



News from KSU Animal Sciences

☞ **Make plans now to attend the 2019 KSU Swine Day.** The 2019 KSU Swine Day will be hosted Thursday, November 21, at the KSU Alumni Center. The schedule for the day includes:

- 8:00 a.m. – 4:00 p.m. Trade Show
- 9:15 a.m. Welcome
Dr. Mike Day, Department Head, Animal Sciences and Industry
- 9:30 a.m. Latest update on K-State Applied Swine Nutrition Research: 15-minute rotation including topics on Swine Nutrition, Management and Feed Processing
K-State Swine Faculty
- 11:30 a.m. Lunch with Trade Show
- 1:30 p.m. Decision Processes and Implementing a Nutritional Program in an Integrated System
Dr. Josh Flohr, Seaboard Foods, Guymon, Oklahoma
- 2:30 p.m. What the Canadian Industry is Doing to Prevent an ASFV Incursion
Dr. Egan Brockhoff, Prairie Swine Health Services, Alberta, Canada
- 3:00 p.m. Question and Answer Session
- 3:30 p.m. Reception with Call Hall Ice Cream

Pre-registration fee is \$25 per participant by November 12, with registration at the door \$50 per participant. There is no charge for any students if they are pre-registered. The complete schedule and online registration information can be found at www.KSUswine.org. For more information, contact Lois Schreiner at lschrein@ksu.edu or 785-532-1267.

☞ The 2020 **K-State Swine Profitability Conference** has been scheduled for Tuesday, February 4, 2020, at the Stanley Stout Center, Manhattan, KS. Watch for more details coming soon at www.KSUswine.org.

☞ **New YQCA Certification Materials Available** - The national, multi-species youth livestock quality assurance program, Youth for the Quality Care of Animals (YQCA), launched its third year of the program on October 1. Therefore, a new set of educational modules are now available for youth to complete. Extension Agents and Ag Teachers who requested to become certified to teach face-to-face classes should have received an email the first week of October. The training is completed entirely online, through an instructor’s account. Once the certification process is complete, approved instructors will receive the 2019-2020 curriculum via email and are welcome to begin teaching classes. Youth may complete the online training for \$12/child, or participate in an instructor-led session for \$3/child. All participants must register and pay through the YQCA site, regardless of the type of training. A young person’s YQCA certification is valid for one year, so youth need to re-certify annually. The Kansas State Fair Grand Drive and KJLS are expected to continue requiring all exhibitors to complete YQCA to be eligible to exhibit in the 2020 shows. For more information, contact Lexie Hayes (adhayes@ksu.edu; 785-532-1264).

CALENDAR OF UPCOMING EVENTS		
Date	Event	Location
November 21, 2019	KSU Swine Day	Manhattan
February 4, 2020	KSU Swine Profitability Conference	Manhattan

Department of Animal Sciences and Industry

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What's New.....

🔗 **Management Minute** – Justin Waggoner, Ph.D., Beef Systems Specialist

“Good Help is Hard to Find”

“Good help is hard to find” which alternatively means that the “good help we have is worth retaining”. I recently had a conversation with a colleague who is changing positions, as we discussed some of the challenges associated with the transition, from selling a house, to placing children in a new school. I found myself considering why do good people leave positions? Given the magnitude of the challenges associated with making a professional change. In some instances, people do get the opportunity to pursue their dream job. In other situations, life circumstances such as children or being closer to family are cited as common reasons. However, according to www.thebalancecareer.com the most common people leave jobs are ultimately related to factors within the workplace, such as a bad boss or supervisor, lack of trust within the organization, failing to recognize the employee's contributions or strengths, or the inability to use their skills. Many of these reasons come down to job satisfaction, and creating an environment where people want to come to work. We spend roughly 1/3 of our day at work, so creating a positive work environment, where employees feel valued and trust that supervisors and the organization cares about them can go along way towards retaining the good help we have today.

For more information, contact Justin Waggoner at jwaggon@ksu.edu.

🔗 **Feedlot Facts** – Justin Waggoner, Ph.D., Beef Systems Specialist

“Some Thoughts on Calf Revenue”

The air is now crisp in the morning and it won't be long before we see the glimmer of ice crystals in the water tank. Many producers are weaning and will be marketing calves in the coming weeks and months. Margins in the cattle industry and agriculture in general are often unfortunately narrow and this year is no exception. Maximizing calf revenue is important for cow/calf producers every year, but is even more important in year's where the probability of loss is greater than profit. Calf revenue from my academic perspective is driven by 3 factors, 1.) the number of calves sold, 2.) sale weight of calves and 3.) price received. Cow/calf producers to some extent have control over the number of calves sold and sale weight. The number of calves sold is essentially a function of stocking rate, cow fertility and/or reproduction on an operation. The sale weight of calves is more complex but is a multi-factorial combination of genetics, calving distribution, calf age, nutrition, management and technology use (implants). Price received is likely the most influential of the 3 factors that drive calf revenue and is the factor that cow/calf producers often believe they have the least ability to control. Once a set of calves, enters the sale ring, or appears on the video screen their value is determined by what 2 prospective buyers are willing to pay. Although it is impossible for producers to directly influence what buyers are willing to pay, I would argue that they are not completely helpless. Cow/calf producers directly control what they will sell (weaned calves, value-added calves or feeders), and determine when they will sell. These are difficult, complex decisions, that shouldn't necessarily be made based upon weekly cattle sale reports or the thoughts of your favorite livestock market commentator. I am not saying that keeping informed about current market conditions isn't important. However, that information when used with resources like Beef Basis (www.beefbasis.com) that use data to evaluate different market scenarios, from selling 6 weight calves the first week of December, to 7 weights in February helps producers make the best decision for their operations. Producers also control what information or data they pass along to the new owner. We all know that data has value in today's world. I like to compare marketing calves to selling a beautifully restored pickup. If you were selling a pickup, you would share with a prospective buyer every bit of information you had and the details of the process, from the atmospheric conditions when the truck was painted to the actual sales invoice from 1972. Why should selling a set of calves be any different? Value added programs and certified sales provide potential buyers with some degree of assurance that your cattle were managed within the guidelines of the program. If you don't participate in a defined program, providing the auctioneer or sales representative with as much information as possible about your cattle only helps them do their job better which is to get best price for your cattle.

For more information, contact Justin Waggoner at jwaggon@ksu.edu.



IRM Redbooks for Sale – The 2020 IRM Redbooks are here and will be sold on a first-come, first-served basis. The price is \$6.25/book for orders of 10 or more; \$6.50/book for orders of less than 10 which includes postage. To order your supply of redbooks, please contact Lois Schreiner (lschrein@ksu.edu; 785-532-1267).



Effects of Space Allowance and Marketing Strategy on Growth Performance of Pigs Raised to Heavy Market Weights - A total of 976 pigs were used in a 160-d growth study to determine the influence of space allowance and marketing strategy on growth performance of pigs raised to heavy market weights. Pens were blocked by location within the barn and allotted to one of six dietary treatments with eight pens per treatment. The first four treatments reduced space allowance per pig via initial pen stocking density and had only one final marketing event. These four treatments were: 14 pigs/pen (12.7 ft²/pig), 17 pigs/pen (10.4 ft²/pig), 20 pigs/pen (8.8 ft²/pig), 23 pigs/pen (7.7 ft²/pig). The fifth treatment began with 25 pigs/pen (7.1 ft²/pig) and the heaviest three pigs/pen were removed on d 93, then on d 122 they were topped again to a common inventory of 20 pigs/pen, and on d 147 topped to a common pen inventory of 17 pigs/pen. The sixth treatment began with 23 pigs/pen (7.7 ft²/pig) and was topped to a common inventory of 20 pigs/pen on d 108 and finally topped again to a common inventory of 17 pigs/pen on d 147. Average daily gain (ADG), average daily feed intake (ADFI), and final BW decreased during the overall experimental period (d 0 to 160) as space allowance decreased. When comparing treatments with multiple marketing events to those with similar initial stocking density (23 pigs per pen), there was no evidence for differences for overall ADG or ADFI; however, overall feed efficiency was improved for pigs initially stocked at 7.1 ft²/pig and marketed four times compared to both treatments that initially allowed 7.7 ft²/pig, regardless of marketing structure. Additionally, overall F/G was improved for pigs that began at 7.7 ft²/pig and had three marketing events compared to the treatment that also began at 7.7 ft²/pig but had only a single marketing event. Once the marketing events began on d 93, ADG and F/G were improved for the remaining pigs in the pen for the rest of the trial (d 93 to 160) for both multiple marketing treatments, compared to the 7.7 ft²/pig allowance where all pigs were marketed together at the end of the trial. These findings are consistent with others that evaluate more traditional market weights where growth performance is reduced prior to pigs reaching their k-value, and align with recent models that predict the rate of change in growth performance as pigs are allowed more spacing during the finishing period. Similarly, it appears that pigs respond to removal of the heaviest pigs in the pen before market with the remaining pigs in the pen demonstrating compensatory gain after being provided with increased space.

Bottom Line... These results indicate that decreasing space allowance for heavy weight pigs reduced growth, intake, and final BW, although use of pig removals prior to final marketing may allow producers to maximize number of pigs marketed while balancing reduced growth performance generally accompanied with increased stocking density. Additionally, growth continued to increase until approximately 340 lb, indicating a potential opportunity for swine producers to capture lean growth at much heavier weights than previously predicted. 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. Lerner, M.D. Tokach, J.M. DeRouchey, S.S. Dritz, R.D. Goodband, T.G. O'Quinn, J.M. Gonzalez, E.A. Rice, M.W. Allerson, H.E. Price, and J.C. Woodworth)



Effects of Added Soybean Isoflavones in Low Crude Protein Diets on Growth and Carcass Performance of Finishing Pigs from 260 to 320 lb - A total of 282 pigs were used in a 26-d trial to determine the effect of added soybean isoflavones on growth performance and carcass characteristics of finishing pigs fed low crude protein (CP) diets. Pens of seven or eight pigs were allotted by body weight (BW) and randomly assigned to one of four dietary treatments with 9 replications per treatment. Experimental diets were arranged in a 2 × 2 factorial with main effects of CP (13% or 10%) and isoflavone (none or 0.05% of the diet). To achieve desired CP levels, soybean meal (SBM) inclusion was reduced from 13.6 to 4.1% of the diet. Pigs were weighed weekly and at d 26 transported to a packing plant for processing and carcass data collection. For overall growth performance, there was no evidence for an interaction between CP and added isoflavones. Pigs fed diets containing 13% CP had increased average daily gain (ADG) and subsequently final BW and better feed efficiency (F/G) compared with pigs fed 10% CP. Carcass yield increased for pigs fed the 10% CP diet compared to pigs fed the 13% CP diet. There was no evidence that including isoflavones in the diets influenced growth performance or carcass characteristics.

Bottom Line... In summary, the reduced growth performance observed in pigs fed the 10% CP and 4.1% SBM diets does not appear to be related to soy isoflavone concentration. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by L.L. Thomas, M.D. Tokach, J.C. Woodworth, R.D. Goodband, S.S. Dritz, and J.M. DeRouchey)



Determining the Effects of Cup Waterer on Growth Performance of Growing and Finishing Pigs - Two studies were conducted to evaluate the growth performance of growing-finishing pigs in response to different ratios of cup waterers to pigs and different locations of the cup waterers within a pen under commercial conditions. In Exp. 1, 1,134 pigs were housed in pens that provided 6.85 ft²/pig and were used in a 113-d trial during summer months (May through September). Pens of pigs were blocked by location within the barn and allotted to treatments in a randomized complete block design. There were 14 replicate pens per treatment and 27 pigs per pen. Treatments consisted of 1, 2, or 3 cup waterers per pen, resulting in 27, 13.5, and 9 pigs per cup waterer, respectively. From d 0 to 45, increasing the number of cups per pen resulted in a quadratic increase in the percentage of days that cups needed to be cleaned in order to remove fecal material. From d 80 to 113, with more waterers per pen, there was a linear increase in days the waterers were cleaned. For growth performance, there was no evidence of treatment effect from d 0 to 74; however, from d 74 to 114 and overall, increasing the number of cup waterers per pen resulted in a linear increase in average daily gain (ADG) and final BW. Overall, there was no evidence of differences observed for average daily feed intake (ADFI) and feed efficiency (F/G). In Exp. 2, 1,134 pigs were housed in pens that allowed 6.85 ft² of space per pig and were used in a 126-d trial during winter months (October through February). Pens of pigs were randomly allotted to one of three treatments in a randomized complete block design with location within the barn being the blocking factor. There were 14 replicates per treatment and 27 pigs per pen. Treatments consisted of a 1 cup waterer installed 42 in. from the feeder; 2 cup waterers installed 24 in. and 48 in. from one side of the feeder; and 2 cup waterers installed 24 in. from each side of the feeder. Overall, there was no evidence for differences among treatments regarding the percentage of waterers that needed to be cleaned. For growth performance, no significant treatment effects were observed from d 0 to 70. From d 70 to 126 and overall, ADG was increased when pens were equipped with a 1 cup waterer located on each side of the feeder compared to pens with 2 cup waterers located on the same side of the feeder, with pens with 1 waterer intermediate. However, there was no evidence for an overall treatment effect on ADFI, F/G, and final BW.

Bottom Line... Results from this study indicate the optimal water cup to pig ratio changes as pigs increase in body weight. The linear improvement in growth performance as the number of drinking devices increased suggests water availability becomes more critical at heavier weight. Positioning of cup waterers within a pen is also an important factor to be taken into account, with a 1 cup waterer installed on either side of the feeder providing the highest growth rate. However, increasing the number of cups increased management associated with cleaning cups during summer months, but not during winter months. Further characterization of the interactions of cup waterer number, finishing pig weight, and cup waterer cleanliness on growth performance is needed. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by C.M. Vier, S.S. Dritz, M.D. Tokach, M.A.D. Gonçalves, F. Gomez, D. Hamilton, J.C. Woodworth, R.D. Goodband, and J.M. DeRouchey)



The Effect of Increased Pork Hot Carcass Weights on Consumer Palatability Ratings of Top Loin Chops - The objective of this study was to evaluate the effects of pork hot carcass weight on consumer palatability ratings of top loin chops. Pork loins were collected from four different hot carcass weight groups: light weight group (less than 246.5 lb; LT), medium-light weight group (246.5 to 262.5 lb; MLT), medium-heavy weight group (262.5 to 276.5 lb; MHVY), and a heavy weight group (276.5 lb and greater; HVY). Instrumental color, visual color and marbling, and pH were taken for each loin prior to fabrication. Loins from all weight groups differed in weight (LT < MLT < MHVY < HVY). No carcass weight effects were found for loin instrumental color, subjective color, subjective marbling, purge loss, and pH. Carcass weight did not affect juiciness, flavor, or overall like ratings, but did affect tenderness ratings. Chops from the HVY group were rated as more tender compared to chops from the LT weight group. Weight group did not contribute to the percentage of chops rated acceptable for flavor and overall like. The greatest percentage of samples were rated acceptable for juiciness for chops from the HVY weight group, and the lowest percentage of acceptable ratings for tenderness for chops were from the LT weight group. Consumers perceived the lowest percentage of chops from the HVY group as unsatisfactory quality in comparison to chops from the two lightest weight groups. Weight did not contribute to consumer quality ratings.

Bottom Line... These results indicate top loin chops from heavier weight carcasses have improved tenderness compared to chops from lighter carcasses. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by E.A. Rice, A.B. Lerner, H.E. Price, J.C. Woodworth, M.D. Tokach, S.S. Dritz, R.D. Goodband, J.M. DeRouchey, M.W. Allerson, J.M. Gonzalez, and T.G. O'Quinn)

ASI Faculty Spotlight



Mike Day (mlday@ksu.edu; 785-532-1220)
Department Head

Dr. Michael Day serves as the Department Head of Animal Sciences and Industry Department. He began the position on Aug. 11, 2019.

For the past four years, Day served as head of the Department of Animal Science at the University of Wyoming. He was on the faculty in the Department of Animal Sciences at The Ohio State University from 1985-2015, holding a research and teaching appointment focused on reproductive physiology of beef cattle. Mike holds a Ph.D. and master's degree in animal science with an emphasis on reproductive physiology from the University of Nebraska. He obtained his bachelor's degree in animal husbandry from the University of Missouri.

Dr. Day is looking forward to working with faculty, staff, students and stakeholders as we move the department forward as a leader in animal and food sciences. Mike and his wife, Toni, currently live in Manhattan, KS.



Dave Nichols (dnichols@k-state.edu; 785-532-1239)
Professor/Teaching Coordinator

Dr. Dave Nichols was born in 1955, and raised on a commercial beef cattle, swine, and crops farm near Brookston, Indiana. He entered Purdue University in the Fall of 1973, majoring in Animal Science. Upon completion of his B.S. degree in December of 1976, he entered graduate school at Kansas State University, where he completed his M.S. in 1979, and his Ph.D. in 1981.

In October of 1981 Dave joined the KSU faculty as an extension livestock specialist. In 1983 he accepted a 80% teaching and 20% research appointment. In 1999 he became coordinator of teaching for the Department of Animal Sciences and Industry and currently holds that position with a 100% teaching appointment. In addition to being Teaching Coordinator he also serves as a Faculty Senator. In recent years he has also led student study abroad tours to Costa Rica.

Dr. Nichols advises approximately 100 students, teaches courses in live animal and carcass evaluation, introductory animal science, and livestock sales management. He serves as advisor for the Little American Royal Showmanship Contest, and has been highly involved in 4-H and youth activities. Dr. Nichols coached the KSU Livestock Judging Team from 1986 to 1988, winning, among others, the American Royal Contest. Dr. Nichols has judged numerous cattle shows in recent years. He has judged cattle at Houston, Ft. Worth, San Antonio, Louisville, the American Royal and numerous state fairs.

In addition to his university and judging responsibilities, Dr. Nichols owns and operates A and D Ranch near Manhattan. He and his wife, Anita, have two children, Drew and Amy

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.*