



# News from KSU Animal Sciences

## February, 2007

### WHAT'S NEW >>>>>>

- ↖ Current estrus synchronization materials can be found online at [www.oznet.ksu.edu/nwao/livestock.htm](http://www.oznet.ksu.edu/nwao/livestock.htm). The **Beef Reproduction Task Force** has a four-page fact sheet that describes the currently recommended protocols (updated Sept. 2006). These protocols are the same as those outlined in materials from the four major semen providers. Revisions have been made each of the past several years, so check the date to make sure you have the most recent materials. To simplify planning and scheduling programs see the link for the Iowa State Estrus Synchronization Planner. This tool produces a printable calendar that is very useful for ensuring the protocol is administered on the correct schedule. Other titles available include; Tips for a Successful Synchronization Program, The Bovine Estrous Cycle, Detection of Standing Estrus in Cattle, and Costs and Comparisons of Estrous Synchronization Programs. For more information contact Sandy Johnson ([sandyj@ksu.edu](mailto:sandyj@ksu.edu), 785-462-6281).
- ↖ **Bloat – Rumen Enemy:** Bloat is an accumulation of excessive gas in the rumen. Sounds simple, but in reality it is a complicated rumen dysfunction caused by the interactions of management, feed, animal, and microbial factors. Normal rumen gas production will range from .2 to 2.0 liter/minute making eructation a mandatory function. Free-gas bloat is associated with an obstruction of the esophagus or cardia, respiratory disease, or reduced rumen motility caused by acidosis or hypocalcemia. This type of bloat can be easily relieved by removal of the esophageal obstruction or through intubation of the rumen. Surveys indicate that about 90% of feedlot bloats are frothy and not free-gas bloats. Frothy bloat is the production of tremendous amount of foam made chiefly by bacteria. The foam is extremely persistent and can occupy the entire rumen. The inability to eructate can cause a rise of internal ruminal pressure to over 195 psi! Pressure on the diaphragm inhibits breathing and stops the heart. Direct-fed enzymes, proper grain processing, dietary forage management, ionophores, poloxalene, and smooth transition from forage- to grain-based diets have been shown to prevent bloat. Including mineral oil at 4 to 8% or salt at 4% of the diet has reduced bloat while the inclusion of laundry detergent has been shown to mostly ineffective. Live yeast cultures should reduce rumen acidosis and promote lactic acid utilization, which in turn may control bloat. For more information, contact Twig Marston ([twig@ksu.edu](mailto:twig@ksu.edu); 785-532-5428).
- ↖ **Dried distiller's grains improve the performance of beef cattle intensively grazing early summer bluestem pasture.** There is limited research available that has evaluated the effectiveness of distiller's grains as a supplement for grazing stocker cattle. To evaluate this, three hundred forty-six steers (573 lbs ± 51.0 lbs) were used to evaluate performance of dried distiller's grains in an intensive Flint Hills grazing system (250 lbs/acre for 90 days). The dried distiller's grains was made exclusively from sorghum grain and then pelleted for improved handling and shrink characteristics. The following four treatments were randomized over sixteen pastures: No supplementation (CON), and sorghum dried distiller's grains supplemented at 0.25% (LOW), 0.50% (MED), and 0.75% (HIGH) of body weight (dry matter basis). The dried distiller's grains were 34.6% crude protein and 8.8% crude fat (dry matter basis). Supplement treatments were fed from June 15 through August 3 once daily in feed bunks located in each pasture. Cattle weights were estimated based on projected average daily gain of 1.8 lb/day from May 1 through June 14 (45 days). Supplements were adjusted every two weeks based on projected ADG of 2.0 lbs/day during the supplement period (June 15 through August 3). Free-choice mineral with a sub-therapeutic dose of oxytetracycline for control of foot-rot and pinkeye was provided to all steers until mid-June. Salt in block form was provided to all cattle throughout the entire grazing period. On August 4 the steers were shipped to a commercial feedyard where final weights were taken. Steers were sorted into one of four pens according to dried distiller's grains treatment received on pasture. Grazing and feedyard performance was calculated for each treatment group. All cattle fed dried distiller's grains had a significantly greater average daily gain than unsupplemented (Control) cattle. In general, weight gain increased as levels of dried distiller's grains increased. However, subsequent performance in the feedyard was lowest for steers fed the highest level of dried distiller's grains during the grazing period. For more information, contact Dale Blasi ([dblasi@ksu.edu](mailto:dblasi@ksu.edu); 785-532-5427).

↵ **Effect of increased dietary lysine on growth performance of gilts fed ractopamine HCl (Paylean) in a commercial facility.** A total of 1,915 gilts were used in two 21-day experiments in a commercial research barn to evaluate the effects of lysine rates on pig growth and carcass performance when fed ractopamine HCl. There were 7 replicates per treatment and 21 to 24 pigs per pen in both experiments. In both experiments, treatments included a control diet formulated to 0.65% TID lysine without ractopamine HCl, and diets containing 0.75, 0.85, 0.95, 1.05, and 1.15% TID lysine with 5 ppm ractopamine. There were 983 (initially 217.4 lb) and 932 (initially 226.2 lb) gilts in Exp. 1 and 2, respectively. All diets were based on corn-soybean meal and contained high concentrations of synthetic amino acids (0.325% of L-lysine HCl with added threonine, methionine, and tryptophan) in Exp. 1, but only 0.075% L-lysine HCl in Exp. 2. As lysine increased in the diet, ADG increased and F/G decreased, with the greatest response through 1.05% TID lysine in Exp. 1 and through 0.95% TID lysine in Exp. 2. In both experiments, pigs fed ractopamine HCl had increased ADG and F/G, compared with performance of pigs fed the control diet. For carcass data, average backfat and FFLI were improved in Exp. 2 with increasing rates of TID lysine, but were not changed in Exp. 1. These experiments suggest that pigs fed ractopamine HCl require at least 0.95% or 26 g/d of TID lysine and at least 25 g of TID lysine/kg of gain. More information is available on this experiment and others in the KSU Swine Day Report at [www.asi.k-state.edu/swine](http://www.asi.k-state.edu/swine). (This study conducted by C.R. Neill, S.S. Dritz, M.D. Tokach, R.D. Goodband, J.L. Nelssen, J.M. DeRouchey, C.W. Hastad, and J.L. Usry.)

↵ **Cow Herd Nutritional Concerns** - For many cow/calf producers and cattle feeders, this winter will be a thorough test of their cattle management skills. Just getting to and delivering feed has been a major challenge for some. However, the nutrient requirements of the cattle remain the top priority.

During the last 1/3 of gestation, 75 percent of fetal growth occurs. In total, the cow needs to increase in weight by 100 to 150 lbs throughout gestation to account for the weight of the fetus, membranes and fluids. In the ideal world, every mature cow would gain this weight and be in a moderate body condition score of 5 by calving. In the real world, not everyone has been able to achieve this due to weather problems, over estimation of feed value or under estimating the cow requirements. After calving, a cow must multi-task. First she must to maintain her self; second lactate; third, attempt to regain any weight loss; and fourth, repair her reproductive track. After all those tasks have sufficient resources, only then will she begin normal estrous cycles and conceive. Cows that are thin at calving and/or heavy milking cows may have trouble reaching a positive energy balance after calving and fail to rebreed in a timely manner. First calf heifers have additional requirements for growth and do not compete well if fed with mature cows. Therefore, reproductive performance of 2 and 3 year cows can be reduced when fed with mature cows.

Forage tests are money well spent to ensure you know the quality of your base forage. Baled corn stalks from 2006 have been considerably different in quality, ranging from 38 to 56% TDN and 2.7 to 8% crude protein. Once the energy and protein content of the base forage(s) is known, then the most attractive methods to fill the supplemental gap can be determined. Several software programs are available that can take into account the need to regain body condition and allow you to evaluate several feedstuffs. Your local county extension agent and/or feed supplier can provide technical assistance.

The ability to graze wheat varies considerably across the state of Kansas. Because of the cost of feedstuffs and the limited amounts in some areas, producers that don't normally graze wheat may want to re-evaluate that decision this spring given the current conditions. Wheat is excellent forage for thin cows. Research at Hays has reported no difference in reproductive performance of cows breed on wheat pasture (with access to dry hay) or native range. Supplemental fat has been used to increase energy density in diets and research suggests that fat can have a beneficial effect on reproduction (independent of energy intake). However, the research on feeding supplemental fat has produced varied and inconsistent findings on conception rates and pregnancy rates. Length and timing of feeding, type of fat, level of fat, base forage and cow age and body condition may all influence the response. At this point, fat should only be added to a ration when it is cost effective to do so. Under normal feeding conditions the total fat in the diet should not exceed 5% of the total dry matter intake as fiber digestion will be decreased.

While ionophores such as Bovatec® and Rumensin® are routinely included in rations for growing and finishing cattle, their use for replacement heifers and cows is not as common. When adequate energy is provided in the diet (diets greater than 47% TDN), feeding an ionophore will reduce the length of time between calving and resumption of normal estrous cycles. The effect of an ionophore is to get more energy from the diet which is particularly useful when feed costs are high and forage supplies are limited. Use of an ionophore will also reduce the age and weight of heifers at puberty. For more information contact Sandy Johnson ([sandyj@ksu.edu](mailto:sandyj@ksu.edu), 785-462-6281).

## UPCOMING EVENTS >>>>>>>>>>

- ☞ Make plans now to attend the **2007 KSU Sheep Schools**. The program will include presentations on “New Marketing and Management Challenges for Sheep Producers” by Rodney Jones; “Feeding Alternatives for Sheep Producers” by Cliff Spaeth; and “Predator Control Update” by Charlie Lee. Dates and locations for the sheep schools are as follows:
- February 27, 6:00 p.m. - Hodgeman County Fairgrounds 4-H Building, Jetmore
  - February 28, 6:30 p.m. - Valentino’s North Room, Seneca
  - March 1, 7:00 p.m. - Woodson County Fairgrounds, Yates Center
- For more information on these schools, contact Cliff Spaeth (cspaeth@ksu.edu; 785-532-1255).
- ☞ The **2007 LMIC Stockmen’s Dinner** will be held Thursday, March 1, at the Clarion Hotel in Manhattan. This year Jack Vanier will be honored as Stockman of the Year. For more information, call 785-532-7522.
- ☞ **Cattlemen’s Day 2007** –The 94<sup>th</sup> annual Cattlemen’s Day will be held in Weber Hall on Friday, March 2, 2007. This year’s event will include three symposiums, a commercial trade show including educational exhibits, and the Special “K” Bull and Heifer Sale.
- The trade show and educational exhibits will open at 8:00 a.m. The morning program will begin in Weber Hall, Room 123 at 10:00 a.m. with a welcome from Dr. Ken Odde, AS&I Department Head, followed by the Ethanol Byproduct Utilization Symposium. The morning program will conclude with a Cattle Market Outlook. The afternoon program will begin at 1:00 p.m. with a Symposium on Beef Reproduction in Room 123 and a Symposium on Adding Values to Calves in Room 111. The day will also include Open Houses at the Beef Cattle Research Center, the Cow-Calf Unit, and the Beef Stocker Unit, with a Ration Mixing Demonstration at 3:30 p.m. The day will conclude with the annual Special “K” Bull and Heifer Sale beginning at 3:00 p.m. at the Purebred Unit.
- Registration for KSU Cattlemen’s Day will be \$15 per person in advance (by February 20) or \$25 per person at the door. Morning refreshments and lunch are included with registration. For more information visit [www.asi.ksu.edu/cattlemensday](http://www.asi.ksu.edu/cattlemensday) or call 785-532-1267.
- ☞ The **30<sup>th</sup> annual Special “K” Bull and Heifer Sale** will be held on March 2, 2007, at the conclusion of KSU Cattlemen’s Day. The sale will begin at 3:00 p.m. at the Purebred Beef Unit. Visit our website, [www.asi.ksu.edu](http://www.asi.ksu.edu) and look under “Upcoming Events” for more details. For additional information or a sale catalog, contact Ryan Breiner (rbreiner@ksu.edu; 785-532-6127) or Megan McClure (mcclurem@ksu.edu; 785-532-2996).
- ☞ **Goat Production and Marketing Conference** - The number of goats nationwide has been increasing in the last few years. Additionally, the demand for goats has also increased with a diverse population utilizing them for different aspects of their livelihood. Goats are growing in popularity in many regions due to their reliability as a non-chemical weed control. To address these and many other topics a Goat Production and Marketing Conference is being held on Saturday, March 3, 2007 in Stockton, Kansas at the Rooks County Fairgrounds.
- The conference will begin at 9:00 a.m. with registration. A full day of activities is planned. Dr. Deb Mengledorf, DVM from Manhattan, KS will be presenting a program on Goat Health and Management. Jeff Hill with Ralco Nutrition will present Goat Nutrition 101, Practical Feeding Management of the Goat Herd. Greg Christiansen from Parker, KS will be discussing Co-Mingled Grazing and Everything You Wanted to Know about Goats, but Didn’t Know Who to Ask. A Marketing Perspectives session will be led by goat producers Frank Willis from Tulsa, OK and Greg Christiansen. The final presentation will be given by Tanner Christiansen and he will be discussing Paying for Your College Education...Using Goats. A trade show and livestock displays will also be available. Vendors from the region will be displaying various goat products and goat producers will be displaying a sampling of their finest goats.
- Please plan to join us on Saturday, March 3 and bring your entire family for a day filled with great information. Pre-registration for the event is due February 23. A brochure is available on line at: <http://www.oznet.ksu.edu/nwao/Upcoming%20events.htm>. Contact K-State Research and Extension Phillips-Rooks District at (785) 425-6851 or e-mail [rboyle@ksu.edu](mailto:rboyle@ksu.edu) for more information.

☞ The **Western Dairy Management Conference** is set for March 7-9, 2007 at the John Ascuaga's Nugget in Reno, Nevada. Registration will begin on March 6 at 3:00 p.m. The seminar schedule will be March 7 and 8 from 8:00 a.m. to 5:00 p.m. and March 9 from 8:00 am to noon. Seminars will be presented twice during the conference to accommodate everyone's schedule. Seminar topics include Controlled Energy Diets for Dry Cows, managing Nutrition for Optimal Milk Components, Managing Variation in Nutrient Composition of Feeds and Diets and much more. For a detailed schedule and more information, visit the Western Dairy Management website at [www.wdmc.org](http://www.wdmc.org) or call 785-532-2370.

☞ The **KSU Youth Sheep Day** will be held March 10 at Weber Hall, along with KSU Sheep Day. The focus for Youth Sheep Day this year will be on "Show Ring Preparation" including several sections of showmanship with live sheep allowing participants to get hands-on instruction while practicing their skills. Also slated to be on the program are presentations on shearing, handling sheep, evaluation techniques and much more.

Mr. Jason Sawyer of Arkansas and Ms. Morgan Cabaniss from Oklahoma will present at this educational event. A complete schedule will be available the morning of the event and by following the upcoming event link on the following website: [www.asi.ksu.edu](http://www.asi.ksu.edu). New this year will be a showmanship contest. Morning sessions will feature three "how-to" sessions utilizing sheep that we will provide. Later that day we will have the competition.

The registration fee for Youth Sheep Day is \$15.00/person and is due by February 23. Late registrations will be accepted (\$20); however, those individuals cannot be guaranteed a t-shirt or lunch. For more information on Youth Sheep Day, contact Julie Voge ([jvoge@ksu.edu](mailto:jvoge@ksu.edu); 785-532-1264).

☞ The **2007 KSU Sheep Day** will be held on March 10 at Weber Hall. Registration fee for the conference at the door is \$15 per couple or adult over college age. There is no registration fee for college age and under students to attend the producer program. Luncheon tickets can be purchased at registration.

The program will begin at 8:00 a.m. with registration. Featured speakers for KSU Sheep Day include Dan Morrical, Professor of Animal Science at Iowa State University, on "*Using Co-Products from the Corn Milling Industry in Sheep Rations*" and "*Maintaining Sheep Flock Profitability with Current High Feed Prices.*" George Teagarden, Kansas Animal Health Commissioner, will speak on "*A Review of the Proposed Animal Identification System for Sheep.*" Gary Kilgore, Southwest Area Agronomist, will speak on "*Extending the Grazing Season of Forages for Sheep.*"

For a complete program on KSU Sheep Day, visit our website at [www.asi.ksu.edu](http://www.asi.ksu.edu) and look under "Upcoming Events." For more information, contact Cliff Spaeth ([cspaeth@ksu.edu](mailto:cspaeth@ksu.edu); 785-532-1255).

☞ The **2007 Junior Swine Producer Day**, will be held on Saturday March 24th, 2007, in Weber Hall on the KSU campus. This event is going to be a fun filled day of activities in which youth, parents, swine project leaders and adults can all increase their knowledge and abilities. This year the program has valuable topics to improve the experience and success of the swine youth project, regardless of age or experience level. This highly interactive, hands-on educational event will stimulate your enthusiasm and provide a foundation in management and care for your youth swine project.

All participants will receive a show pig information booklet, T-shirt and a complimentary noon lunch. As an added bonus, we will be giving away over \$500 in show equipment as door prizes throughout the day. The event will begin at 8:45 a.m. with registration and conclude with closing comments at 2:30 p.m.

Registration fee for this event is \$10.00/person and the deadline is March 16. For more details, visit the "Upcoming Events" section of our website at [www.asi.ksu.edu/swine](http://www.asi.ksu.edu/swine).

For more information, contact Joel DeRouchey ([jderouch@ksu.edu](mailto:jderouch@ksu.edu); 785-532-2280).

☞ The **Wildlife Habitat Evaluation Contest** will be held March 31 in Manhattan, Kansas. This contest is about teaching young people about wildlife, the needs of wildlife and their habitat. There are two age groups in the competition, 9-13 and 14-18 years of age. There are four main parts to the contest: (1) identifying foods eaten by wildlife; (2) ranking wildlife habitat by observing aerial photographs; (3) choosing wildlife management practices for predetermined species of wildlife and a particular land area; and (4) writing a one-page management plan for a rural setting.

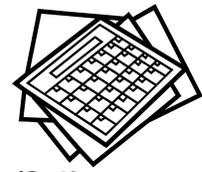
If you are interested in participating as a member of a team or as an individual in the 2007 contest, please contact Charles Lee ([clee@ksu.edu](mailto:clee@ksu.edu); 785-532-5734) by March 9.

- ☞ The **2007 Roundup** will be held Thursday, April 5, beginning at 3:00 p.m., at the Agricultural Research Center in Hays. Finishing, growing, grazing and reproduction of beef cattle will be the topics for this year's Round-up. Watch for more details.
  
- ☞ The **39<sup>th</sup> annual reunion of former K-State judging team members and coaches** will be April 14, 2007. The reunion will be held in the Alumni Center on the KSU campus. April 14 coincides with the Little American Royal and all University Open House. The Little Royal starts at 1:00 p.m. and Open House exhibits are available for viewing all day. The reunion will begin at 4:00 p.m. There will be a short business meeting at 5:30 p.m. followed by dinner at 6:00 p.m. Reservations are due by April 7. For more information, contact Dr. Miles McKee at 785-532-1237.
  
- ☞ The National Junior Swine Association will hold its sixth-annual **National Youth Leadership Conference** in Indianapolis on April 19-22, 2007. The theme for this year's conference is "The Race Is On." Youth ages 14-21 will be challenged to make the most of their opportunities in life while broadening their knowledge of important swine industry issues. For more information, visit [www.nationalswine.com](http://www.nationalswine.com).
  
- ☞ Plans are underway for the **2007 KSU Equestrian Camps**. The Western Boot Camp will be held June 13-15 and the English Boot Camp will be held June 18-20 at Fox Creek Farm, Manhattan, Kansas. At the Boot Camp, campers will work with their horse to improve their overall riding ability with a special emphasis on equitation. In addition, campers will learn horsemanship and gain a better understanding of the horse through presentations, demonstrations and videos. Camp highlights include a picnic trail ride, scavenger hunt, horse games and a camp horse show. Campers without their own horses will be allowed to learn on the horses that the K-State team practices on. Campers with their own horses will work to achieve better results with their equine partner. For more information, contact Teresa Slough at (785) 532-1268.
  
- ☞ An **Introduction to Collegiate Riding for Elite Equestrian Athletes** will be held at Kansas State University on June 22-23, 2007. This camp is for girls ages 16-18 who are interested in riding at the collegiate level. Contact Teresa Slough (785-532-1268) for a brochure and more information.

## CALENDAR OF UPCOMING EVENTS

Date	Event	Location
February 27	KSU Sheep School	Jetmore
February 28	KSU Sheep School	Seneca
March 1	KSU Sheep School	Yates Center
March 1, 2007	LMIC Stockman's Dinner	Manhattan
March 2, 2007	KSU Cattlemen's Day and Special K Bull Sale	Manhattan
March 3, 2007	Goat Production and Marketing Conference	Stockton
March 7-9, 2007	Western Dairy Management Conference	Reno, Nevada
March 10, 2007	KSU Sheep Day and Youth Sheep Day	Manhattan
March 17-28, 2007	Equine Reproductive Management Course	Manhattan
March 23-24, 2007	Equine Reproductive Management Course	Manhattan
March 24, 2007	KSU Junior Swine Producer Day	Manhattan
March 25, 2007	Frozen Semen Lab for Equine	Manhattan
March 31, 2007	Wildlife Habitat Evaluation Contest	Manhattan
April 5, 2007	Round-Up	Hays
April 14, 2007	KSU Judging Team Reunion	Manhattan
April 19-22, 2007	NJSA National Youth Leadership Conference	Indianapolis, IN
June 13-15, 2007	Western Equestrian Boot Camp	Manhattan
June 18-20, 2007	English Equestrian Boot Camp	Manhattan
June 22-23, 2007	Introduction to Collegiate Riding Camp	Manhattan

## WHAT PRODUCERS SHOULD BE THINKING ABOUT IN APRIL.....



### **BEEF -- Cowherd Tips by *Twig Marston, K-State Beef Extension Specialist, Cow/Calf***

Many producers should consider calving in this month. Stress is minimized and forage/grass management may be optimized.

- ☑ Keep calving areas as clean and dry as possible. Give each calf a dry, comfortable and clean environment.
- ☑ Supplement and feed cows to maintain or improve body condition prior to the breeding season (cows should be in moderate body condition by the start of the breeding season to maximize fertility).
- ☑ For thin, young cows, consider feeding fat to improve rebreeding rates. Research indicates that when feeding about 0.4 lb. per head per day of a plant source (soybean, sunflower, safflower oils), fat can increase first-service conception and pregnancy rates (0% to 15%). Feeding fat can be effective both before and after calving. Consult your nutritionist.
- ☑ Mineral supplementation should include greater levels of magnesium [intake should be between 15 to 30 grams (g) per head per day, or at least 11% of the mineral mix for grass tetany prevention.
- ☑ Plan your breeding season, both AI and natural service. Make sure all supplies and semen are on hand prior to the breeding season. For natural-service programs assign yearling bulls to 10-15 cows, 2- and 3-year-old bulls to 20-25 cows, and older bulls to 25-40 cows. Breeding for 65 days should be long enough; less than 90 days is a key sign of good management. Some suggest the service capacity of a yearling bull (less than 24 months) is equal to his age in months at turn out.
- ☑ Bulls should be in good body condition prior to the breeding season. Thin bulls can run out of stamina. Now is the time to make sure bulls are physically capable of performing for the upcoming summer breeding season.
- ☑ Breeding soundness examinations are recommended for all bulls!
- ☑ Consider using estrus synchronization and AI. Several synchronization systems to overcome anestrus are available. Selection depends on labor, facility and implementation costs.
- ☑ Consider breeding heifers three weeks prior to the mature cow herd to give them a greater chance to rebreed.
- ☑ Maintain top management concerning calf scours (sanitary conditions, early detection, electrolyte/dehydration therapy).
- ☑ Vaccinate calves as per veterinarian consultation. Castrate males that are not candidates for breeding stock prior to pasture turnout. Implant calves that will be sold at weaning.
- ☑ Wait for fly control until critical numbers are reached (100 to 200 horn flies per animal).
- ☑ Deworm cows and bulls if needed. Expect performance response to be variable dependent on location, weather, grazing system, history, infestation level and management.
- ☑ Use prescribed burning techniques to eradicate Eastern Red Cedar trees and improve forage quality.
- ☑ Good fences make good neighbors. Summer pastures should have had fences checked, repaired or replaced by now.
- ☑ Check equipment (sprayers, dust bags, oilers, haying equipment) and repair or replace as needed. Have spare parts on hand; downtime can make a large 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](mailto:lschrein@ksu.edu), or phone 785-532-1267.