

News from KSU Animal Sciences

December, 2009



Newsletter from the Department of Animal Sciences and Industry
213 Weber Hall, Kansas State University, Manhattan, KS 66506
785-532-6131 - www.asi.ksu.edu

WHAT'S NEW...

*On behalf of the Department of Animal Sciences and Industry,
Merry Christmas and best wishes for a successful and prosperous New Year in 2010.
As partners of the outreach component of Kansas State University, we are proud to
be working with you to meet the needs of our clientele in the livestock industries.*

Livestock agriculture continues to experience difficult economic times.

*Adversity, however, also provides opportunity. First, people are reminded to
focus on those people and things most important to them and their future.*

*Economic strife also affords us an opportunity to help people in their greatest
time of need. Please let us know how we can better help you serve our joint clientele.*

Thank you for all of your hard work that you continue to do.

Mike Tokach, Extension State Leader, Animal Sciences and Industry

- ↪ **KABSU** - The new collection barn facility is up and running. Currently, additional bull stalls/runs are being constructed. Stop by for a visit or call 785-539-3554 to schedule bull collections.
- ↪ **NEW K-State Sheep & Meat Goat Center Update** - Many of you may be curious about the progress being made on the NEW K-State Sheep & Meat Goat Center. In short, we are making positive steps forward in attaining our goal.
Drs. Brian Faris, Jim Nelssen, and Ken Odde have been working diligently on the new Sheep & Meat Goat facility. Over the past five months we have had several meetings with K-State Facilities. Most recently we have met with Landmark Architects, who was selected through the State process as the Project architect, and have started developing construction documents in preparation for the bidding process.
At this point, we are pleased with the progress that is being made on this project. We anticipate breaking ground Spring 2010 but do not have an official timeline at this point. We will continue to update everyone on this project as we move forward. Thank you for your continued support of the K-State Sheep & Meat Goat Program. (Brian Faris, brfaris@ksu.edu; 785-532-1255)
- ↪ **Quickest Way to Warm Up a Chilled Calf** - A University of Alberta study (Canadians know cold!) where newborn calves were chilled to a body temperature of 86°F and then warmed to normal body temperature with either (1) a combination of a heat lamp, blanket and housing at 72°F or (2) immersing the calf in 100°F water in a bath tub, greatly favored the tub method. The calves warmed up twice as fast in the warm water tub and expended half as much metabolic energy as those under the heat lamp. Bottom line: Tell Mom to get the tub ready. Don't forget to hold the calf's head out of the water as it is warming up and remember to dry it off before returning it to its' dam. Also, save some of the afterbirth or fluids to rub on the calf to help its' dam claim it after being warmed up. (JAS 1988). For more information, contact Larry C. Hollis, D.V.M. (lhollis@ksu.edu; 785-532-1246).



Feedlot Facts by Chris Reinhardt, Ph.D., Extension Feedlot Specialist

“Feedlot Implant Programs”

Few topics can stir up as much fervent debate in the coffee shop or in the ivory tower as that of growing/finishing implant strategies. Fortunately, there is a great deal of good, controlled, scientific information available to help with the decision. Unfortunately, few “experts” take the time to actually peruse the data to help come up with a science-based recommendation. A wise man once replied after being asked for an implant recommendation, “Use ‘em!” There is truth in that succinct approach--Implants work. Implants capitalize on the very same complicated hormonal cascade that controls all growth in the beef animal; similar to if you had used a larger framed bull to accomplish the very same end result: a larger, more efficient animal. Implants may be as close as we have in the beef industry to a free lunch.

But if we do decide to further complicate the discussion, we have to acknowledge that with choices come compromises. A more potent, higher dosage implant program will result in greater growth and greater efficiency, but also lower marbling content. A milder implant program may preserve greater marbling, but you will give up efficiency and pounds. Based on current economics, my standard recommendation is to match implant dosage to animal size and energy content of the diet. In other words, freshly weaned calves being fed a starting/growing diet should probably receive a mild estrogenic-based implant. Backgrounded calves can receive a more moderate dosage combination implant. And yearlings on a high-grain, finishing diet can receive a high-potency conventional terminal implant.

Invariably, we encounter the question about feeding for a “natural” market. Make sure you have the market and the premium guaranteed, in legally binding form, before making a decision to not implant your cattle. Because on this scientists agree: implants add a great deal of efficiency and weight to your cattle, regardless of what strategy you decide to employ.

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



Extruded Complete Feed for Finishing Cattle - Seventy-two yearling heifers (796 lb initial body weight) were used in a 143-day finishing study. Treatments were designed to test differences in grain processing (steam flaked vs. extruded) and level of alfalfa hay (2 vs. 6%). Extruded diets were processed to different degrees (moderate vs. high) depending on retention time, temperature, and pressure settings of the extruder. Steaks from each heifer were collected and used to evaluate tenderness, cooking loss, and retail display color. The objective of this experiment was to evaluate animal performance, carcass characteristics, and meat attributes of yearling heifers fed extruded finish diets.

Bottom Line.... Compared with a flaked-corn diet, the complete extruded feed improved feed efficiency by 15% with no negative effects on carcass quality. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact Jim Drouillard (785-532-1204; jdrouill@ksu.edu) or Chris Reinhardt (785-532-1672; cdr3@ksu.edu).



Sensory Characteristics of Loins from Pigs Fed Glycerol and Ractopamine HCl During the Last 28 Days of Finishing

Sensory characteristics were evaluated on a total of 80 loins from pigs fed diets containing glycerol, ractopamine HCl (RAC), and a combination of glycerol and RAC during the last 28 d prior to harvest. A total of 1,054 pigs were blocked by weight and randomly allotted to 1 of 4 dietary treatments with 10 replications per treatment. Pigs were fed corn-soybean meal-based diets. Dietary treatments were arranged in a 2 × 2 factorial design with main effects of glycerol (0% or 5%) and RAC (0 or 6.75 g/ton). Pork loins from 1 randomly selected barrow and gilt from each pen were used for sensory analysis. There were no glycerol × RAC interactions or main treatment effects for cooking loss or Warner-Bratzler shear force (WBSF). Additionally, there were no glycerol × RAC interactions or main treatment effects for the sensory traits including myofibrillar tenderness, overall tenderness, pork flavor intensity, or off-flavor intensity. There was a glycerol × RAC interaction for the sensory trait of connective tissue amount. The interaction was a result of increased connective tissue amounts when glycerol was added to the diet without RAC but numerically decreased amounts when glycerol was fed in combination with RAC. In conclusion, feeding dietary glycerol or RAC singularly or in combination for 28 d prior to slaughter did not influence sensory characteristics of center-cut pork loin chops. More information is available in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by A.W. Duttlinger, T.A. Houser, J.M. DeRouchey, M.D. Tokach, S.S. Dritz, J.L. Nelssen, R.D. Goodband, K.J. Prusa, and L. Huskey.)

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

“ATV Safety”

Everybody likes ATVs--except perhaps OSHA. Let's face it, these things are both useful and fun. But there very traits which make them fun also make them potentially dangerous. The good news is that there are some very specific, common-sense ways to minimize (although not totally eliminate) the hazards.

OSHA data (www.osha.gov/dts/shib/shib080306.html) indicate that of the 113 and 1,625 workplace ATV fatalities and injuries between 1992 and 2001, all could be attributed to one or more of the following causes:

1. Unbalanced or excessive loads
2. Excessive speed for given terrain
3. Operating on paved roads
4. Lack of protective helmet
5. Lack of proper training
6. Carrying a passenger

As we look through this list, and consider the ATV as a workplace tool, and consider our conscious efforts to develop a “Culture of Safety” in our workplace, we should see great potential to manage risk. Which item on the list cannot be controlled by the operator? Which cannot be trained and encouraged, if not controlled, by management?

1. They make vehicles designed to carry heavy/awkward loads; they're called pickups. But if the ATV is required to carry loads much of the time, consider replacing the ATV with a longer, wider, more stable replacement side-by-side vehicle with a cargo bed.

2. Slow down: the job will be there when you get there. These vehicles are not designed for high speed; the high center of gravity makes them very easy to roll over. They are designed for low-speed maneuverability on rough terrain where traction is minimal. What works well for one purpose (by design) is very unsuitable for the other purpose (by design).

3. Stay off paved roads. Why? The smooth surface encourages excessive speed (see #2); the paved surface provides excellent traction beyond that of dirt, grass, or gravel, so in the event of a quick direction change, rollover is likely; other larger, faster, 4-wheeled vehicles occupy paved surfaces and may not see or yield for the ATV---a deadly scenario.

4. Wear a helmet. This one should be so obvious as to not need explanation, but it isn't. If you roll an ATV, your head will give, the ground won't---every time. Physics is not in your favor on this one.

5. Train ALL personnel (extensively, repeatedly, ongoing) on ATV use. Note: Accidents don't occur because someone doesn't know how to make the ATV go; the accidents happen if we don't know how to stop.

6. Don't carry passengers. Again, there are vehicles designed for this purpose: called pickups. Or the aforementioned cargo-oriented ATVs with a bench seat.

ATVs have become a mainstay in production agriculture; common sense, safe use, and training will ensure that they are a tool in our toolbox for a long time to come.

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

↪ **Thermal Process with Additional Drying Provides Proper Lethality for Controlling Pathogens During Jerky Production**

- To validate a worst-case scenario commercial thermal processing schedule, a mixture of *E. coli* O157:H7 and *Salmonella* spp. was added to raw beef batters. Jerky strips were extruded onto screens and dried in a smokehouse. Jerky strips were sampled throughout processing, and reductions of *E. coli* O157:H7 or *Salmonella* spp. populations were determined. Water activity and fat, moisture, and protein content were also measured. The objective of this experiment was to determine the effects of a worst-case scenario thermal processing schedule on reducing *Escherichia coli* O157:H7 and *Salmonella* spp. in chopped and formed beef jerky.

Bottom Line....A worst-case scenario thermal process with an additional drying step for producing chopped and formed jerky provided proper lethality to control *E. coli* O157:H7 and *Salmonella* and provides a process that will produce safe jerky for consumers. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact Kelly Getty (785-532-2203; kgetty@ksu.edu) or Liz Boyle (785-532-1247; lboyle@ksu.edu).

↪ **Sheep CIDRs APPROVED** - Sheep producers are now able to purchase Controlled Intravaginal Drug Release (CIDR) inserts as of December 15th, 2009. The FDA approved the use of EAZI-Breed CIDRs in sheep on November 16, 2009. EAZI-Breed CIDR sheep inserts are manufactured by Pharmacia and Upjohn, a division of Pfizer, Inc. The sheep CIDR is very similar to the cattle CIDR with the obvious exception in size. The CIDRs are priced per bag of 20 inserts. For information related to pricing and promotions, please contact your Pfizer representative. For more information related to the approval of the EAZI-Breed CIDR Sheep Inserts, please go to: <http://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm190789.htm>. For more information, contact Brian Faris (brfaris@ksu.edu; 785-532-1255).

↪ The 2009 KSU Swine Day was a huge success with over 300 swine producers, allied industry representatives, and students in attendance. For a copy of the **KSU Swine Day Research Report**, as well as video presentations, visit www.KSUswine.org under the Swine Day Publications link.

↪ **Forage Sampling** – Forages are grown, harvested and stored under a variety of conditions that can dramatically affect feeding value. This year, additional moisture benefited forage growth, but made the process of getting high quality hay baled very difficult. Rained damaged hay is likely to have much lower energy content than expected. A nutrient analysis is the only means by which to properly establish the feeding value and determine if additional nutrient supplementation is needed.

When to sample – The best time to take forage samples is as near to the time of feeding as possible. In some cases earlier sampling is needed to help determine supplementation needs and other feed purchases.

What to sample – Hay or silage from each field and cutting will be different. Divide hay into lots based on known differences. A forage lot consists of forage harvested from one field at the same cutting and maturity within a 48-hour period and usually contains fewer than 100 tons of hay. Each lot should be sampled individually.

How many cores samples to collect from each lot – The table below indicates how many samples are needed per lot based on the desired precision and confidence interval of estimate. A confidence interval of 95% indicates that the probability that a value will fall outside this range is less than 5%. Table 1 contains the recommendations for the number of bales per forage lot to be sub-sampled and composted into one sample for submission to a commercial analytical laboratory. If the number of bales in the forage lot is less than the recommended number to sample, sample 20% of the bales.

Table 1. Recommended number of large round bales to sub-sample and composite based upon desired degree of precision and confidence interval for crude protein content				
Forage type	Precision of average CP estimate, %	Confidence Interval		
		99%	95%	80%
1 st Cutting	± 1	19	11	5
Alfalfa	± .5	76	44	19
2 nd Cutting	± 1	12	7	3
Alfalfa	± .5	47	27	12
Prairie Hay	± 1	4	2	1
	± .5	15	9	4
Sorghum-Sudan Hay	± 1	7	4	2
	± .5	28	16	7

How to take a core sample – Insert core sampler at least 18” into the bale at a 90° angle to the butt end of a square bale or rounded sides of a round bale. Take one sample per bale and sample as many bales as determined by the degree of precision and confidence interval desired. The diameter of the coring tool will determine the volume of sample collected in each core. Leaf loss will drastically influence analysis results so be cautious in handling samples so that fine material is not lost.

Sample size per hay lot – quart plastic bag at least ¾ full or ½ pound. Ship samples immediately, exclude excess air and seal tight. Keep good records of forage lots and subsequent analyses.

For more information, contact Sandy Johnson (sandyj@ksu.edu; 785-462-6281).

↳ **Effects of Piglet Birth Weight and Litter Size on the Preweaning Growth Performance of Pigs on a Commercial Farm** - A total of 2,204 pigs (PIC 327 sired) were used to evaluate the effects of piglet birth weight and litter size on preweaning piglet performance. At a commercial sow farm, all pigs born alive for 22 consecutive days were identified individually at birth with a numbered ear tag. Each sow was assigned a body condition score (BCS; 1 = very thin to 5 = very fat), and the number of total born, live born, and born dead as well as the individual gender, birth weight, and identification of piglets were recorded within 18 h of parturition and before the movement of pigs to equalize litter size. During lactation, all pigs fostered, removed, or found dead were weighed, and the event was recorded. No litters were provided creep feed or supplements during lactation. Pigs were individually weighed and assigned a BCS (1 = emaciated, 2 = thin, or 3 = full-bodied) at weaning over 6 weaning days during a 19-d period, which resulted in a mean weaning age of 25 d. For data analysis, individual birth weight was used to assign pigs to 4 birth weight categories (≤ 2.3 lb, 2.4 to 3.3 lb, 3.4 to 4.3 lb, and ≥ 4.4 lb), and the number of total born in each pig's litter of origin was used to assign pigs to 3 total born categories (≤ 11 , 12 to 14, and ≥ 15). As expected, birth weight was greater for pigs of heavier birth weight categories. Pigs of heavier birth weight categories were associated with a decreased number of total and live born. Also, preweaning ADG, weaning weight, weaning BCS, and preweaning mortality were improved for pigs of heavier birth weight categories. Birth weight decreased for pigs of greater total born categories, and an increased sow BCS was associated with total born category ≥ 15 . As expected, the litter total born, as well as live born and number born dead, increased with greater total born categories. Preweaning ADG (0.51, 0.50, and 0.50 lb/d, respectively) and weaning weight (16.3, 15.9, and 15.8 lb, respectively) were modestly improved for pigs from the smallest total born category compared with the 2 larger categories. These data indicate that low-birth-weight pigs had poorer preweaning growth performance and survivability. Although larger litters resulted in a greater number of low-birth-weight pigs, the number of heavier pigs also increased. In addition to increasing litter size, maximizing reproductive and economic efficiency of swine requires identifying methods to improve birth weight and performance of the lightest pigs born. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J.R. Bergstrom, M.L. Potter, M.D. Tokach, S.C. Henry, S.S. Dritz, J.L. Nelssen, R.D. Goodband, and J.M. DeRouchey.)

↳ **Effects of Creep Diet Complexity on Individual Consumption Characteristics and Growth Performance on Neonatal and Weanling Pigs** - In Exp. 1, 96 sows (PIC C29) and their litters were used to determine the effects of creep diet complexity on preweaning performance and the proportion of piglets consuming creep feed. The experimental treatments were: (1) no creep feed ($n = 26$), (2) simple creep diet ($n = 26$), and (3) complex creep diet ($n = 44$). Pigs fed the complex creep diet had greater ADG and tended to have greater total gain than pigs fed the simple creep diet, with no creep pigs intermediate. Litters fed the complex creep diet consumed twice the total (2.73 vs. 1.37 lb) and daily (0.91 vs. 0.45 lb; $P < 0.0006$) creep feed intake of litters fed the simple creep diet. The high-complexity creep diet improved the proportion of eaters from 28% to 68%. A greater proportion of eaters were nursing in the middle and posterior teats (57% and 52%, respectively) than in the anterior teats (38%). In Exp. 2, 675 pigs from Exp. 1 (initial BW 14.1 lb and 21.2 ± 0.2 d) were used to determine whether social facilitation occurs between eaters and non-eaters in commercial nursery groups. The treatments were: non-eater group (pigs that were not provided any creep feed or non-eaters of creep feed), eater group (pigs that positively consumed creep feed), and mix group (pigs that were 51% non-eaters and 49% eaters). Each treatment had 25 pigs per pen and 9 replications (pens). In the initial 3 d postweaning, eaters had greater ADG and ADFI than non-eaters, with the mix group being intermediate. Overall ADG of the eater group was 6.2% higher than that of the non-eater group. For social facilitation to occur, weight gains of non-eaters in the mix pens should be either (1) closer to the weight gains of eaters in the mix pen or (2) greater than the weight gains of the non-eater group. Results showed that non-eaters within the mix pens failed both criteria. In conclusion, the high-complexity creep diet improved preweaning ADG, litter creep feed intake, and the proportion of eaters. Eaters had improved postweaning feed intake, daily gains, and weight uniformity and reduced postweaning lag. Mixing eaters with non-eaters within pens in large commercial groups did not stimulate feed intake and daily gains of non-eaters, which indicates that social facilitation did not occur. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by R.C. Sulabo, M.D. Tokach, J.R. Bergstrom, J.M. DeRouchey, R.D. Goodband, S.S. Dritz, and J.L. Nelssen.)

UPCOMING EVENTS...

- ☞ Make plans now to attend the **K-State Winter Ranch Management Seminar** to be held on Monday, January 11, 2010. Locations for the event include Ashland, Manhattan, Parsons and Phillipsburg, KS.

Cow herd economics, practical genetics, calving management and bull management will be the topics presented at the Seminar. Featured speakers will be Harlan Hughes, professor emeritus of North Dakota State University, speaking on “*Cow Herd Economics*,” and Kent Andersen, Pfizer Genetics, speaking on “*Practical Genetics*.” These speakers will be addressing the audience at all four locations simultaneously by webinar. Local speakers will address calving management and bull management at each of the four locations. The schedule is as follows:

2:30 p.m.	Registration
3:00 p.m.	Calving Management
4:00 p.m.	Practical Genetics (Kent Andersen via webinar)
5:00 p.m.	Dinner
6:00 p.m.	Cow Herd Economics (Harlan Hughes via webinar)
7:00 p.m.	Bull Management

Brochures for the event will be available through your local county office shortly and will be available at www.KSUbeef.org. For additional information, contact Larry Hollis (lhollis@ksu.edu; 785-532-1246). Please register directly with the host sites as follows:

Ashland – contact Tanner Gillum (tgillum@ksu.edu; 620-635-2811)

Manhattan – contact Charlotte Bruna (cbruna@ksu.edu; 785-532-1280)

Parsons – contact Karen Walters (kwalters@ksu.edu; 620-431-1530)

Phillipsburg – contact Rachael Boyle (rboyle@ksu.edu; 785-425-6851)

- ☞ Area cattlemen should mark the dates of January 12th and 13th on their calendars and make plans to attend the **26th Annual 4-State Beef Conference**. The conference planning committee has designed an excellent program that should have something of interest to all beef producers. Speakers and their topics for the 2010 conference are as follows: *Dr. Richard Randle, University of Nebraska* – “Whole Herd Health: Common Health Problems”; *Dr. KC Olson, Kansas State University* – “Mineral Nutrition”; *Dr. Karl Harborth, Kansas State University* – “Factors Affecting Sale Barn Prices”; and *Dr. John Lawrence, Iowa State Extension Livestock Economist and Director of the Iowa Beef Center* – “Replacement Heifers: Buying vs Raising”.

The conference is scheduled for Tuesday, January 12th and Wednesday, January 13th, 2010. The Tuesday morning session will begin at 9:30 a.m. in Lewis, IA at the ISU Armstrong Research Farm and the afternoon session will begin at 3:30 p.m. in King City, MO at the Eiberger Building. The Wednesday morning session will also begin at 9:30 a.m. in Tecumseh, NE at the Community Building, and the afternoon session will start at 3:30 p.m. in Holton, Kansas at the Jackson County Fairbuilding.

The registration fee is \$25.00 per person and reservations are requested by Friday, January 8th, 2010. The fee includes a beef meal and a copy of the conference proceedings. To keep registration fees affordable in the future, please help us by calling in your reservations. For more information or to register for the conference, contact your local county extension office. For more information, contact Joel DeRouchey (jderouch@ksu.edu; 785-532-2280) or Jody Holthaus, Meadowlark Extension District/Holton Office (jholthau@ksu.edu; 785-364-4125).

- ☞ The **Kansas Hay and Grazing Conference** will be held on Wednesday, January 13, 2010, at the Kansas Farm Bureau Building, 2627 KFB Plaza, Manhattan, Kansas. This is a public conference for anyone interested in livestock grazing, hay production/utilization or buying/selling of Kansas grass and hay projects. Keynote speaker for the conference is Dr. David Davis, University of Missouri-Columbia.

Registration fee (\$45.00 if pre-registered by January 6, 2010 or \$60.00 at the door) will include: 2010 membership in the Kansas Forage and Grassland Council, conference lunch and breaks, conference proceedings and a 2010 KFGC discount coupon book. For more information, contact Gary Kilgore or Karen Walters (620-431-1530; kwalters@ksu.edu).

- ↪ An exciting and informative **Meat Processing Workshop** has been planned at Kansas State University in conjunction with the Kansas Meat Processors Association. The 33rd Annual Midwest Processed/Cured Meat Workshop will be held on Saturday, January 30, 2010 at Weber Hall on the KSU Campus. This is a great opportunity to see, hear and ask questions as state award winning meat processors demonstrate the manufacture of their products. Learn about the cornerstones of cooking, secrets of smoke color, the future of thermal processing, poultry sausage manufacture, and more.
Registration is \$95.00 per plant and includes lunch for two people if received by January 22, 2010. After that date, the fee will increase to \$105.00 per plant. For a registration form or more information, contact Liz Boyle (lboyle@ksu.edu; 785-532-1247).
- ↪ The **2010 KSU Swine Profitability Conference** will be held Tuesday, February 2 in Forum Hall of the K-State Student Union. A great program has been lined up including presentations from Dr. Joe Connor from the Carthage Vet Clinic; Rob Brennenman from Washington, IA; Steve Meyer, Paragon Economics, and the KSU Swine Team as well as a keynote address from KSU Athletic Director, John Currie.
Registration fee of \$25 per participant is due by January 25, 2010. Watch for more details on the conference. For more information, contact Jim Nelssen (785-532-1251; jnelssen@ksu.edu).
- ↪ Dates for the **2010 KSU Dairy Days** have been scheduled as follows: Thursday, February 4 in Whiteside, Kansas (Reno County) and Friday, February 5 in Seneca, Kansas (Nemaha County). Watch for more details. If you would like to attend one of the Dairy Day meetings you may RSVP by calling your LOCAL Extension office or you may call one of the offices listed above. Hope to see you at one of the Dairy Days in February. For more information, contact John Smith (785-532-1203; jfsmith@ksu.edu).
- ↪ Mark your calendars for the 97th annual **KSU Cattlemen's Day** which will be held on Friday, March 5, 2010 at Weber Hall. This program is designed to provide producers, allied industry and individuals with information about new developments in the beef industry. Watch for more details on the program and registration information at www.asi.ksu.edu/cattlemensday.
If you are interested in exhibiting at Cattlemen's Day, there is still space available. Exhibiting products and services at Cattlemen's Day is an excellent way to reach customers. For more information, contact Jim Drouillard (jdrouill@ksu.edu; 785-532-1204) or Dale Blasi (dblasi@ksu.edu; 785-532-5427).
- ↪ The 2010 **K-State Sheep Day** will be held on Saturday, March 27, 2010 at Weber Hall. Watch for more details on the program and registration information. For more details, contact Brian Faris (brfaris@ksu.edu; 785-532-1255).

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
January 11, 2010	K-State Winter Ranch Management Seminar	Manhattan
January 13, 2010	4-State Beef Conference	Holton, KS
January 13, 2010	Kansas Hay and Grazing Conference	Manhattan
January 30, 2010	Meat Processing Workshop	Manhattan
February 2, 2010	KSU Swine Profitability Conference	Manhattan
February 4, 2010	KSU Dairy Days	Whiteside, KS
February 5, 2010	KSU Dairy Days	Seneca, KS
March 5, 2010	KSU Cattlemen's Day	Manhattan
March 27, 2010	K-State Sheep Day	Manhattan

AS&I FACULTY SPOTLIGHT



Curtis Kastner (ckastner@ksu.edu; 785-532-1234)
Professor/Director of Food Science Institute

Curtis Kastner has been an ASI Faculty member since 1975. He has served as the Coordinator of the Food Science and Industry undergraduate program, Research Coordinator, and Associate Department Head. Currently he serves as the Director of the Food Science Institute, which was started in 2001. The Institute is charged with coordinating and facilitating food science teaching, research, and extension efforts across campus. He also coordinates the interdisciplinary Food Safety and Security program for the Institute as well as the USDA sponsored Food Safety Consortium, which includes Iowa State University and the University of Arkansas. His accomplishments have been recognized by being appointed to the National Advisory Committee for Meat and Poultry Inspection, awarded the “Educator’s Award of the National Meat

Processors Association and designated as the “Advanced Degree Graduate of Distinction Award” by his alma mater, Oklahoma State University has recognized his accomplishments. He also received the Gamma Sigma Delta 2009 International Award for Distinguished Achievement in Agriculture.

He enjoys hunting, fishing, coaching and visiting with his grandchildren.



Deanna Retzlaff (retzlaff@ksu.edu; 785-532-2202)
Assistant Professor

Deanna Retzlaff earned her B.S. degree in Animal Sciences from the University of Tennessee (Martin, TN). She then continued her education at Kansas State University, earning a Ph.D. in Food Science, with a focus on food safety. Deanna left the university to manage a commercial analytical laboratory for three years before returning to K-State in 2002.

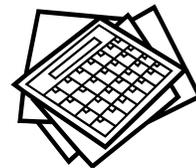
Deanna assists faculty members in the development and implementation of food science and animal science distance education courses and modules. She is also the Bachelor Degree Completion Program Advisor for Food Science and Animal Science majors completing their degrees via distance education. There are currently more than 125 advisees in this program.

Deanna is a member of the University Continuing Education Association, the American Society for Microbiology, the International Association for Food Protection, and the Institute of Food Technologists. In 2005 she received the Support Specialist Award for the Great Plains Region of the University Continuing Education Association.

Deanna, her husband Robert, and their two young daughters (Abby and Elle) reside outside of Westmoreland with their horses and dogs.

WHAT PRODUCERS SHOULD BE THINKING ABOUT...

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN FEBRUARY.....



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

- Historically, cull cow prices are beginning to rise. Finish culling cows in order of priority:
 1. Those that fall within the "Four-O Rule" (Open, Old, Onry, Oddball).
 2. Those with physical/structure problems (feet and legs, eyes, teeth, etc.)
 3. Poor producers.
- Continue feeding or grazing programs started in early winter. Fully utilize grain sorghum and cornstalk fields, severe winter weather may begin to limit crop residue utilization, be prepared to move to other grazing and feeding systems.
- Supplement to achieve ideal body condition scores (BCS) at calving. Use this formula to compare the basis of cost per lb. of CP: $\text{Cost of supplement, \$ per hundredweight (cwt.)} \div (100 \times 5 \% \text{ CP}) = \text{cost per lb. CP}$. Use this formula to compare energy sources on basis of cost per lb. of TDN: $\text{cost, \$ per ton} \div (2,000 \times 5 \% \text{ DM} \times 5 \% \text{ TDN in DM}) = \text{cost per lb. of TDN}$.
- Control lice, external parasites could increase feed costs.
- Provide an adequate water supply. Depending on body size and stage of production, cattle need 5-11 gallons of water per head per day, even in the coldest weather.
- Sort cows into management groups. Body condition score and age can be used as sorting criteria. If you must mix age groups, put thin and young cows together, and feed separately from the mature, properly conditions cows.
- Use information from forage testing to divide forage supplies into quality lots. Higher-quality feedstuffs should be utilized for replacement females, younger cows, and thin cows that may lack condition and that may be more nutritionally stressed.
- Consult your veterinarian regarding pre- and postpartum vaccination schedules.
- Continue mineral supplementation. Vitamin A should be supplemented if cows are not grazing green forage.
- Plan to attend local, state and regional educational and industry meetings.
- Develop replacement heifers properly. Weigh them now to calculate necessary average daily gain (ADG) to achieve target breeding weights. Target the heifers to weigh about 60 to 65% of their mature weight by the start of the breeding season. Thin, light weight heifers may need extra feed for 60 to 80 days to "flush" before breeding.
- Bull calves to be fed out and sold in the spring as yearlings should be well onto feed. Ultrasound measurements should be taken around one year of age and provided to the association.
- Provide some protection, such as a windbreak, during severe winter weather to reduce energy requirements. The lower critical temperature (LCT) is the temperature (at which a cow requires additional energy to simply maintain her current body weight and condition. The LCT for cattle varies with hair coat and body condition (Dry, heavy winter coat = 18 degrees, wet coat = 59 degrees). Increase the amount of dietary energy provided 1% for each degree (including wind chill) below the LCT.

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.