



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

February, 2015

News from KSU Animal Sciences

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We Need Your Help!

Please send questions, comments or ideas for future newsletter topics to lschrein@ksu.edu or call (785) 532-1267.

➤ **Youth learn about raising and showing pigs at the Kansas Junior Swine Producer Day** which will be held Saturday, February 28, 2015, in Weber Arena. This highly interactive, hands-on educational event will be a fun filled day of activities in which youth, parents, swine project leaders and adults can increase their knowledge and experience of swine production and management practices. For a schedule and more information, visit www.KSUswine.org or contact Joel DeRouchey (785-532-2280; jderouch@ksu.edu)

➤ **KSU Cattlemen's Day slated for Friday, March 6, 2015.** The 102nd annual KSU Cattlemen's Day will be held on March 6 in Weber Hall on the KSU Campus. The schedule includes:

8:00 a.m. Commercial Trade Show (Weber Arena)
 10:00 a.m. Morning Presentations:

Welcome – *Dr. Ken Odde, Department Head, AS&I*
Cattle Industry Outlook – *Glynn Tonsor and Ted Schroeder, KSU Ag Economists*

What is a Sustainable Beef Industry? – *Bob Langert, McDonald's Corporation Vice President*

12:00 noon Lunch - Commercial Trade Show

Afternoon Break-out Sessions (beginning at 1:00 p.m.):

Factors Influencing Beef Supply & Demand – *John Unruh, Moderator*

Zilmax – The Reintroduction – *Chris Reinhardt*

Animal Welfare and the Consumer – *Lindsey Hulbert*

Sensory Attributes and Beef Flavor – *Travis O'Quinn*

Reproduction –

Sandy Johnson, Moderator

Synchronization Strategies for Breeding Females – *Cliff Lamb*

Crossbreeding Programs for the Beef Herd – *Bob Weaber*

Drylot Production for Breeding Females – *John Jaeger*

Beef Production & The Regulatory Environment – *KC Olson, Moderator*

Antibiotic Use in Beef Production – *Mike Apley*

Water Resources and Future Implications for Ag Practices in Kansas – *Tracy Streeter*

Interface Between Endangered Species & the Beef Industry – *Charles Lee*

Update on Pasture Burning Regulations – *Carol Blocksome*

The day will conclude with a Celebration Social immediately following the conclusion of the Legacy Sale at the Stanley Stout Center. The complete program and registration information are available at www.ksubeef.org. For more information, contact Jim Drouillard (jdrouill@ksu.edu; 785-532-1204) or Dale Blasi (dblasi@ksu.edu; 785-532-5427).



☞ **KSU Legacy Bull and Heifer Sale offers proven genetics balanced in many traits.** The 38th annual KSU Legacy Sale will be held on March 6, 2015, in the Stanley Stout Center. The sale will begin at 3:30 p.m. The sale will include 70+ Angus, Hereford, and Simmental bulls; 5 show heifer prospects; 30+ bred females; and 6 registered AQHA horses. A complete listing can be found at www.asi.ksu.edu/bullsale. For more information or to request a sale catalog, contact Tyler Leonhard (785-565-1881).

☞ Kansas State University Department of Animal Sciences and Industry & Research and Extension, along with a special grant from Kansas Farmers Union-Amazing Grazing II for Ruminants both Great and Small, **present K-State Sheep Producer Day on Saturday, March 7, 2015.** The day will feature Mr. Alan Culham, American Sheep Industry Association (ASI) Let's Grow Coordinator addressing topics related to managing a lambing barn and dealing with lambs and ewes. Alan will also discuss his new role with ASI and what we as producers can do to grow our own flocks and ultimately the national flock size. Mr. Dale Strickler, Star Seed, will be available to address alternative, supplemental, and drip-irrigated forages and how they can impact producers. Dr. Brian Faris will conclude the day's educational program with a discussion related to improving lambing and weaning percentages. The Kansas Sheep Association will have their annual business meeting following the educational programs. A wonderful lamb lunch will be served to all paid participants. The event will be held at K-State Sheep & Meat Goat Center at 2117 Denison Avenue, Manhattan. While this event is targeted at sheep producers, I feel goat producers could gain also a great deal from these talks. The schedule includes

8:15 a.m.	Registration and Explore the Facility
8:55 a.m.	Welcome – Dr. Brian Faris
9:00 a.m.	Managing the Lambing Barn and the Creatures Inside – Alan Culham, ASI
10:00 a.m.	Break
10:15 a.m.	Using Alternative, Supplemental, and Drip-Irrigated Forages to Improve Your Operation – Dale Strickler, Star Seed
11:15 a.m.	Break
11:30 a.m.	What is the Let's Grow Program and How Do You Grow Your Flock – Alan Culham
12:30 p.m.	Lunch
1:30 p.m.	Various Ways to Increase Your Lambing and Weaning Percentages – Dr. Brian Faris
2:30 p.m.	Kansas Sheep Association/Kansas Sheep Auxiliary Annual Meeting – Nancy Smith, <i>KSA President</i> Business Meeting Report from Make It With Wool Program – Deb Gordon Report from 2015 Starter Flock Winners & Awarding of 2015 Starter Flocks
4:30 p.m.	Adjourn

Please contact Dr. Brian Faris, K-State Extension Sheep & Meat Goat Specialist, if you have any questions at 785-532-1255 (w), 785-313-4918 (c), or brfaris@ksu.edu. To register, contact Lois Schreiner at 785-532-1267 or lschrein@ksu.edu. We look forward to seeing you at K-State Sheep Producer Day.

☞ **Plan to attend the 38th Annual Midwest Meat Processing Workshop on March 27 at K-State.** Join us at the workshop and meet Travis O'Quinn who joined KSU this past summer as a Meat Extension Specialist. Dr. O'Quinn will discuss palatability attributes of grass-finished and enhanced beef. This is a great opportunity to see, hear and ask questions as state award winners share their expertise and demonstrate the manufacture and techniques used to make award winning products. Brock Volkmann, Richards Cold Storage, will demonstrate making his award winning ground and formed beef jerky, and Danny Williamson and Gustavo Gloria, Krehbiels Specialty Meats, will demonstrate production of their award winning fresh specialty bratwurst. Dr. Fadi Aramouni will provide strategies for determining sampling frequency for meat plant operations. Brandon Goering, PhD Candidate at KSU will discuss the influence of belly quality on bacon. Dr. Joe Baumert, Co-Director, Food Allergy and Research and Resource Program, University of Nebraska will talk about allergens, labeling, and control for small meat processing businesses Dr. Dennis Burson from the University of Nebraska will demonstrate antimicrobial interventions for grinding, as well as their impact on ground beef color and shelf life stability. A discussion will also be held on requirements for recall plans. Mark your calendar and come to this workshop to learn techniques to improve business strategies, product quality, and safety that could result in tastier product, longer shelf life, and greater sales and business opportunities. Contact Liz Boyle at lboyle@ksu.edu or 785-532-1247 for more information.

☞ Make plans now to attend the **2015 Kansas Junior Meat Goat Producer Day planned for March.** Kansas Junior Meat Goat Producer Day will be held on Saturday, March 28, 2015 at Kansas State University's Weber Hall in Manhattan, KS. This hands-on educational event will be a fun filled day of activities in which youth, parents, meat goat project leaders and adults can increase their knowledge and experience of meat goat production and management practices. All participants will receive a T-shirt, complimentary lunch, and educational materials. For more information, contact Brian Faris (brfaris@ksu.edu; 785-532-1255).

☞ **Kansas State University will be hosting a series of Barbecue 101 workshops this May and June.**

These one day workshops will focus on teaching the basics of grilling and smoking for consumers of all ages and experience levels. The topic areas will cover the basics of grill selection and use, the fundamentals of meat selection and preparation, discussion of new and innovative cuts for barbecue, and the science of smoking. Additionally, these workshops will include several hands-on demonstrations, tastings of different sauces, meat cooked with different woods, spices, and rubs. The day will conclude with a question and answer session with several barbecue experts. Watch for more details about dates, times, locations, and registration in the coming months. For more information, contact Travis O'Quinn (travisquinn@ksu.edu; 785-532-3469).



☞ The **KSU Youth Horse Judging Camp – Beginners Section** will be held June 2, 2015 and the **KSU Youth Horse Judging Camp – Advanced Section** will be held June 3-4, 2015. Both camps will be held in Weber Arena on the KSU Campus. Registration for both camps must be paid by May 10, 2015. Camp will be limited to the first 30 participants. For more information, camp agenda and registration forms, visit the website www.asi.ksu.edu/p.aspx?tabid=1141. You can also contact James Lattimer, (785-532-2840; jlattimer@ksu.edu) or Tasha Dove at (tashakd@ksu.edu).

☞ Make plans now to attend the **Developing and Implementing Your Company's HACCP Plan** for meat, poultry, and food processors. One session will be held June 2-4, 2015 in Weber Hall, Kansas State University, Manhattan and another session October 7-9, 2015 in Olathe, KS. Watch for more details. For more information, contact Dr. Liz Boyle at lboyle@ksu.edu or 785-532-1247.

☞ **K-State Animal Sciences Leadership Academy Planned for June.** Kansas State University will host the 7th Annual K-State Animal Sciences Leadership Academy for young livestock industry leaders in Kansas. This year two sessions will be offered: June 10-13 or June 17-20, 2015. This intensive four day educational experience will focus on increasing the participant's knowledge of a dynamic and sustainable livestock industry and its importance to a global food system. Students will learn valuable leadership skills and enhance their personal development

Only 20 students will be accepted for each session to ensure individualized attention from counselors, professors and industry leaders. Participants will stay on campus in university housing with program staff for the duration of the event. Transportation to and from the event is the responsibility of the participant, along with a \$50 deposit to reserve his or her space. The Livestock and Meat Industry Council generously provides all other sponsorships.

Students must apply by April 1, 2015. Candidates have to be enrolled in high school and able to participate in the entire academy. More information, including registration forms, is available at <http://bit.ly/KSUASILeadershipAcademy>. Please contact academy director Sharon Breiner with questions at sbreiner@ksu.edu or 785-532-6533.

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
February 28, 2015	Kansas Junior Swine Producer Day	Manhattan
March 6, 2015	KSU Cattlemen's Day	Manhattan
March 6, 2015	KSU Legacy Sale	Manhattan
March 7, 2015	KSU Sheep Day	Manhattan
March 27, 2015	Midwest Processed/Cured Meat Workshop	Manhattan
March 28, 2015	Kansas Junior Meat Goat Producer Day	Manhattan
June 2, 2015	KSU Youth Horse Judging Camp – Beginners Section	Manhattan
June 2-4, 2015	Developing and Implementing Your Company's HACCP Plan	Manhattan
June 3-4, 2015	KSU Youth Horse Judging Camp – Advanced Section	Manhattan
June 10-13, 2015	Animal Sciences Leadership Academy	Manhattan
June 17-20, 2015	Animal Sciences Leadership Academy	Manhattan

WHAT'S NEW.....

Management Minute "Gracias y Por Favor"

↪ Management Minute – Chris Reinhardt, Ph.D., Extension Feedlot Specialist "Gracias y Por Favor"

While I was in a training conference for ag managers who employ primarily Spanish speakers, the professional cultural trainer said, "The 2 most important words you need to learn in Spanish are: 'Por favor' and 'Gracias'---'Please' and 'Thank you'." The implication, within that specific context was that within the Hispanic culture of Mexico personal relationships and gratitude on a personal level are highly valued.

And it occurred to me recently that these 2 words are probably the 2 most important words for us to learn in English as well. People want to be valued: primarily as human beings with intrinsic worth, and secondarily as meaningful contributors to the workplace team. This is not the exclusive territory of our neighboring culture to the South; this is part of the human condition.

But the cultural difference is that placing "task" ahead of the "people" who help deliver on the task is often considered acceptable in our American business culture. When international cultures are ranked by the importance of "context" within which a conversation is happening---the non-verbal messages within and surrounding a conversation (body language, social situation, the other people in proximity, status, sex, and age of the participants, etc.)---Asian cultures rank near the top and northern European cultures rank near the bottom. That is, in the European culture, really only the WORDS matter; in the Asian cultures, the words take a low priority relative to the many other circumstances---the context---around the conversation. And the American business community has evolved over the past 200-plus years of following the European model.

The challenge for managers today is that, unlike during the 19th century, people are not disposable and interchangeable parts. Quality people are in short supply and demand is high. The astute manager has long since determined that in order to keep quality people on the team, there needs to be a relationship based on trust, loyalty, and openness.

However, these traits cannot be faked. "Anybody can clean up for a 2-hour interview." But nobody can fake compassion and caring for very long. So to truly nurture these traits within the workplace culture and within yourself, there needs to be a fundamental change in both. If a manager is incapable of developing respect there will be finite limits on the potential of the business and of the manager.

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

Feedlot Facts "There's Still Time"

↪ Feedlot Facts – Chris Reinhardt, Ph.D., Extension Feedlot Specialist "There's Still Time"

As we approach calving season, there may still be time to "save" your thin heifers and cows. If you have bred your cows to begin calving in late March or later, there's time. However, if your cows have already begun calving, it's too late to dramatically improve the reproductive performance of thin cows this coming breeding season.

Cows that are still 45 days from calving can be moved upward on the body condition scale, but care must be taken. Body condition score is primarily an issue of energy balance between what they're consuming, what they require to maintain their body and grow the fetus, and what they are putting onto or taking off from their body stores. But feeding too much energy in the form of concentrates (grain or grain by-products) can lead to acidosis and wind up causing more harm than good.

The first step must be to sort off the very thin animals so that they can be provided a diet that targets their specific needs. There's no sense in making thin, weak, young, or old, cows continue to compete with large, fat, aggressive cows. We're trying to get additional nutrients to the thin cows and the aggressive cows will continue to take more than they need.

Next, visit with your extension professional or nutritionist as to the best way to get those thin cows some additional groceries. Grain, grain milling by-products, cubes, and high quality hay all can contribute to making up substantial ground on the body condition battle.

↪ **Feedlot Facts– “There’s Still Time” (cont.)**

At a time of record-setting calf prices, the return on an investment of additional feed, focused on and directed toward those cows or heifers that will benefit most, will likely be positive.

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

↪ The Department of Animal Sciences and Industry, Kansas State University seeks applicants for our **Feed Mill Manager position**. This is a full-time, 12-month, term position. A Bachelor of Science degree in Animal Sciences, Grain Sciences or related field is required by date of hire. View complete position announcement at: www.asi.ksu.edu/about/job-announcements.html. For additional information, contact Dr. Charles Stark, Search Committee Chair at crstark@ksu.edu. Review of applications begins March 13, 2015 and continues until the position is filled.

↪ **Use Calving Ease EPDs to Select Sires for Replacement Heifers**

When one begins the process of selection of bulls to produce replacement heifers or bulls to be service sires of replacement heifers a number of criteria come to mind. Certainly among these are breed composition and the contribution the bull may provide to direct and/or maternal heterosis, as well as a variety of growth, maternal and carcass traits. Perhaps among the most important is calving ease.

In the case of replacement heifers we need to think of calving ease as both a trait of a calf (how easy it is born or direct calving ease) as well as a trait of the cow (how easy the cow gives birth or maternal calving ease). There is a genetic component to both the direct and maternal aspects of the calving ease trait. As such, producers should be aware of when to use which measure to aid in the production of high quality replacement females with the expectation of long productive lives as well as to minimize dystocia in first calf heifers.

Before we discuss the two different Calving Ease EPDs, a brief discussion on why producers should use Calving Ease EPDs rather than birth weight EPDs to control dystocia rates in heifers and cows. For cow-calf producers, calving ease is the economically relevant trait associated with dystocia. Economically relevant traits (ERTs) are those that directly generate revenue or incur costs in beef production systems.

For a commercial cow-calf producer, dystocia (or lack of ‘calving ease’) is what generates costs in a cow herd through direct losses of calves and their dams, increased labor costs, and certainly lower reproductive rates among cows that have experienced dystocia. Birth weight is an indicator trait. In this case, birth weight provides some information on calving ease. Birth weight alone doesn’t directly generate revenue or incur costs independent of calving ease.

It’s important to recognize that there is an optimal range of birth weights in beef cattle. Certainly, too heavy of a calf is a problem during delivery of the calf hence our selection, at least historically, for lower birth weights. However, too small of a calf at birth is problematic as well. This is especially true for winter/spring calving herds. During severe cold stress, low body weight calves are more susceptible to hypothermia and subsequent death or disease issues. Indeed, very low birth weight calves in northern latitudes can have dramatically reduced survivability when born in winter months.

Birth weight only accounts for 55 to 60 percent of the genetic variation in calving ease. So, selection for reduced birth weight alone won’t improve calving ease as much as selecting directly on calving ease. And since birth weight is strongly correlated with other growth traits, reduction in birth weight is usually associated with decreased growth performance at weaning and yearling. When selecting a service sire for use on virgin heifers, it is recommended to focus on selection of bulls with Calving Ease EPDs in the top 20% of the breed being considered or better. If you are using artificial insemination, select bulls with high accuracy Calving Ease EPDs to further minimize risk of dystocia events.

We’ll start our discussion on the use of Maternal Calving Ease (MCE) EPD (or Calving Ease Maternal (CEM) in some breeds) and its use in selection of bulls to produce replacement heifers. Maternal Calving Ease EPD describes the difference in the expected rate of dystocia among sire groups of daughters. For instance, if Bull A has a MCE EPD of +10 and Bull B has a MCE EPD of -2, we’d expect Bull A’s daughters to have 12% more unassisted calvings (i.e. fewer dystocia events) compared to daughters of Bull B when these daughters are mated to service sires of similar genetic merit for Calving Ease and birth weight.

Remember, MCE is calving ease viewed as the ability of a sire’s daughters to calve unassisted. Typically, MCE has a negative genetic association with Calving Ease (direct) and a positive genetic relationship with growth and mature size. So it’s important that producers don’t just select for higher levels of Calving Ease in their herd as that will have a tendency to decrease the maternal calving ease genetic potential in the cowherd.

Once a producer has used MCE in the selection of sires to produce replacement heifers, one should transition the selection focus to identification of high Calving Ease (CE) EPD (Calving Ease Direct or CED in some breeds) sires to be mated to virgin heifers to produce their first calf. In this scenario, selection for high CE EPD helps increase the percentage of calves born without assistance to first calf heifers. In this case if Bull C has a CE EPD of +12 and Bull D has a CE EPD of +2, we’d expect Bull C’s calves to have 10% more unassisted births.

Table 1. Recommended minimum values for Calving Ease and Maternal Calving Ease EPD for Service Sires (Values reflect breed sire summaries published throughout 2013).

Breed Group	Sire Breed	Minimum recommended EPD value	
		Calving Ease	Maternal Calving Ease*
British	Angus	8.0	10.0
Hybrid	Balancer	13.0	9.0
Continental	Charolais	8.2	6.4
Continental	Gelbvieh	11	8.0
Hybrid	LimFlex	11.0	5.0
Continental	Limousin	12.0	6.0
Continental	Maine Anjou	10.5	5.2
Hybrid	MaineTainer	8.9	3.9
British	Polled & Horned Hereford	2.1	2.7
British	Red Angus	8.0	8.0
Continental	Salers	0.9	0.6
British	Shorthorn	1.92	0.6
Hybrid	SimAngus	13.0	10.1
Continental	Simmental	12.3	12.3

*Depending on breed - Maternal Calving Ease, Calving Ease Maternal, Calving Ease Daughters

Recommendations for MCE EPD minimums for sires to be used to produce replacement heifers and CED EPD minimums for heifer service sires are in Table 1. Regardless of breed group (British, Continental, or Hybrid) the MCE recommendation reflects the upper 25th percentile of active sires. Percentile requirements for CED EPD vary with breed groups: Continental upper 15%, Hybrid upper 20% and British upper 30%. Producers may adjust this recommendation up or down based on individual needs that reflect herd based experience in dystocia rates in first calf heifers.

Combining the use of Calving Ease and Maternal Calving Ease EPDs in your selection system will help assure a successful calving season and decreased dystocia in your first calf heifers. Dystocia in heifers due to poor selection decisions can be a very expensive mistake resulting in lost profits due to cow and calf death loss, extended post-partum intervals and poorer conception rates in rebreeding first calf heifers. Be sure to do your part this spring when selecting bulls or semen for building your herd.

(Bob Weaber, Beef Tips; bweaber@ksu.edu, 785-532-1460)

↳ **Udder Quality is Moderately Heritable in Hereford Cattle** – The objective of this trial was to estimate the heritabilities and genetic correlations for udder quality traits in Hereford cattle. Records for overall score, udder suspension, and teat size were obtained from the American Hereford Association. A total of 188,524 records and a three-generation pedigree with 196,540 animals were used in the analysis. A multiple-trait animal model with random effects of additive genetic and permanent environment and fixed effects of cow age and contemporary group was used. Contemporary group was the combination of herd, calving year, and calving season. The heritabilities were 0.32 ± 0.01 for overall score, 0.31 ± 0.01 for suspension, and 0.28 ± 0.01 for teat size. All traits were moderately heritable, meaning progress can be made through genetic selection.

Genetic correlations between traits were 0.72 ± 0.02 for overall score and teat size, 0.70 ± 0.02 for overall score and suspension, and 0.83 ± 0.01 for suspension and teat size. The genetic correlations were all strong and positive; thus, selection for one trait should result in improvement in the other two traits as well. These results were consistent with previous research in beef cattle.

Bottom Line: Udder quality was moderately heritable with strong genetic correlations between udder traits, meaning producers can use genetic selection to improve udder quality. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact Bob Weaber (785-532-1460; bweaber@ksu.edu).

↳ **Aging for 35 Days Does Not Improve Tenderness of Strip Loin Steaks from Heifers Fed Zilmax** - The objective of this experiment was to examine the effects of implants (Component TE-200, Elanco Animal Health, Greenfield, IN) and Zilmax (Merck Animal Health, Summit, NJ) on meat tenderness across five aging periods as well as moisture retention during the cooking process. The study consisted of 33 crossbred heifers that were randomly assigned to three treatment groups: a control group (no implant/no Zilmax), an implant group, and an implant + Zilmax group. Feedlot and carcass performance was recorded for all animals. After slaughter, 1-in.-thick strip loin steaks were cut, vacuumed-packaged, and aged 3, 7, 14, 21, and 35 days at 33°F. Warner-Bratzler shear force and cook loss was measured on steaks cooked on an indoor-outdoor grill.

Bottom Line: As postmortem aging increases, Warner-Bratzler shear force of strip loin steaks will decrease but not eliminate the negative effects that implants and Zilmax have on postmortem tenderness.

View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact John Gonzalez (785-532-3448; johngonz@ksu.edu) or Elizabeth Boyle (785-532-1247; lboyle@ksu.edu).

↳ **Evaluation of Specialty Soy Protein Sources on Nursery Pig Performance-** A 35-d growth trial was conducted to evaluate the effects of a new soy protein source, Nutrivance (TechMix, Stewart, MN), on nursery pig growth performance. Nutrivance is a modified soy protein produced via a proprietary process combining extraction and enzymatic treatment of soybeans. Pigs ($n = 1,188$, PIC 337 × 1050; initially 9.8 lb BW) were weaned at 21 d of age and allotted by weight to pens with 27 pigs per pen. Pigs were fed a common diet for 15 d before the start of the study. Pens of pigs (13.5 lb BW) were then allotted to 1 of 4 dietary treatments fed for 14 d followed by a common diet fed for 21 d. The 4 experimental treatments were a corn-soybean meal-based control diet, or a corn-soybean meal-based diet with either 8% Nutrivance, 8.65% HP-300 (Hamlet Protein, Findlay, OH), or 6.85% Soycomil P (Archer Daniels Midland Co., Decatur, IL). The diets were formulated to the same standardized ileal digestible lysine level with specialty soy protein products replacing a portion of soybean meal in the control diet to form the experimental treatments.

From d 0 to 14, there were no differences in ADG or F/G; however, pigs fed the diets containing Nutrivance or HP-300 had decreased ADFI compared with those fed the control diet, with pigs fed diets containing SPC intermediate. From d 14 to 35 when a common diet was fed, pigs previously fed the diet with the HP-300 had lower ADFI compared with pigs fed the control diet, with pigs previously fed diets containing Nutrivance or SPC intermediate. From d 0 to 35, pigs fed diets containing Nutrivance or HP-300 had decreased ADG and ADFI compared with pigs fed the control diet, with pigs fed diets containing SPC intermediate. Final weight (d 35) was greatest for pigs fed the control diet and lowest for pigs fed the diet with Nutrivance, and pigs fed the diets with HP-300 or SPC were intermediate.

Bottom Line... In conclusion, differences exist between alternative specialty soy protein sources, but, the corn-soybean meal control diet elicited the greatest growth performance in this study. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by K.E. Jordan, M.A.D. Goncalves, M.D. Tokach, S.S. Dritz, R.D. Goodband, J.M. DeRouchey, and J.C. Woodworth.)

↳ **Effects of PepSoyGen Processing Method on Nursery Pig Growth Performance-** A total of 292 weaning pigs (PIC 327 × 1050; 13.3 ± 2.4 lb BW and 21 d of age) were used in a 31-d experiment evaluating the effects of alternative PepSoyGen processing methods for nursery pig diets. There were 11 replicate pens per treatment and 6 or 7 pigs per pen. At weaning, pigs were allotted to pens by initial weight to 1 of 4 treatments in a completely randomized design. A 3-phase diet series was used with treatment diets fed during Phase 1 (d 0 to 7) and Phase 2 (d 7 to 21), with a common diet fed from d 21 to 31. Diets were: (1) negative control (corn, soybean meal, and dried whey), (2) positive control (4% DPS 50 + 1% PepSoyGen), (3) PepSoyGen processing method 1 (PSG1; 5%), and (4) PepSoyGen processing method 2 (PSG2; 5%). The alternative PepSoyGen processing methods incorporated increasing levels of a proprietary additive post-fermentation (PSG2 > PSG1) aimed at further breakdown of anti-nutritional factors associated with soybean meal. Nutrient analyses generally matched formulated levels for negative and positive control diets, but for both PSG1 and PSG2, CP and amino acid concentrations were lower than formulated, with PSG1 generally 10% lower than PSG2.

In Phase 1, pigs fed the positive control diet had improved ADG and feed efficiency compared with pigs fed the negative control, whereas pigs fed PSG1 and PSG2 diets were intermediate for feed efficiency but tended to have increased ADG compared with those fed the negative control. For Phase 2, there were no significant differences in growth performance between treatment diets. For the overall experimental period (d 0 to 21), pigs fed the positive control diet and PSG2 diet had improved ADG, whereas pigs fed the positive control, PSG1, and PSG2 diets had improved feed efficiency compared with pigs fed the negative control diet. Also, pigs fed PSG1 tended to have lower ADG compared with pigs fed the positive control diet. During the Phase 3 common period, no difference in growth performance was observed. Overall (d 0 to 31), ADG was greater for pigs fed the positive control diet and tended to be greater for pigs fed diets containing PSG2 than the negative control diet, with pigs fed PSG1 intermediate.

Bottom Line... In conclusion, pigs fed the PSG1 or PSG2 diets had similar performance to pigs fed the positive control diet. Numerically, the PSG2 diet elicited greater performance than the PSG1 diet, but it is unclear whether this response is reflective of the reduced CP and amino acid content in the PSG1 diet or if the differences in processing method affected growth response. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by A.B. Clark, H.L. Frobose, J.M. DeRouchey, M.D. Tokach, S.S. Dritz, R.D. Goodband, and J.C. Woodworth)

AS&I Faculty Spotlight



Terry Houser (houser@k-state.edu; 785-532-1253)

Associate Professor/Meat Processing, Selection and Grading

Dr. Terry A. Houser was raised on an irrigated crop farm and beef cattle ranch outside of Cambridge, Nebraska. He attended the University of Nebraska-Lincoln from 1994-1998 for his B.S. degree and competed on both the Meats Judging Team and Meat Animal Evaluation Team while being very active in Alpha Gamma Rho Fraternity. In addition to campus activities, Terry completed two internships including one at Usinger's Famous Sausage in Milwaukee, Wisconsin and the other at Wimmer's Meat Products in West Point, Nebraska.

In 1999 Terry started his graduate program at Iowa State University in the area of Meat Science under the guidance of Dr. Joseph G. Sebranek and graduated with a M.S. in 2001 and a Ph.D. in 2004. His graduate research focused on irradiation, non-meat ingredient functionality, and needleless injection technologies for delivering vaccines to livestock. Upon completion of his Ph.D. he started his career as an Assistant Professor and Extension Meat Specialist at the University of Florida in Gainesville. In January 2007 he joined the Animal Science Faculty at Kansas State University with a 50% Research and 50% Teaching appointment in the area of Meat Science. He currently teaches ASI 315, Livestock and Meat Evaluation, ASI 361, Meat Animal Processing, ASI 370, Principles of Meat Evaluation, ASI 495, Advanced Meat Evaluation, and Co-teaches ASI 930, Advanced Meat Science. His research focuses on adding value to meat products through pre and post-harvest technologies. Terry's responsibilities at K-State also include coaching and coordinating the K-State Meats Judging Program and faculty oversight of the K-State Meat Laboratory. His hobbies include cooking, hunting, and raising purebred Hereford and Angus cattle.



Luis Mendonca (mendonca@k-state.edu; 785-532-2652)

Assistant Professor/Extension Specialist, Dairy Herd Management

Dr. Luís Mendonça received a D.V.M degree in 2006 at Universidade Estadual de Maringá, Brazil. In 2007 he worked in a private practice that specialized in reproductive management and technologies (i.e. embryo transfer and *in vitro* embryo production), providing services to clients across various states of Brazil and in Bolivia. In 2008 he was hired as a postgraduate researcher at the Veterinary Medicine Teaching and Research Center in Tulare, CA, where he worked in large dairy operations and was involved in different aspects of dairy production research. He obtained his M.S. degree and completed his residency in Dairy Production Medicine (2012) at the College of Veterinary Medicine, University of Minnesota. Dr. Mendonça joined the Department of Animal Sciences and Industry at Kansas State University in 2013 as a State Dairy Extension Specialist where he now has a 30% research and 70% extension appointment. His current roles and responsibilities include development of an extension and research program addressing issues facing the Kansas and U.S. dairy industry. His goal is to develop and carry out research related to immune function, health, heat abatement and reproductive management of dairy cattle.

What Producers Should Be Thinking About.....

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



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

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, or phone 785-532-1267.*