



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

October, 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.

➤ **International Conference on Feed Efficiency in Swine - ICFES 2015** - Iowa State University and Kansas State University will be co-hosting the International Conference on Feed Efficiency in Swine, which will be held on October 21-22, 2015 at the CenturyLink Center in Omaha, Nebraska. This forum is to share with the industry the findings of current research and bring world renown experts on feed efficiency to present the full breadth of knowledge on swine feed efficiency. The targeted audience is those involved in the more technical aspects of pork production. For a complete schedule and registration information go to <http://www.swinefeedefficiency.com>. For more information, contact Mike Tokach (mtokach@ksu.edu; 785-532-2032) or Joel DeRouchey (jderouch@ksu.edu; 785-532-2280).

➤ The **2015 Dairy Cattle Reproduction Council Annual Meeting** will be held November 12-13, 2015 at the Adam's Mark Hotel in Buffalo, New York. The two-day event will continue to expand the DCRC's reach to producers, veterinarians, academia and industry professionals, presenting usable information that can be implemented on the dairy. To register for the convention and more information, go to www.dcrcouncil.org.

The Dairy Cattle Reproduction Council (DCRC) is focused on bringing together all sectors of the dairy industry-producers, consultants, academia and allied industry professionals-for improved reproductive performance. DCRC provides an unprecedented opportunity for all groups to work together to take dairy cattle reproduction to the next level.

For more information, contact Dr. Jeff Stevenson (jss@k-state.edu; 785-532-1243).

➤ The **2015 Range Beef Cow Symposium (RBCS)** will be held Nov. 16-19, 2015, at The Ranch, an event center on the Larimer County Fairgrounds in Loveland, Colo. Details including the schedule, registration and hotel information are available online at <http://www.rangebeefcow.com/2015/>. The Range Beef Cow Symposium is sponsored by the Cooperative Extension Service and animal science departments of the University of Wyoming, South Dakota State University, Colorado State University and the University of Nebraska. The biennial symposium has a reputation of being an excellent educational program, offering practical production management information since the first symposium in Chadron, Neb., in 1969. Focusing on beef production issues in the Western states, the symposium regularly attracts 800 - 1,200 attendees and more than 80 agribusiness booth vendors for the three-day event. The Bull Pen Sessions are one of the most popular aspects of the symposium. This is a time for attendees to have considerable discussion with the speakers and an opportunity to ask specific questions. For details on the symposium, contact Kevin R. Pond at 970-491-7295 or Jason Ahola at 605-394-2236, or jason.ahola@colostate.edu. For more information, contact Sandy Johnson, sandyj@ksu.edu.

- ↪ **2015 KSU Swine Day to be held November 19th.** The 2015 KSU Swine Day will be held Thursday, November 19, at the KSU Alumni Center. The schedule for the day includes:
- 8:00 a.m. – 3:00 p.m. Trade Show
 - 9:30 a.m. Welcome - *Dr. Ken Odde, Department Head, Animal Sciences and Industry*
 - 9:45 a.m. Production Consequences of Low Birth Weight Pigs
Dr. Jim Nelssen, Dr. Duane Davis, and Dr. John Gonzalez, KSU
 - 10:30 a.m. Countdown to the New Veterinary Feed Directive – What Do We Need to Know?
Dr. Mike Apley, College of Veterinary Medicine, KSU
 - 11:45 a.m. Lunch with Trade Show
 - 1:30 p.m. Latest Update on K-State Applied Swine Nutrition Research
Dr. Mike Tokach, Dr. Joel DeRouchey, and Dr. Bob Goodband, KSU
 - 2:15 p.m. Impact of Feed Processing on PEDv Mitigation and Pig Performance
Dr. Cassie Jones, Dr. Steve Dritz, and Dr. Jason Woodworth, KSU
 - 3:00 p.m. Key Profit Drivers for Future Success in the Pork Business
Dr. Aaron Gaines, The Maschhoff's Pork Group
 - 3:45 p.m. Reception with K-State Ice Cream
- Pre-registration fee is \$25 per participant by November 9; registration at the door \$35 per participant. There is no charge for any students if they are pre-registered. The complete schedule and on-line registration information can be found at www.KSUswine.org. For more information, contact Jim Nelssen (jnelssen@ksu.edu; 785-532-1251).
- ↪ The 2016 **KSU Swine Profitability Conference** has been scheduled for Tuesday, February 2, 2016, in Forum Hall of the K-State Student Union. Watch for more details coming soon at www.KSUswine.org. For more information, contact Jim Nelssen (785-532-1251; jnelssen@ksu.edu).

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
October 21-22, 2015	International Conference on Feed Efficiency in Swine	Omaha, NE
November 12-13, 2015	Dairy Cattle Reproduction Council Annual Meeting	Buffalo, NY
November 16-19, 2015	Range Beef Cow Symposium	Loveland, CO
November 19, 2015	KSU Swine Day	Manhattan
February 2, 2016	KSU Swine Profitability Conference	Manhattan

WHAT'S NEW.....

Management Minute "Creating Team"

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

Few experiences in the workplace are more rewarding than the feeling of accomplishing something extraordinary as a part of a highly effective team, knowing that the project outcome is unique in your field and that your part of the project was critical for completion of the whole.

In the workplace we often pine for more team work or a more robust team ethos, but what have we done as managers to ensure that the team comes first, ahead of the individual? There are three elements to keep in mind with respect to building an effective team-oriented organization.

1. Team begins at the hire. Some people are amazing individual performers but simply are not wired to subjugate their personal accomplishments for the better of the team. In truth, some sales organizations thrive with a group of self-centric individuals. If the goals of the organization really don't benefit from a collective effort, then selfishness is sufficient. However, if the only way to accomplish the team goals is through team work and collaboration, then avoid hiring people who clearly are not team players.
2. Team can be taught. Some individuals who may in the past have demonstrated outstanding individual work ethic but self-centric motivations can be often be re-directed toward the collective goal and can, in fact, become key elements to both team accomplishments and can become valuable team leaders. Highly effective people are most often capable of grasping and internalizing the team vision if given clear direction and team goals and individual duties are clearly outlined.
3. Team can be motivated. As stated previously, selfishness works for some organizations. If a collection of independent individual goals is what is needed to move the organization forward, then individual performers must be hired and incentivized to accomplish their goals independent of what others accomplish. Some people simply work better this way and can be highly effective. However, if organizational growth is predicated on collaboration, collective effort, and interdependency, then: (a) team-focused individuals should be recruited, hired, and retained; (b) these individuals should be given the right type of mentoring that teaches a team-first philosophy and a willingness and eagerness to subjugate any individual efforts which may be detrimental to esprit de corps and which may subtract from the team effort; and (c) financial incentives (and non-financial as well) must be put in place which are parallel and aligned with the team goals (i.e., the individual is rewarded when the team wins).

Team doesn't happen on accident. Team takes effort, intentionality, focus, and constant communication and reinforcement. If Team matters to you, you have it in your power to create an effective team.

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

Feedlot Facts "Weaning Nutrition"

↪ **Feedlot Facts** – Chris Reinhardt, Ph.D., Extension Feedlot Specialist **"Weaning Nutrition"**

The biggest hurdle in getting calves started off right in the fall is the weather. The sooner you get calves through the stress of weaning and started on feed, the better. If calves get through the stressful process of weaning from their dam and onto feed ahead of fall rains or ice storms, they have a good chance at success.

Good quality grass hay is very palatable and it's a good way to attract bawling calves to the bunk. Don't use a bale ring; this teaches calves NOT to come to the bunk to eat and you'll just need to re-train them to the bunk later. After 1-2 days of free choice feeding long stemmed loose hay in the bunk, limit hay consumption to about 1.0% of bodyweight (5 lb for 500 lb calf) and top-dress 3-5 lb/head (for 500 lb calf) of the weaning ration on top of the hay. As calves consume this small amount of mixed diet, begin to further reduce the amount of loose hay you feed each day and increase the amount of mixed diet.

↪ **Feedlot Facts – “Weaning Nutrition” (cont.)**

A mixture of 50% ground hay (grass or grass/alfalfa mix), 50% concentrate (including cracked grain and a starter supplement) can be fairly easy to blend and manage. However, if by-product feeds such as wheat midds, soy hulls, distiller's grains, or corn gluten feed are available and priced at or below the cost of grain on an equal dry matter basis, the by-products can be substituted for about half of the grain component. Silage should be limited to ≤10% in the starter ration but can be increased in later step-up diets.

CAUTION: Increase the feed offered per head very gradually. Excessive consumption of even a moderate energy starter diet can cause acidosis in a calf which hasn't been fully adapted to grain. Increase the ration no more than 2 lbs/head every other day. If calves are hungry, feed 1-2 lbs of extra hay in the bunk. If stools become loose, you may have increased the amount of mixed ration too rapidly. If this happens, feed an additional 1-2 lbs/head of hay. Healthy calves should consume about 3% of bodyweight by 14 days on feed. Sick calves may take longer to reach this level of consumption. Gauge any changes you make to feed deliveries on cattle behavior and disease status---slower may be better in the long run.

You want to make the weaning diet as easy of transition for the calves as possible. The diet you feed needs to deliver energy, protein, vitamins, and minerals, all in a form that the calves will readily consume.

Avoid the temptation to skimp on QUALITY of starter ingredients; also, avoid the temptation to rush the QUANTITY of starter ration you provide for the calves to eat. When calves have consumed 3% of their body weight of the starter ration continuously for 3-5 days, you can move them up to the next step-up ration.

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

↪ **IRM Redbooks for Sale** – The 2016 IRM Redbooks will be arriving soon and will be sold on a first come, first served basis. The price will be: For orders of less than 10 = \$5.25/book; Orders of 10 or more = \$5.00/book which includes postage. To order, please contact Lois (lschrein@ksu.edu; 785-532-1267).

↪ **Student Services Coordinator, Department of Animal Sciences and Industry** – The Department of Animal Sciences and Industry at Kansas State University seeks applicants for a Student Services Coordinator. This position is a full-time, 12 months per year, regular position (Requisition #5654). Review of applications begins October 30, 2015, and continues until position is filled. View complete position announcement at <http://www.asi.k-state.edu/about/job-announcements.html>

↪ **Agricultural Technician (Milker at Dairy Unit)** – The Department of Animal Sciences and Industry at Kansas State University seeks applicants for an Agricultural Technician (Milker at Dairy Unit) position. This position is full-time, regular position, University Support Staff (Requisition #182024). Position closes on October 21, 2015 at 5:00 p.m. View complete position announcement at: <http://www.asi.ksu.edu/about/job-announcements.html>.

↪ **Performance of Beef Replacement Heifers Supplemented With Dried Distillers Grains Versus a Mixture of Soybean Meal and Finely Ground Sorghum Grain-** The objective was to determine if dried distillers grains with solubles (DDGS) is a viable replacement for an oilseed meal-based protein supplement for developing heifers on low-quality dormant-native range. Angus-Hereford cross heifers (n = 88; 583 lb) were supplemented daily while on dormant native-range pastures (4.4% crude protein). Treatments consisted of daily supplementation of either 3.64 lb DDGS (1.25 lb crude protein, dry matter basis) or 3.03 lb of a 73.6% soybean meal and 26.4% rolled sorghum grain mixture (SBM-M; 1.24 lb crude protein, dry matter basis).

Bottom Line... DDGS can replace a mixture of soybean meal and ground sorghum when supplemented daily and fed on an equal crude protein basis with-out adversely affecting performance of replacement heifers grazing low-quality dormant native range. View the complete report at www.asi.ksu.edu/cattlemensday. For more information, contact John Jaeger (785-625-3425 ext. 211; jrjaeger@ksu.edu)

↪ **Heat Detection Patches Differ in Length of Retention-**The objective was to compare the efficacy of Estroject and Standing Heat heat-detection patches during synchronized estrus. Angus and Angus cross yearling heifers at two locations had estrus synchronized for fixed-time artificial insemination. At the time prostaglandin was administered, each heifer received one Estroject and one Standing Heat patch, alternating the patch with the forward placement on every other heifer. At the time of insemination, patches were scored as 0 = unchanged, 1 = color change on less than half of the surface, 2 = color change on more than half of the surface, and 3 = patch missing. At the time of AI, more Standing Heat devices were missing than Estroject, 60 (29%) vs. 6 (3%), respectively. Retention of patches was higher at location 1 (74%) than location 2 (60%). When missing patches were assumed to indicate heifers had shown heat, agreement between the two devices was considered good.

Bottom Line... Length of retention of Estroject patches was longer than Standing Heat patches under the conditions of this study. When missing patches are assumed to indicate heifers had shown heat, agreement between the two systems was good. View the complete report at www.asi.ksu.edu/cattlemensday. For more information, contact Sandy Johnson (785-462-6281; sandyj@ksu.edu) or Bob Weaber (785-532-1460; bweaber@ksu.edu)

↪ **Formation of Fines During the Pelleted Feed Manufacturing Process and the Resulting Differences in Nutrient Composition of Fines and Pellets-**A 3-wk study was conducted at a commercial feed mill in northwest Iowa to determine where the formation of fines occurs during pelleted feed manufacturing and if differences are present in nutrient composition between fines and pellets. During the study, 1,781 pelleted feed samples were collected from 4 swine and 2 turkey diets. Samples were collected from 4 different locations throughout the mill to determine progression of fines formation during the manufacturing process. These locations included the pellet mill, pellet cooler, fat coater, and at load-out. Samples were taken on 7 to 10 different runs for each diet throughout the 3-wk period. Pellet durability index (PDI) and percentage fines were determined for all samples, and nutrient analysis was determined on a pooled sample from each run within diet. Nutrient analysis was determined via near-infrared spectroscopy (NIR) at the processing site and via wet chemistry at a commercial lab.

Overall, PDI was different between locations in the mill. Pellet durability index increased from the pellet mill to the fat coater but then decreased between the fat coater and load-out. The largest increase in PDI was seen between the cooler and fat coater. Percentage fines decreased from the pellet mill to the cooler, but then increased as pellets went to the fat coater and then to load-out. The largest increase in fines was found between the cooler and fat coater and between the fat coater and load-out (5.6 and 6.5%). Dry matter and crude fiber were greater and fat tended to be greater in fines than in pellets as determined by NIR, whereas CP was significantly lower in the fines than in pellets. These differences were verified by wet chemistry results. Wet chemistry also found that fines tended to be higher in ADF, but fines were similar in Ca and P compared with pellets.

Bottom Line... In conclusion, fines increased as pellets were moved from the pellet mill to the load-out area. Pellet durability index improved from the pellet mill to the fat coater due to the removal of moisture in the pellet but then worsened at load-out, most likely due to the addition of fat, which may have started to soften the pellets. Both NIR and wet chemistry found that fines were higher in fiber and fat but lower in CP than pellets. These differences in nutrient content of the pellets compared with fines and the possibility of fines refusal at the feeder may lead to poorer pig performance. More research is needed to determine if fines formation can be reduced in the mill and if differences in nutrient composition of fines compared with pellets could lead to performance differences in pigs. More information is available in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by J.A. De Jong, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, J.C. Woodworth, S.S. Dritz, J. Erceg, L. McKinney, and G. Smith)

↪ **Effects of Algae-Derived β -Glucans with Zinc on Nursery Pig Growth Performance and Immune Response Under Commercial Conditions-** An experiment was conducted to determine the impact of increasing levels of Algamune ZPC (Algal Scientific Corporation, Plymouth, MI) on growth performance and porcine circovirus type 2 (PCV2)-specific immune response of nursery pigs housed under commercial conditions. Algamune ZPC is a polysaccharide-zinc complex feed additive composed of 35% β -1,3-glucan extracted from algae and 10% zinc. A total of 2,484 pigs were used in a 40-d trial. After feeding a common pelleted diet for 7 d after weaning, pigs were allotted to 1 of 6 dietary treatments in a randomized complete block design with 14 or 16 replicate pens and 27 pigs per pen. All pigs were vaccinated with PCV2 and M. hyopneumoniae vaccines (1 mL Foster PCV and 1 mL Respire-One; Zoetis, Florham Park, NJ) at d 3 after birth and at weaning. Blood samples of 72 pigs were collected on d 2, 18, and 38. The 6 experimental diets were fed in two phases (d 0 to 12 and 12 to 40). Dietary treatments included: a negative control diet fed in both phases (1,910 and 110 ppm of zinc oxide in Phase 1 and 2, respectively); the negative control diet with 104, 208, 423, and 625 ppm added Algamune ZPC for both Phase 1 and Phase 2; and a negative control diet with 423 ppm added Algamune ZPC fed during phase 1 followed by the negative control in Phase 2.

From d 0 to 40, increasing Algamune ZPC tended to decrease then increase ADG and increase ADFI. No differences were observed in F/G. There were no differences in ADG, ADFI or F/G in pigs fed 423 ppm Algamune ZPC in both phases compared with pigs fed 423 ppm Algamune ZPC only in Phase 1 and the negative control diet fed in Phase 2. The lowest removal rates were observed among pigs assigned to 423 ppm Algamune ZPC only in Phase 1 or in both phases (0 and 0.27%, respectively). No evidence of differences was detected in PCV2-neutralizing antibody titers on d 16, but the titers decreased on d 38 with increasing Algamune ZPC.

Bottom Line... In conclusion, including up to 625 ppm of Algamune ZPC in nursery pig diets from 16 to 56 lb had minimal impact on growth performance. Also, modulation of the specific immune response to PCV2 on d 38 after weaning was negatively related to increasing Algamune ZPC under commercial conditions. More information is available in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by M.A.D. Goncalves, S.S. Dritz, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, and J.C. Woodworth)

AS&I Faculty Spotlight



Jeff Stevenson (jss@k-state.edu; 785-532-1243)
Professor/Reproductive Physiology

Jeff was born June 15, 1951, in Salt Lake City, Utah, and attended elementary and secondary schools in Salt Lake City before relocating to Gresham, Oregon in 1967 and graduating from Gresham Union High School in 1969. He attended Utah State University (USU) from 1969-1970 and from 1972-1975, graduating with a B.S. in Dairy Science in 1975. During summers, Jeff worked on his uncle's dairy farm in southeastern Idaho and spent two school years milking cows on a private dairy in Smithfield, Utah and feeding experimental cows for Dr. Melvin C. Anderson, USDA-ARS in Logan, Utah. While a student at USU, he was active in Alpha Zeta (officer) and Dairy Club for 2 and 3 years, respectively. He was honored as Utah's Dairy Shrine Student Recognition Awardee in 1975. While a student at USU, he married Barta Morrill in 1974.

He entered graduate school in Dairy Science at Michigan State University in 1975 and served as a graduate research and teaching assistant until completing the requirements for a M.S. in Dairy Science in 1977. That same year, he relocated to Raleigh, North Carolina, and enrolled in a Ph.D. program in Animal Physiology at North Carolina State University under the continued direction of Dr. Jack H. Britt. While fulfilling the requirements of the Ph.D. during 1977-1980, Jeff served as a graduate and teaching assistant in the Department of Animal Science.

In August, 1980, Jeff was appointed Assistant Professor (70% research/20% teaching) in the Department of Animal Sciences and Industry at Kansas State University. He was promoted to Associate Professor in 1986 and Professor in 1992. His current responsibilities include teaching one undergraduate course, entitled "Dairy-Poultry Science" and one graduate course, entitled "Ovarian Physiology," and serving as faculty coordinator for the Kansas Artificial Breeding Service Unit (KABSU). Research interests include synchronization of estrus and ovulation in dairy and beef cattle. Jeff has served on the editorial boards of the *Journal of Dairy Science*, *Journal of Animal Science*, and *Animal Reproductive Science*. Recently served as senior section editor for the Physiology and Management Section of the *Journal of Dairy Science*.

Jeff received the 1990 American Dairy Science Association Agway Inc. Young Scientist Award, 1998 National Association of Animal Breeders Research Award, 2002 American Dairy Science Association Pharmacia Animal Health Physiology Award, 2002 Kansas State University Research and Extension Team Award, 2006 Kansas Dairy Leader, and the 2009 American Society of Animal Science Animal Management Award. In June 1992, he became a monthly contributing author for the Artificial Breeding column in *Hoard's Dairyman*.



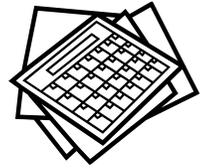
Karen Schmidt (kschmidt@k-state.edu; 785-532-1216)
Professor/Dairy Foods

Dr. Karen Schmidt earned a B.S. degree in Food Science from the Pennsylvania State University. After graduating from Penn State, Karen joined Tony's Pizza Service in Salina, KS as a quality assurance supervisor. After working in quality assurance and research and development with Schwan Sales Enterprises, Karen entered graduate school at the University of Minnesota and completed her M.S. and Ph.D. degrees in Food Science.

In January of 1990, Karen joined the University of Georgia in the Departments of Food Science and Technology and Animal Science as an Assistant Professor with research and teaching responsibilities. In 1994, she joined the Department of Animal Sciences and Industry at Kansas State University as an Associate Professor with responsibilities in teaching and research and as a faculty coordinator for the Dairy Processing Plant, where she currently holds a 50% teaching and 50% research appointment. In addition, she is a member of Kansas State University's Food Science Institute. Her teaching responsibilities include Fundamentals of Milk Processing, Food Product Evaluation, Dairy Foods Processing and Technology, and Quality Assurance of Food Products and her research program focuses on the processing and quality of dairy and non-dairy foods

What Producers Should Be Thinking About.....

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



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

Cow herd management for spring-calving cows

- In late fall and early winter, start feeding supplement to mature cows using these guidelines:
 - Dry grass — 1-2 pounds (lb.) per day of a 40% crude protein (CP) supplement
 - Dry grass — 3-4 lb. per day of a 20% CP supplement
 - Dry grass — 10 lb. good nonlegume hay, no supplement needed
- Compare supplements based on cost per pound of nutrient.
- Utilize crop residues.
- Strip-graze or rotate cattle to improve grazing efficiency.
- Cows in average body condition can be grazed at 1-2 acres per cow for 30 days, assuming normal weather. Available forage is directly related to grain production levels.
- Limiting nutrients are usually rumen degradable protein, trace minerals and vitamin A.
- Control lice.

General management

- Document your cost of production by participating in Standardized Performance Analysis (SPA) programs.
- Review management decisions; lower your costs per unit of production.
- Check your financial management plan and make appropriate adjustments before the end of the year.

*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.*