Newsletter from the Department of Animal Sciences and Industry
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UPCOMING EVENTS...

- **Developing and Implementing Your Company's HACCP Plan** for meat, poultry, and food processors will be held May 24-26, 2011 in Weber Hall, Kansas State University, Manhattan. Registration for the 2.5 day International HACCP Alliance accredited workshop is online at http://animalscience.unl.edu/web/anisci/ANSCExtensionMeatScienceHACCPInformationandCoursesRegistration. The workshop fee is $325, and meets USDA training requirements to become a HACCP trained individual. For more information, contact Dr. Liz Boyle at lboyle@ksu.edu or 785-532-1247.

- The **KSU Youth Horse Judging Camp – Beginning Section** will be held Monday, June 6, 2011, and the **Advanced Section** will be held June 9-10, 2011, in Weber Arena on the KSU Campus. For more information, contact Teresa Slough (785-532-1268; tslough@ksu.edu).

- The **third K-State Animal Sciences Leadership Academy** will be June 8-11, 2011, at KSU. This hands-on event is designed for current high school students to gain animal sciences industry knowledge and develop their leadership skills. You can find more information at www.YouthLivestock.KSU.edu. A special thank you to the Livestock and Meat Industry Council (LMIC) for continuing to support this program. For more details, contact Chelsea Tomascik (785-532-1264; tomascik@k-state.edu).

- Plan now to attend the **2011 "Champion" Livestock Judging Camp.** This 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. Camp participants will also be exposed to livestock evaluation skills and incorporating performance records in the decision making process. The following dates are set for the 2011 camps: June 14-16 (Tuesday-Thursday); June 17-19 (Friday-Sunday); and June 24-26 (Friday-Sunday). For additional information, contact Scott Schaake (785-532-1242; simmi@ksu.edu) or Kristi Hageman (785-532-2996; KLSmith@ksu.edu).

- **Swine, Lamb and Meat Goat Nominations due June 15, 2011**. IMPORTANT: Please remember to include Nomination Declaration forms. These are required by all families wishing to nominate. A nomination is considered incomplete until a Nomination Declaration form has been filed. All forms can be found at our website www.YouthLivestock.KSU.edu. Lamb nose print cards can be obtained from KSU Bookstore, 785-532-5830. Meat Goat DNA envelopes must be included for a complete meat goat nomination. For more information and questions, contact Chelsea Tomascik (785-532-1264; tomascik@k-state.edu).

- The Meat Science group and other faculty in the Department of Animal Sciences & Industry and Food Science Institute will host the **64th Reciprocal Meat Conference on June 19-22, 2011.** More than six hundred professional American Meat Science Association members, student AMSA members, emeriti, and spouses are expected to attend. The meetings will be held in McCain Auditorium, Union, Alumni Center, and Weber Hall. The program will include plenary speakers, concurrent speakers, and 'reciprocation session' speakers. Topics include "Feeding the World", "Carbon Footprint of Livestock and Meat Production", Food and Fiber Needs for the World", "Product Development", "Ensuring Food Safety", "Proteomics", " Meat Tenderness", Regulatory and Policy Changes for the Future", "Meat color", "Consumer Views of Food Safety", "Consumer Confidence", "E. coli o17:H7 and Strategies for Intervention" plus nearly 30 "Reciprocation Session Topics". Dr. Melvin Hunt will receive the International Award at the Awards Ceremony. There will be tours for the spouses, a golf tournament, a softball tournament, a reception, a picnic, and a Meat Lab Open House. This will be the third time that K-State has hosted the RMC and the only university to do so.

The AMSA fosters community and professional development among individuals who create and apply science to efficiently provide safe and high quality meat (defined as red meat (beef, pork and lamb), poultry, fish/seafood and meat from other managed species).

- The **2011 Dr. Bob Hines Swine Classic** is scheduled for July 8-9, 2011, 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 youths ages 7 through 18 as of January 1, 2011.

  This year's Classic will feature a swine photography contest along with an educational program which includes a tour of the Animal Science Department, live pork meat demonstration and information on AS&I curriculum. For more information, contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu), Jim Nelssen (785-532-1251; jnelssen@ksu.edu), or Chelsea Tomascik (785-532-1264; tomascik@k-state.edu).

- The **2011 KSU Beef Conference** has been scheduled for Tuesday, August 16. Mark your calendars and watch for more details.

- The **Kansas Livestock Sweepstakes** has been scheduled for August 20-21, 2011. This all-around event will feature contests in Livestock Judging, Meats Judging, Livestock Skillathon, and Livestock Quiz Bowl. A special prize will be awarded to the county that does the best in all four contests. Rules and past winners can be found at www.YouthLIvestock.KSU.edu. Complete information for 2011 will be available soon on the Youth Livestock Web page.

- Dates for upcoming **Applied Reproductive Strategies in Beef Cattle Workshops** have been set for Aug. 31-Sept. 1, 2011 in Joplin, MO, and Sept. 30-Oct. 1, 2011 in Boise, Idaho. These meetings are for anyone interested in beef cattle reproduction, including producers, veterinarians, AI (artificial insemination) technicians and Extension specialists. The workshops are designed to improve the implementation of currently available procedures to synchronize estrus and ovulation and the role of nutrition and management in reproductive success. They will also focus on improving participants' understanding of methods to assess male fertility and how it affects the success of AI programs. Program information will be available soon at www.beefrepro.info or contact Sandy Johnson, sandyj@ksu.edu.

- Mark the dates on your calendar for the **K-State Sheep and Meat Goat Conference** that has been scheduled for November 4-6, 2011. Watch for more details.

- The **23rd Range Beef Cow Symposium** will be Nov. 29 - Dec. 1, 2011 in Mitchell, Nebraska. The educational event for cattle producers started in 1969 at Chadron, NE, and is conducted every other year. Recognized as one of the premier production beef cattle symposiums in the country, the RBCS regularly attracts 800 to 1,200 attendees and more than 80 agribusiness booth vendors for the three-day event. The event rotates between Colorado, western Nebraska, western South Dakota and Wyoming. Program details will be available in the near future. This is an excellent professional development opportunity for agents. We will plan to coordinate transportation for those interested in attending. For more information, contact Sandy Johnson, sandyj@ksu.edu.

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
May 24-26, 2011	HACCP Plan Workshop	Manhattan
June 6, 2011	Horse Judging Camp – Beginner Section	Manhattan
June 9-10, 2011	Horse Judging Camp – Advanced Section	Manhattan
June 8-11, 2011	K-State Animal Sciences Leadership Academy	Manhattan
June 14-16, 2011	Champion Livestock Judging Camp	Manhattan
June 15, 2011	Swine, Lamb and Meat Goat Nominations due	
June 17-19, 2011	Champion Livestock Judging Camp	Manhattan
June 19-22, 2011	Reciprocal Meats Conference	Manhattan
June 24-26, 2011	Champion Livestock Judging Camp	Manhattan
July 8-9, 2011	Dr. Bob Hines Swine Classic	Manhattan
August 16, 2011	KSU Beef Conference	Manhattan
August 20-21, 2011	Kansas Livestock Sweepstakes	Manhattan
Aug. 31 – Sept. 1, 2011	Applied Reproductive Strategies in Beef Cattle	Joplin, MO
Sept. 30 – Oct. 1, 2011	Applied Reproductive Strategies in Beef Cattle	Boise, ID
November 4-6, 2011	KSU Sheep and Meat Goat Conference	Manhattan
Nov. 29 – Dec. 1, 2011	Range Beef Cow Symposium	Mitchell, NE

WHAT'S NEW....

- **Management Minute** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist

"Motivation"

How do you motivate your team? What motivates people to work harder or work differently? Can you change people's behavior long-term? These are all questions which have made motivational speakers and corporate consultants a lot of money over the past few decades. But I'm not sure the answer to any of these questions is beyond dispute.

Do you know anyone who is completely unmotivated to work harder or take ownership in the effort and is seemingly impervious to any form of external motivation? On the contrary, do you know anyone who, without any obvious external stimulation and in the face of a daunting workload, seems to have an internal motor which never runs down?

Both of these people exist in the workplace, and both raise the question, "Can you motivate people?" We've all seen examples that demonstrate that we can stimulate short-term activity toward a particular short-term goal. But what can be done to influence people's attitude and desire to make the whole team better? If the answer is "Nothing" then "Houston, we have a problem." To paraphrase a very famous and successful author, "Get the right people on the bus, and get the wrong ones off. Then press down hard on the pedal on the right---move *forward*."

What are "the right people"? They're the kind who share and embrace the team's vision, and are ready to do what it takes to achieve it. They are not a dime-a-dozen, but they're not impossible to find either. The reality is that well-managed organizations that take care of and empower their people attract hard-working, self-motivated people. Who *doesn't* want to work for that type of organization?

The flip side is that "the wrong people" are those that embrace their own vision, and feel that their vision supersedes that of the organization. In other words they're selfish, and that is a cancer to team unity. A selfish teammate is not a teammate at all, because they're not working toward the same goal as the rest of the team, which means the rest of the team has to work that much harder to move the project forward. You have to get them off the bus---they're dragging it into the ditch.

For more information, contact Chris at 785-532-1672 or cdr3@ksu.edu.

- **Feedlot Facts** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist

"Calfhood Vaccination"

There are many things that we do in the beef industry that we can be proud of that we continually improve upon. However, there are a handful of practices that can still be made better. One of these is improving immunity prior to shipment to the feedlot.

Respiratory disease continues to be the costliest disease in the beef industry. The costs of medication, lost performance, unrealized quality grade, and mortality drain the industry of resources which could be invested elsewhere.

One practice which has repeatedly demonstrated success at reducing disease is vaccinating calves prior to weaning. This practice has shown value in research studies as well as commercial production situations.

Studies have shown that whether you vaccinate at branding time or shortly before weaning, calves have reduced incidence of respiratory disease. Debate still exists as to the value of and ideal length of a pre-shipment weaning period. However, little question exists that calves which are vaccinated for respiratory pathogens prior to exposure to the numerous, intense, unpredictable stressors of the weaning, marketing, and transportation process are much better prepared to defend themselves against respiratory disease.

It's time to get busy. Ranchers should be developing a plan to vaccinate their calves. This can be done either at weaning time (at 2-3 months of age), when many ranchers castrate, dehorn, and/or implant their calves already, or shortly (2-3 weeks) before weaning. Many ranchers give a clostridial vaccine at branding time but have been told a respiratory viral vaccine does no good---this is not accurate. Pre-weaning vaccination adds real performance potential to calves, and ranchers do not need to look very long to find buyers or special sales which will pay a premium for healthier, better performing calves. But ranchers DO need to seek and find that value-added outlet, instead of going to the labor and expense of vaccinating and then marketing through a commodity sale.

The beef industry has made great strides in performance and genetics; however, there is still room for improvement in disease prevention and health management. Healthy calves perform better,

have higher and more predictable quality grade, and require less labor and logistics to manage at the feedlot. Commercial feedyards are paying premiums for these calves to capture these efficiencies. It is time NOW to develop your vaccination plan, find a value-added market, help make the beef industry better, and get paid for it in the process.

For more information contact Chris at cdr3@ksu.edu.

- **Research Assistant, Muscle Biology/Meat Color Chemistry** - The Department of Animal Sciences and Industry is looking for a Research Assistant, Muscle Biology/Meat Color Chemistry. This position is a full time, 12 month, non-tenure track term position. B.S. in Animal Science, Biology, Biochemistry or related field is required. M.S. in molecular biology or training in molecular biologic techniques is preferred. View complete position announcement at: http://www.asi.ksu.edu/positions. Review of applications begins May 25, 2011, and continues until position is filled.

- **Sun-Curing and Harvest Maturity Impacts Concentration and Protein-Binding Capacity of Condensed Tannins in Sericea Lespedeza *(Lespedeza cuneata)*** - This study was conducted in the summer of 2009. Samples were collected from a single 160-acre pasture. Composition of the pasture was determined using a modified step point technique, and sericea lespedeza comprised 19.3% of all plants encountered during the procedure. Samples were collected in a 4-week period to represent the single stem, branch stem, budding, flowering, and senescent stages of sericea growth. Samples were either sun-cured in burlap sacks or frozen immediately. All samples were dried and analyzed for concentrations of condensed tannins and protein-precipitable phenolics. Sun-curing sericea lespedeza dramatically reduced the concentrations of condensed tannins and protein-precipitable phenolics. The greatest concentrations of condensed tannins and protein-precipitable phenolics occurred in August, which corresponds to the flowering stage of sericea growth.

  Bottom Line… Understanding how drying and plant growth stage influence condensed tannin concentrations and protein-binding capacity of sericea lespedeza could lead to more effective research models for the study of sericea lespedeza intake by ruminant livestock. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact KC Olson (785-532-1254; kcolson@ksu.edu) or Dale Blasi (785-532-5427; dblasi@ksu.edu).

- **Voluntary Intake of Prairie Hay Contaminated with Sericea Lespedeza *(Lespedeza Cuneata)* by Beef Cows** - Twenty-four mature beef cows were housed in a single pen and were fed individually either tallgrass prairie hay contaminated with sericea lespedeza (approximately 30% by weight) or uncontaminated tallgrass prairie hay. Both sources of hay had similar crude protein (5.5 vs. 5.4%) and acid detergent fiber (41.0 vs. 39.8%) concentrations. Both groups of cows were fed uncontaminated forage during the first 5 days of the trial (days -5 to -1). We observed no differences in hay intake during this period. Contaminated hay was substituted for uncontaminated hay on day 0, and voluntary intake of hay immediately declined.

  Bottom Line… Tallgrass prairie hay heavily contaminated with sericea lespedeza may be a useful model for the study of the appetite-suppressing effects of sericea. Furthermore, the major source of appetite suppression by sericea lespedeza in sun-cured form was attributed to the post-ingestive consequences of anti-nutritional factors, possibly condensed tannins, rather than anti-palatability factors. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact KC Olson (785-532-1254; kcolson@ksu.edu) or Dale Blasi (785-532-5427; dblasi@ksu.edu).

- **Effects of Vomitoxin Concentration in Nursery Pig Diets and the Effectiveness of Commercial Products to Mitigate its Effects** - A total of 180 pigs (PIC TR4 × 1050, initially 22.8 lb and 34 d of age) were used in a 21-d trial to evaluate the effects of vomitoxin concentration in nursery pig diets and the effectiveness of commercial products to mitigate vomitoxin's negative effects on performance. Pens of pigs were balanced by initial weight and were randomly allotted to 1 of 5 dietary treatments with 6 replications per treatment. Dietary treatments included a control diet consisting of corn-soybean meal and regular dried distillers grains with solubles (DDGS; low vomitoxin), a negative control diet containing 4 ppm dietary vomitoxin (from contaminated DDGS), and the negative control diet with Biofix Plus, Cel-can with bentonite clay, or Defusion Plus. All diets were fed in meal form.

  From d 0 to 10, pigs fed either the negative control or diets containing Biofix Plus, Celcan with bentonite clay, or Defusion Plus had decreased ADG and ADFI than pigs fed the positive control diet. Pigs fed the positive control diet had improved F/G compared to pigs fed the negative control diet and

diets containing Biofix Plus or Cel-can with bentonite clay, with pigs fed diets containing Defusion Plus intermediate. From d 10 to 21, pigs fed the positive control or diet containing Defusion Plus had greater ADG than the negative control, Biofix Plus, and Cel-can with bentonite clay diets. Additionally, pigs fed the positive control diet had a greater ADFI than pigs fed the negative control and diets containing Biofix Plus and Cel-can with bentonite clay, with pigs fed Defusion Plus intermediate.

Bottom Line…. Overall (d 0-21), pigs fed the positive control diet had greater ADG compared to pigs fed any of the vomitoxin-contaminated diets. In addition, pigs fed diets containing Defusion Plus had greater ADG than pigs fed the negative control diet and diets containing Biofix Plus or Cel-can with bentonite clay. Pigs fed the positive control diet had greater ADFI than pigs fed any other dietary treatment. Pigs fed the positive control diet had improved F/G compared to the negative control and diets containing Biofix Plus or Cel-can with bentonite clay. Also, pigs fed Defusion Plus had improved F/G compared to pigs fed the negative control. Thus, nursery pigs fed diets containing 4 ppm vomitoxin had reduced growth performance. Including Defusion Plus in the diet improved performance but not to that of pigs fed a low-vomitoxin diet. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J.A. Barnes, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, S.S. Dritz, and J.L. Nelssen.)

- **Effects on Bacon Quality of Feeding Increasing Glycerol and Dried Distillers Grains with Solubles to Finishing Pigs** - A total of 84 barrows (PIC 337 × 1050, initially 68.3 lb) were fed a corn-soybean meal-based diet with added dried distillers grains with solubles (DDGS; 0 or 20%) and increasing glycerol (0, 2.5, or 5%) to determine the effects on belly quality. Criteria that were evaluated included: belly length, thickness, firmness, and slice yield; proximate and fatty acid analyses; iodine values; and sensory characteristics. There were no DDGS × glycerol interactions on any criteria measured. Inclusion of 20% DDGS in the diet decreased belly firmness, as measured by the belly flop test (fat-side down method). Twenty percent DDGS decreased the percentage of myristic acid, palmitic acid, palmitoleic acid, stearic acid, oleic acid, vaccenic acid, total saturated fatty acids, and total monounsaturated fatty acids. In contrast, 20% DDGS increased the percentage of linoleic acid, α-linolenic acid, eicosadienoic acid, total polyunsaturated fatty acids, unsaturated:saturated fatty acid ratios, polyunsaturated:saturated fatty acid ratios, and iodine values. The inclusion of 0, 2.5, and 5% glycerol in swine diets did not affect any measured criteria in this study.

  Bottom Line…. In conclusion, feeding DDGS at a level of 20% decreased belly firmness and changed the fatty acid profile; however, it did not affect belly processing or sensory characteristics. Glycerol fed at 2.5 or 5.0% did not affect belly quality, fatty acid profile, or sensory characteristics of bacon. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by B.L. Goehring, T.A. Houser, J.M. DeRouchey, M.C. Hunt, M.D. Tokach, R.D. Goodband, J.L. Nelssen, S.S. Dritz, J.A. Unruh, and B.M. Gerlach.)

- **The Effects of Feeder Space and Adjustment on Growth Performance of Finishing Pigs** - A total of 288 pigs (PIC TR4 × 1050, initially 82 lb) were used in a 91-d study to evaluate the effects of feeder trough space (1.75 vs. 3.5 in/pig) and minimum feeder-gap opening of 0.5 in. (narrow), vs. 1.0 in. (wide) on finisher pig performance. Our hypothesis was that at minimal feeder trough space (1.75 in./pig), feeders should be set at a wide gap opening to avoid limiting feed intake and ADG. The feeders were adjusted to the minimum gap setting, but the agitation plate could be moved upward to a maximum gap opening of 0.75 in. or 1.25 in., respectively. The treatments were arranged in a 2 × 2 factorial with 6 replications per treatment. All pens had the same feeder with 2, 14-in.-wide by 4.5-in.-deep feeder holes. Feeder trough space was adjusted by placing 8 or 16 pigs per pen. Gating was adjusted to give each pig 8 ft^2 of floor space. Pigs had ad libitum access to feed and water. All pigs were fed a corn-soybean meal-based diet containing 20% dried distillers grains with solubles (DDGS) in 4 phases. Pen weights and feed disappearance were measured every 2 wk. Narrow-adjusted feeders averaged approximately 48% coverage, and wide-adjusted feeders averaged approximately 85% coverage. Overall (d 0 to 91) there were no trough space × feeder adjustment interactions observed. However, there was a tendency for increased ADG as feeder trough space increased from 1.75 to 3.5 in./pig. Pigs fed with the wide feeder-gap setting had increased feed disappearance and poorer F/G compared to pigs with the narrow feeder-gap setting.

  Bottom Line…. These results suggest that, regardless of feeder trough space, pigs with the wide feeder adjustment appeared to waste more feed, as evidenced by the poorer F/G. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by A.J. Myers, R.D. Goodband, M.D. Tokach, S.S. Dritz, J.R. Bergstrom, J.M. DeRouchey, and J.L. Nelssen.)

AS&I FACULTY SPOTLIGHT

Jim Drouillard (jdrouill@k-state.edu; 785-532-1204)
Professor/Beef Cattle Nutrition

Jim Drouillard joined the K-State faculty in 1995, and he, his wife Patti, daughter Kameron, and son Jason are now residents of Olsburg.

A two-time Gator, Jim received his Bachelor's (Animal Science) and Master's (Animal Breeding) degrees from the University of Florida in 1985 and 1986, and his Ph.D. from the University of Nebraska in 1989. Jim has responsibilities in teaching (30%) and research (70%), and is faculty coordinator for the Beef Cattle Research Center. His research has focused on feedlot cattle production, emphasizing grain processing, pre-harvest food safety, byproduct utilization, and the effects of diet on cattle health, performance, carcass quality, and meat composition.

Joann Kouba (jkouba@k-state.edu; 785-532-1240)
Associate Professor/Equine Physiology

Dr. Kouba was born and raised in Bellevue, Nebraska (south of Omaha). She entered Northeast Missouri State University (now formally named Truman 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 in the fall of 1993. While at Clemson, she was actively involved in their undergraduate teaching program, and had responsibility for teaching two popular equine courses. Her thesis focused on the use of Domperidone to treat pregnant mares grazing endophyte-infected tall fescue. After completing her M.S. in 1995, she moved to Texas and started on her Ph.D. in equine reproductive physiology at Texas A&M University in the spring of 1996. 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. She currently teaches 6 on-campus equine courses as well as 2 distance courses, advises ~40 students, serves as the faculty coordinator for the KSU Horse Teaching and Research Unit, is the advisor for the KSU Horseman's Association, and mentors graduate students pursuing advanced degrees with an equine emphasis.

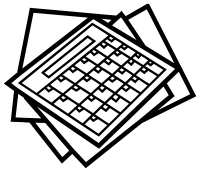
Beyond her on-campus classes, Dr. Kouba also believes in enhancing educational opportunities for students through international experiences. In May of 2008, she led a study tour with Dr. Guy Kiracofe that focused on the diverse equine industries in Ireland, Scotland and England. She followed that with a similar equine tour to Spain, Portugal and Morocco in May 2010, and is planning for a third trip in 2012.

Dr. Kouba's research program currently focuses on the role of omega-3 fatty acids in equinere production and foal growth and immunity. The overall goal of this research is to make better recommendations to consumers about incorporating omega-3 fatty acids into the diets of their mares and foals.

Her personal horse interests are currently focused on the cutting horse industry. And if you are driving around town, watch out for Dr. Kouba - she can be seen walking her two dogs, Ripley and Tobi.

WHAT PRODUCERS SHOULD BE THINKING ABOUT...

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN JULY…….



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

Cowherd 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.*