as graduate- and undergraduate-level courses addressing professional and research skills for food scientists. Dr. Nutsch advises undergraduate students in Food Science and in 2016 was appointed to serve as the Assessment Lead for the IFT-approved Food Science Undergraduate Program. For the past 10 years, Dr. Nutsch has advised students in the online Food Science MS program. In 2017, she received the Kansas State University Global Campus Outstanding Advisor Award.

In addition to her work with Food Science students, Dr. Nutsch also advises students in the Master of Public Health program and the Food Safety and Defense Graduate Certificate program (an inter-institutional graduate program administered through the AG*IDEA Academic Alliance).

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 insure 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.
  - ✓ Ammoniation 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, 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 hays 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.*