



# News from KSU Animal Sciences

↪ **State Show Entry Deadlines** - Entries for the Kansas State Fair Grand Drive (4-H/FFA youth livestock show) are due July 15. All animals must be entered directly through the state fair using the online system, which is ShoWorks. Only online entries will be accepted. Families who state nominated livestock this year should have their KSU Nomination # ready when they begin the entry process. All exhibitors will also need to be prepared to submit their YQCA number. Late entry forms will be accepted until July 25, with a late fee of \$25/head. No entries will be accepted after July 25. For more information, visit <https://www.kansasstatefair.com/p/participate/grand-drive>.

Continuing this year, county agents and ag teachers will receive instructions from the state fair regarding how to login to the ShoWorks system and approve the entries for exhibitors from their county/school.

Entries for KJLS will be due by August 15, also using ShoWorks. However, they are separate shows, so families will need to create a new account when entering KJLS. All exhibitors must register online, using the link found on the KJLS website: <https://kjls.org/>. Families who state nominated livestock this year will need their KSU Nomination #. All youth need to be prepared to submit their YQCA number as well. Late entries will be accepted until August 31, but will cost double the listed original entry fee amount.

↪ **Livestock Nomination Corrections** - All state livestock nominations received have been opened and processed. Reports are listed under the Nominated Livestock link on the KSU Youth Livestock Program website: <https://www.asi.k-state.edu/research-and-extension/youth-programs/nominated-livestock/check-nominated-livestock.html>. Confirmation letters have also been mailed to families. Those who have a red "No" in the complete nomination column (last column) were missing a component of their nomination or submitted incorrect information. Therefore, the nomination is incomplete. The deadline to correct state livestock nominations is July 15. Animals that remain incomplete after this date will be ineligible for both state shows.

↪ **Livestock Projects sold through County Fair Premium Auctions** - As we enter county fair season, this is a reminder that livestock animals sold through a county fair premium sale OR ribbon auction are not eligible to be shown at the Kansas State Fair or the Kansas Junior Livestock Show. This is per the Kansas 4-H Policy, section J2.2. So, please refer to the policy guide on the state 4-H website for further details about the policy. As counties wrap up their county fair, please send a list of the STATE NOMINATED animals that participated in the premium auction. We only need the state nominated animals, not the entire sale bill/ribbon auction list. Please just email the official KSU nomination family name, specie, and tag #s. A list of animals state nominated from each county may be found on the state livestock nomination reports posted on the KSU Youth Livestock Program website. This list includes official KSU nomination family names and tag numbers.

## Department of Animal Sciences and Industry

Kansas State University  
218 Weber Hall, 1424 Claflin Road  
Manhattan, KS 66506  
785-532-6533  
[www.asi.ksu.edu](http://www.asi.ksu.edu)

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- ↪ The **54<sup>th</sup> Annual Kansas All Breeds Junior Dairy Show** will be held August 15-17, 2019, at the Saline County Livestock and Expo Center in Salina, KS. For on-line registration, showbook and helpful links, visit <https://www.asi.k-state.edu/research-and-extension/dairy/jr-dairy-show/>. For more information, contact Mike Brouk ([mbrouk@ksu.edu](mailto:mbrouk@ksu.edu); 785-532-1281) or Kevin Snell ([kpsnell@ksu.edu](mailto:kpsnell@ksu.edu); 785-532-1281).
  
- ↪ **Livestock Sweepstakes** - Kansas 4-H Livestock Sweepstakes is scheduled for August 24-25 in Manhattan. The 4-H Livestock Sweepstakes event includes the state 4-H livestock judging contest, meat judging contest, livestock skillathon and livestock quiz bowl. The members who will represent Kansas at the national 4-H contests for each of these events will be selected during the livestock sweepstakes weekend. The deadline to enter is August 1. All entries must be made by the local county extension offices or extension districts using Cvent. Registration information and contest details may be found on the KSU Youth Livestock website, under 4-H Livestock Sweepstakes (<https://www.asi.k-state.edu/research-and-extension/youth-programs/4-h-livestock-sweepstakes.html>). The entry link was emailed directly to county offices. For more information, please contact Lexie Hayes at [adhayes@ksu.edu](mailto:adhayes@ksu.edu).
  
- ↪ **KSU Beef Stocker Field Day to be hosted September 19** – Come and help us celebrate the 20<sup>th</sup> anniversary of the KSU Beef Stocker Field Day which will be held on Thursday, September 19, at the KSU Beef Stocker Unit in Manhattan. The day will start at 9:30 a.m. with registration/coffee and conclude with a good old-fashioned Prairie Oyster Fry and Call Hall ice cream at 5:30 p.m. Watch for more details coming to [www.KSUbeef.org](http://www.KSUbeef.org). For more information, contact Dale Blasi ([dblasi@ksu.edu](mailto:dblasi@ksu.edu); 785-532-5427).
  
- ↪ Join us for the **5<sup>th</sup> annual ASI Family and Friends Reunion** on Friday, October 4, 2019, from 5:30 – 9:30 p.m. at the Stanley Stout Center, 2200 Denison Avenue, Manhattan, Kansas. Last year's event was truly amazing with more than 1,000 family and friends reuniting at the event. This year the Don L. Good Impact Award will be presented to the Kansas Livestock Association. Other activities will include great food, live music, Junior Wildcat Barnyard and more surprises. Registration information is available at [www.asi.ksu.edu/familyandfriends](http://www.asi.ksu.edu/familyandfriends).

<b>CALENDAR OF UPCOMING EVENTS</b>		
<b>Date</b>	<b>Event</b>	<b>Location</b>
July 15, 2019	State livestock nomination correction deadline	
August 15-17, 2019	Kansas All Breeds Junior Dairy Show	Salina, KS
August 24-25, 2019	Kansas 4-H Livestock Sweepstakes	Manhattan
September 19, 2019	KSU Beef Stocker Field Day	Manhattan
October 4, 2019	ASI Family and Friends Reunion	Manhattan

# What's New.....

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

### ***“Think Safety this Summer, Agriculture is a High Risk Occupation”***

Most of you reading this are likely involved in agriculture in some capacity. Do you think being a farmer or rancher is a high risk occupation?

The reality is that farming and ranching is a high risk occupation. A 2017 report from the U. S. Department of Labor contains some staggering statistics and emphasizes the need for safety. There were 5147 fatal work-related injuries in 2017. Farmers, ranchers, and agriculture managers were the second greatest civilian occupation with regard to fatal work-related injuries; with 258 reported fatalities in 2017. A tractor was involved in 103 of these incidents. Sales and truck drivers had the greatest number of fatal work injuries (987). The leading cause of injuries was transportation incidents (,2077). These statistics are sobering. Agriculture is a dangerous occupation, and many times our daily activities put us on the road hauling commodities, equipment and livestock. Summer is “go time” for those of us involved in agriculture. However, the need for safety is real. Don't be complacent about your safety and the safety of those around you.

The full report from the U.S. Department of Labor may be accessed at:

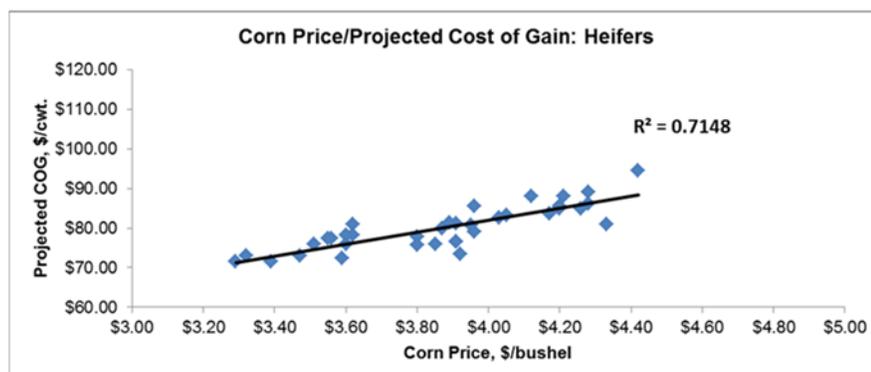
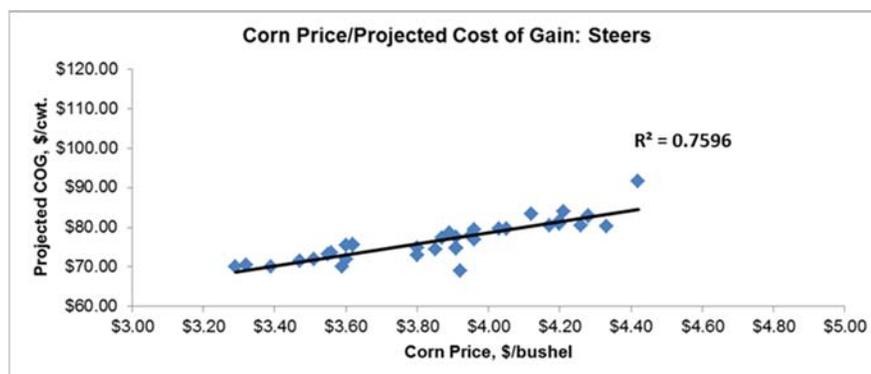
<https://www.bls.gov/news.release/pdf/cfoi.pdf>

For more information, contact Justin Waggoner at [jwaggon@ksu.edu](mailto:jwaggon@ksu.edu).

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

### ***“Estimating Placed Cost of Gain Using the Focus on Feedlots”***

The K-State Focus on Feedlot has many uses, foremost it provides many of us that are not directly connected with the cattle feeding industry a means of staying abreast of cattle performance and closeout data from commercial feeding operations. Additionally, the data generated may be used to build economic budgets for cattle producers considering retaining ownership or placing a group of cattle on feed as commodity and input prices change. One of the simplest ways to estimate placed cost of gain is to look at the relationship between reported corn price and reported projected cost of gain for steers and heifers. The data obtained from the Focus on Feedlots from 2015, 2016, and 2017 is shown in the graphs below.



The relationship between corn price and placed cost of gain is expressed in the following formulas:

$$\text{Projected Steer Cost of Gain (\$/cwt)} = \$22.32 + (\$14.09 \times \text{Corn Price}).$$

$$\text{Projected Heifer Cost of Gain (\$/cwt)} = \$21.16 + (\$15.21 \times \text{Corn Price}).$$

These formulas may be used to forecast the projected cost of gain, if corn price is known. For example, when corn is \$3.50/bushel, cost of gain for steers equals \$71.64/cwt (\$22.32 + \$14.09 x \$3.50). Based on this formula, cost of gain will increase \$14.09/cwt for every \$1.00 per bushel increase in the price of corn. The incremental cost of gain for heifers is slightly higher (\$15.21 vs. \$14.09) for every \$1.00 per bushel increase in the price of corn. The table below lists the projected cost of gain at various corn prices from \$2.00 to \$7.00 per bushel. The intercept values (\$22.32 and \$21.16 for steers and heifers, respectively) reflect other costs associated with feeding cattle (e.g., labor, equipment, and facilities).

#### Projected Cost of Gain for Steers and Heifers Based on Corn Price.

Corn Price (\$/bu.)	Steer Cost of Gain (\$/cwt)	Heifer Cost of Gain (\$/cwt)
\$2.50	\$57.55	\$59.19
\$3.00	\$64.59	\$66.79
\$3.50	\$71.64	\$74.40
\$4.00	\$78.68	\$82.00
\$4.50	\$85.73	\$89.61
\$5.00	\$92.77	\$97.21

There are many factors that influence cost of gain, primarily cattle performance (ADG, feed conversion, etc.) which is not necessarily taken into account with this method. However, this does provide a simple method that can easily be adjusted up or down to fit specific groups/types of cattle and expected weather conditions during the feeding period.

For more information, contact Justin Waggoner at [jwaggon@ksu.edu](mailto:jwaggon@ksu.edu).



#### **Consumer Evaluation of the Degree of Doneness of Beef Strip Loin Steaks Cooked to Six End-Point Temperatures**

– The objective of this study was to assess consumers' degree of doneness practices in addition to their ability to identify beef steak degrees of doneness. Beef strip loins (n = 24) from 12 animals representing five quality treatments [Prime, Top Choice, Low Choice, Select, and Select Enhanced (108%)] were collected. Steaks were cooked to an end-point temperature of very-rare (130°F), rare (140°F), medium-rare (145°F), medium (160°F), well-done (170°F), or very well-done (180°F). Cooked steaks were cut in half, perpendicular to the long axis of the steak, and photographs were taken immediately of the internal face of the lateral side. A digital survey for consumers was developed for electronic evaluation of the cooked steak images. Consumers (n = 1,134) answered a demographics questionnaire, followed by questions pertaining to temperature and determining degree of doneness. Next, 10 steak images depicting varying degrees of doneness were randomly selected by Qualtrics Software for each consumer to identify the degree of doneness of the steak pictured.

**Bottom Line...** Consumers do not have a good understanding of beef degrees of doneness, and are unable to consistently and accurately identify degrees of doneness of steaks cooked to specified end-point temperatures. This can create challenges when consumers communicate their degree of doneness preferences at foodservice establishments. View the complete research report at [www.asi.ksu.edu/cattlemensday](http://www.asi.ksu.edu/cattlemensday). For more information, contact Travis O'Quinn ([travisquinn@ksu.edu](mailto:travisquinn@ksu.edu); 785-532-3469) or Terry Houser ([houser@ksu.edu](mailto:houser@ksu.edu); 785-532-1253).



#### **Syngenta Enogen Feed Corn Silage Containing an Alpha Amylase Expression Trait Improves Feed Efficiency**

– The objective of this study was to determine the growing calf response when fed Enogen Feed corn silage containing an alpha amylase expression trait. Crossbred steers of Tennessee origin (n = 352) were used to determine the effects on performance when fed Enogen Feed corn silage with either Enogen Feed corn or control corn at ad libitum intake.

**Bottom Line...** When fed in an ad libitum fashion to growing calves, Enogen Feed corn silage improves the efficiency of feed conversion by 4.4% and average daily gain by 6.0%. View the complete research report at [www.asi.ksu.edu/cattlemensday](http://www.asi.ksu.edu/cattlemensday). For more information, contact Dale Blasi ([dblas@ksu.edu](mailto:dblas@ksu.edu); 785-532-5427).



**Effect of Medium Chain Fatty Acid Supplementation on Nursery Pig Fecal Microbial Populations** - A total of 360 pigs were used to evaluate the effects of dietary medium chain fatty acid (MCFA) addition on fecal microbial populations. Upon arrival at the nursery, pigs were randomized to pens (5 pigs per pen) and allowed a 6-d acclimation period, at which point pens of pigs were blocked by body weight (BW) and randomized to dietary treatment (9 pens per treatment). Medium chain fatty acids included hexanoic (C6), octanoic (C8), and decanoic (C10), and were guaranteed  $\geq 98\%$  purity. Treatment diets were formulated to meet or exceed NRC3 requirements for 15- to 25-lb pigs. Fecal samples were collected from pigs fed control and 1.5% MCFA blend (1:1:1 ratio C6, C8, and C10) diets on d 0 and d 14 and analyzed using 16s rDNA sequencing. A total of six phyla were identified with  $\geq 1\%$  relative abundance for at least one of the treatment  $\times$  day analysis combinations. The largest proportion of relative abundance on a phyla level on d 14 consisted of Firmicutes (54% control, 44% MCFA) and Bacteroidetes (32% control, 43% MCFA). A marginally significant treatment  $\times$  day interaction was observed in the Proteobacteria phylum, where relative abundance did not change over time in pigs fed the control diet, whereas a marginally significant decrease over time was observed in pigs fed the MCFA diet. There was no evidence of an effect of MCFA addition over time for the relative abundance of the remaining phyla. The main effect of day indicated a significant increase over time in the Tenericutes phylum and a significant decrease over time in the Proteobacteria and Spirochaetes phyla. A Firmicutes:Bacteroidetes ratio was calculated, and there was no evidence of a treatment  $\times$  day interaction or day effect. A total of 23 microbial families were detected at  $\geq 1\%$  relative abundance for at least one of the treatment  $\times$  day analysis combinations. The families with the greatest relative abundance were Prevotellaceae, Ruminococcaceae, and S24-7 families, which had  $\geq 10\%$  relative abundance for at least one of the treatment  $\times$  day analysis combinations. There was no evidence of an effect of MCFA addition over time on the relative abundance for any family. For both treatments, a reduction over time was observed for Ruminococcaceae, Lachnospiraceae, Christensenellaceae, Spirochaetaceae, Bacteroidaceae, and Succinivibrionaceae families. An increase in relative abundance over time was observed for the unclassified Clostridiales, Clostridiaceae, unclassified RF39, and Clostridiales; and other families. No evidence of a difference in alpha diversity was observed for either Chao1 (estimate of species richness) or observed operational taxonomic units (OTUs).

**Bottom Line...** In summary, adding 1.5% MCFA blend in swine nursery diets did not appear to significantly alter the composition of fecal microbial populations compared to a control diet using 16s rDNA sequencing analysis. Changes in microbial populations were observed over time with both treatments. Further investigation into the mechanism by which MCFA addition benefits growth performance is necessary. Moreover, additional studies into understanding the interactions between MCFA and the gastrointestinal microbiome are warranted due to its well-known inactivation effects on selected microbes. More information is available on this experiment and others in the KSU Swine Day Report at [www.KSUswine.org](http://www.KSUswine.org). (This study conducted by J.T. Gebhardt, M.C. Niederwerder, S.C. Fernando, W. Abbas, T.E. Burkey, K.A. Thomson, J.C. Woodworth, M.D. Tokach, J.M. DeRouchey, R.D. Goodband, and S.S. Dritz)



**Effect of Dietary Fiber Source on Growth Performance, Carcass Characteristics, and Economic Return of Finishing Pigs** - A total of 287 pigs were used in an 86-d experiment to determine the effect of dietary fiber source on finishing pig growth performance and carcass characteristics. There were 12 pens per treatment with seven or eight pigs per pen. Pens were randomly assigned to one of three dietary treatments consisting of a control (8.7% neutral detergent fiber; NDF), 20% dried distillers grains with solubles (DDGS; 13.6% NDF), or 14.5% sugar beet pulp (SBP; 13.6% NDF). Experimental diets were fed from d 0 to 86 in 3 phases; d 0 to 18, d 18 to 39, and d 39 to 86. From d 0 to 86, there was no evidence for treatment difference in ADG or ADFI. Pigs fed DDGS had marginally poorer F/G than the control or 14.5% SBP diets. Caloric efficiency of net energy (NE) in kcal per lb of live gain was marginally poorer in pigs fed DDGS compared to those fed control and SBP. There was a decrease in hot carcass weight (HCW) and carcass yield in pigs fed DDGS and SBP compared to those fed the control diet. Loin depth marginally decreased in pigs fed SBP compared to the control, with those fed DDGS intermediate. Feed cost per pig was greatest for pigs fed SBP, followed by DDGS, with those fed the control diet having the least. Feed cost per lb of gain increased in pigs fed SBP, followed by DDGS, with those fed the control having the least. Gain value decreased in pigs fed SBP compared to the control, with those fed DDGS intermediate. Income over feed cost was poorest in pigs fed SBP, followed by DDGS, with those fed the control diet being the greatest.

**Bottom Line...** In conclusion, pigs fed DDGS tended to have poorer F/G compared to those fed the control diet or SBP. This can be explained by the overestimation of NE of the diet as demonstrated by an increase in caloric efficiency. Increasing dietary NDF reduced carcass yield and economic return. More information is available on this experiment and others in the KSU Swine Day Report at [www.KSUswine.org](http://www.KSUswine.org). (This study conducted by K.M. Dunmire, L.L. Thomas, M.B. Braun, C.N. Truelock, M.D. Tokach, J.M. DeRouchey, R.D. Goodband, J.C. Woodworth, S.S. Dritz, and C.B. Paulk)

### **Effects of Storing Three Phytase Sources Over 90 Days Under High Temperature and Humidity on Phytase Stability, Growth Performance, and Bone Mineralization of Nursery Pigs**

A study was performed to evaluate the effects of storing three commercially available phytase products for 90 d, simulating summer conditions on phytase stability, growth performance, and bone mineralization of nursery pigs. The phytase products [HiPhos GT; Axta Phy TPT; and Quantum Blue G] were left as pure forms or blended in a vitamin and trace mineral (VTM) premix for a 90 d period in an environmentally controlled chamber set at 85°F and 75% humidity. Sampling occurred on d 0, 30, 60, and 90 of storage. Regardless of phytase source and form (pure or VTM), there were linear decreases in retained phytase activities as the duration of storage increased. At the end of the 90-d storage period, the retained phytase activities ranged from 41 to 60% when phytases were in a pure form and from 38 to 54% when they were in a concentrated VTM premix. For the growth trial, a total of 300 nursery pigs with an initial pen average body weight (BW) of 25.9 lb were used. Pigs were randomly allotted to pens at weaning and fed common diets for 21 d. For 4 days prior to the initiation of the trial, all pigs were fed a common diet deficient in phosphorus (0.12% available phosphorus, aP). At day zero of the trial, the pens of pigs were randomly assigned to one of eight dietary treatments in a randomized complete block design, with BW used as a blocking factor. There were four or five pigs per pen and eight pens per treatment. Experimental diets were formulated to contain 0.12% aP (negative control, NC) or 0.27% aP (positive control, PC) supplied by an inorganic P; or the 0.12% aP diet with added phytase to provide the activity recommended by the manufacturer of each phytase source to release 0.15% aP. These diets were manufactured with each phytase source previously stored either in a pure form or in a VTM premix for 90 days. On d 21 of the study, one pig per pen was euthanized and the right fibula and femur were collected for percentage bone ash calculations. Overall, pigs fed the PC diet had greater average daily gain compared to pigs fed Axta Phy stored in a VTM premix for 90 days or the NC diet, with other treatments intermediate. Average daily feed intake was similar across the PC, the phytases stored for 90 days in pure forms, and the HiPhos and Quantum Blue stored for 90 d in a VTM premix, and greater than pigs fed the NC. Pigs fed the PC or the HiPhos stored for 90 d in a pure form had improved feed efficiency compared to pigs fed the NC diet, with the remaining treatments intermediate. Final BW was similar across all added phytase treatments and the PC, which were all greater than the NC. Bone mineralization was greater for pigs fed the PC diet compared to the NC, the phytases that were stored for 90 d in a VTM premix, and the Axta Phy and Quantum Blue stored for 90 d in a pure form, with HiPhos stored in a pure form for 90 d intermediate.

**Bottom Line...** In conclusion, this study indicates that regardless of phytase source and form (pure or VTM premix), phytase activity decreases as duration of storage in high temperature and high humidity conditions increases for up to 90 d. Pigs fed PC diets consistently had increased growth performance and bone mineralization compared to pigs fed the other dietary treatments. However, F/G and bone ash of pigs fed HiPhos stored for 90 d in a pure form were similar to results for pigs fed the PC diet, with pigs fed the other phytase treatments intermediate. More information is available in the KSU Swine Day Report at [www.KSUswine.org](http://www.KSUswine.org). (This study conducted by C.M. Vier, M.B. Menegat, K.M. Gourley, S.S. Dritz, M.D. Tokach, J.R. Bergstrom, R.D. Goodband, J.M. DeRouchey, and J.C. Woodworth)

### **Evaluation of Different Vitamin Concentrations on Grow-Finish Pig Growth and Carcass Characteristics**

Vitamins are generally added to swine diets in concentrations well above their requirement estimates to provide a generous margin of safety. However, with the increase in vitamin prices in 2017, there was a need to re-evaluate suggested vitamin additions. Therefore, the objective of this study was to compare two premixes with different vitamin concentrations on growth performance and carcass characteristics of grow-finish pigs reared in a commercial environment. A total of 1,188 pigs were used in a randomized complete block design with 27 pigs per pen and 22 pens per treatment. The experimental diets were corn-soybean meal-DDGS based and were fed in five phases from approximately 35 to 60, 60 to 110, 110 to 165, 165 to 220, and 220 to 280 lb. There were two dietary treatments based on different vitamin concentrations. The first was the Kansas State University recommended vitamin premix up to December 2017. It contained 1,600,000 IU vitamin A; 400,000 IU vitamin D; 8,000 mg vitamin E; 800 mg vitamin K; 7 mg vitamin B12; 15,000 mg niacin; 5,000 mg pantothenic acid; and 1,500 mg riboflavin. The second was the K-State recommended vitamin premix since January 2018. It contained: 750,000 IU vitamin A; 300,000 IU vitamin D; 8,000 mg vitamin E; 600 mg vitamin K; 6 mg vitamin B12; 9,000 mg niacin; 5,000 mg pantothenic acid; and 1,500 mg riboflavin. Overall (d 0 to 138), there was no evidence for differences in average daily gain, average daily feed intake, or feed efficiency. Also, no evidence for differences was observed for final weight, hot carcass weight or any other carcass characteristic.

**Bottom Line...** In conclusion, the new K-State 2018 recommended vitamin premix concentrations provided similar growth performance as the 2017 recommendations, while not influencing carcass traits in grow-finish pigs. More information is available on this experiment and others in the KSU Swine Day Report at [www.KSUswine.org](http://www.KSUswine.org). (This study conducted by L. Del Tuffo, S.S. Dritz, M.D. Tokach, J.C. Woodworth, J.M. DeRouchey, and R.D. Goodband)

# ASI Faculty Spotlight



**Jaymelynn Farney ([ijk@ksu.edu](mailto:ijk@ksu.edu); 620-820-6125)**  
**Associate Professor/Extension Beef Systems Specialist**

Jaymelynn Farney grew up in Fort Sumner, New Mexico, where her family had a cow-calf operation. Jaymelynn was very active in 4-H and FFA and because of this after graduating high school, she went to El Dorado, KS, to be a member of the livestock judging team at Butler Community College. She completed her A.S. in agriculture degree and then continued her education at Kansas State University in Animal Science. Jaymelynn then went to Oklahoma State University to complete her M.S. in Ruminant Nutrition with an emphasis on receiving calf management. She then returned to Kansas State University to complete her PhD in Ruminant Nutrition, using the dairy cow as the model for how inflammation impacts production.

Jaymelynn is focusing her applied research programs on dealing with issues pertaining to Southeast Kansas cattle producers. Subsequently, she plans on researching fescue management, heifer and bull development programs, and stocker/backgrounding management systems. Jaymelynn is using her extension appointment to provide producers with knowledge of new technologies, feeds, and management strategies to improve efficiency of production in both cow-calf and stocker/backgrounder operations.

Jaymelynn lives in Southeast Kansas with her husband, Garet, and daughter, Ashlynn. She works at the Southeast Agricultural Research Center in Parsons.



**Sandy Johnson ([sandyj@k-state.edu](mailto:sandyj@k-state.edu); 785-462-6281)**  
**Professor/Extension Livestock Production Specialist**

Sandy Johnson was raised on a diversified livestock farm north of Blair, Nebraska. An active 4-H'er, her projects included cattle, swine, sheep and horses. She received a B.S. degree in Animal Science from the University of Nebraska in 1982 and a M.S. degree in Reproductive Physiology from the University of Missouri in 1984. A deep appreciation for applied integrated research was developed during three years spent working as a research technician at the University of Nebraska West Central Research and Extension Center in North Platte. A move to West Virginia was made to pursue a Ph.D. Her dissertation examined the role of the follicle in the formation of short-lived corpora lutea in postpartum beef cows. Sandy received a Ph.D. degree from West Virginia University in Reproductive Physiology in 1991 and continued there as a post doctoral fellow until 1993. She held a teaching position at Fort Hays State University before beginning her current position in October of 1998 as Extension Livestock Specialist at the Northwest Research and Extension Center in Colby.

Sandy is a member of the Beef Reproductive Task Force which has hosted the Applied Reproductive Strategies in Beef Cattle Workshops, updated the Estrous Synchronization Planner and organized the Beef Cattle Reproduction Leadership Team. All efforts are aimed at promoting wider adoption of reproductive technologies among cow-calf producers and to educate cow-calf producers in management considerations that will increase the likelihood of successful AI breeding. Her research interests include the areas of estrous synchronization, costs of breeding systems and cow-calf management.



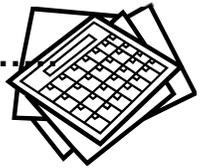
**Justin Waggoner ([jwaggon@k-state.edu](mailto:jwaggon@k-state.edu); 620-275-9164)**  
**Professor/Extension Beef Systems Specialist**

Justin Waggoner was hired as the Beef Systems Specialist at Kansas State University's Southwest Area Extension Office in Garden City. Waggoner was raised on his family's farm in central Kansas and obtained his bachelor's (2000) and master's (2001) degrees in Animal Science from Kansas State University. He completed his doctorate in Ruminant Nutrition at New Mexico State University in 2007 where his work evaluated the impacts of morbidity on performance and profitability in feedlot cattle and nutrient utilization in stressed cattle.

Waggoner assists beef cattle producers in all sectors of the industry by providing them with information regarding nutritional and management strategies that improve profitability. Waggoner also continues pursuing his research interests regarding the influence of nutrition and management practices on cattle health and performance.

# What Producers Should Be Thinking About.....

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



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

September is when forages are maturing rapidly, weaning time can be appropriate and weather dictates several key management decisions.

### **Breeding Season**

Out of concern for trichomoniasis, an economically devastating reproductive disease, do not introduce untested bulls to your herd. Remove bulls after 60 days with cows, 45 days with heifers. (Never run bulls for more than a 90-day breeding season.)

### **Cowherd Nutrition**

- Provide ample amounts of clean, fresh drinking water.
- Consider limited-intake creep feeding if:
  - ◆ Drought conditions develop and persist.
  - ◆ Range conditions limit milk production.
  - ◆ Creep feed/grain prices are relatively low.
  - ◆ Value of gain allows for economic benefits.
- Tips for successful limited-intake creep feeding:
  - ◆ Limit duration to last 30 to 75 days before weaning.
  - ◆ Limit intake to less than 2 pounds/head/day.
  - ◆ Use an ionophore or other feed additive to maximize efficiency.
  - ◆ Protein level should be equal to or greater than 16%.
  - ◆ High salt levels may help limit intake, but can be tough on feeders.
- Pre-purchase bulk rate winter supplementation needs prior to seasonal price increases.

### **Herd Health**

- If pinkeye is likely to be a problem, consider the following preventive and therapeutic measures.

#### *Preventive:*

- ◆ Make sure the herd is receiving adequate vitamins and trace mineral in their diet.
- ◆ Consider using a medicated trace mineral package.
- ◆ Consider vaccination for pinkeye and IBR.
- ◆ Control face flies.
- ◆ Clip pastures with tall, coarse grasses that may irritate eyes.
- ◆ Provide ample shade.

#### *Therapy:*

- ◆ Administer a long-acting antibiotic subcutaneously when symptoms are first noticed.
- ◆ Shut out irritating sunlight by patching eyes, shade, etc.
- ◆ Control flies.
- ◆ Consult your veterinarian.

- Consider re-vaccinating for the respiratory diseases for any animals that will be taken to livestock shows.
- Vaccinate suckling calves for IBR, BVD, PI3, BRSV, and possibly pasteurella at least three weeks prior to weaning.
- Re-vaccinate all calves for blackleg.
- Vaccinate replacement heifers for brucellosis (4 to 10 months of age).
- Monitor and treat footrot.

### **Forage/Pasture Management**

- Enhance grazing distribution with mineral mixture placement away from water sources.
- Observe pasture weed problems to aid in planning control methods needed next spring.
- Monitor grazing conditions and rotate pastures if possible and/or practical.
- If pastures will run out in late summer, get ready to provide emergency feeds. Start supplemental feeding before pastures are gone to extend grazing.
- Harvest and store forages properly. Minimize waste by reducing spoilage.
- Sample harvested forages and have them analyzed for nitrate and nutrient composition.
- Plan winter nutritional program through pasture and forage management.
- For stocker cattle and replacement heifers, supplement maturing grasses with an acceptable degradable intake protein/ionophore (feed additive) type supplement.

### **Reproductive Management**

- Remove bulls to consolidate calving season.
- Pregnancy check and age pregnancies 60 days after the end of the breeding season. Consider culling cows that are short-bred.

These methods contribute to a more uniform calf crop, make winter nutritional management easier and increase the success rate of next year's breeding season.

### **General Management**

- Avoid unnecessary heat stress - don't handle and/or truck cattle during the heat of the day.
- Repair, replace and improve facilities needed for fall processing.
- Order supplies, vaccines, tags and other products needed at weaning time.
- Consider early weaning if:
  - ◆ Drought conditions develop and persist.
  - ◆ Range conditions limit milk production.
  - ◆ Cows are losing body condition.
  - ◆ Calf and cull cow prices indicate maximum profit.
  - ◆ Facilities and management are available to handle lightweight calves.
    - ✓ *First-calf heifers have the most to gain.*
    - ✓ *Resist the temptation to feed the cows without weaning; feeding early-weaned calves is more efficient.*
- Look for unsound cows that need to be culled from the herd.
- Prepare to have your calf crop weighed and analyzed through your state, regional or breed performance-testing program.
- Plan your marketing program, including private treaty, consignment sales, test stations, production sales, etc.

*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.*