



# News from KSU Animal Sciences

↪ **Kansas 4-H EID Livestock Tag Orders** are now open and can be submitted to the KSU Youth Livestock Program. This process has been transitioned to campus following the retirement of Dave Kehler. All market animals or commercial females that will be nominated for the 2020 Kansas State Fair Grand Drive and/or Kansas Junior Livestock Show (KJLS) must be tagged with an official Kansas 4-H EID tag. Market beef tag orders are due by December 27, 2019, with small livestock tag orders being due January 24, 2020. The order forms and other tagging resources may be found on the KSU Youth Livestock Program, under Kansas 4-H EID Tags (<https://www.asi.k-state.edu/research-and-extension/youth-programs/>). Payment must accompany the order form. Counties must designate an agent to be responsible for their tags, as well as keep records of the families in which each tag is applied to a project. For more information, contact Lexie Hayes at [adhayes@ksu.edu](mailto:adhayes@ksu.edu) or 785-532-1264.

↪ The 2020 **K-State Swine Profitability Conference** has been scheduled for Tuesday, February 4, 2020, at the Stanley Stout Center, Manhattan, KS. The schedule includes:

- 9:15 a.m. Coffee and Donuts
- 9:30 a.m. Welcome
- 9:45 a.m. Our Business Approach to Risk Management  
*Bob Taubert, Managing Partner, New Horizon Farms, Pipestone, MN*
- 10:30 a.m. 2020 World Meat Dynamics and US Pork Price Outlook  
*Joe Kerns, Kerns and Associates*
- 11:15 a.m. Development of our Kansas swine business  
*Kaden and Emily Roush, R Family Farms*
- 12:00 noon Lunch
- 1:15 p.m. Field-based strategies to prevent, significantly control and/or eliminate swine infectious diseases  
*Dr. Daniel Linhares, Vet Diagnostic & Production Animal Medicine; ISU*
- 2:00 p.m. Bio-security: Achievements, Gaps and Future Action  
*Dr. Steve Dritz, DVM, PhD; Diagnostic Medicine/Pathobiology; KSU*
- 3:00 p.m. Adjourn

Pre-registration fee is \$25 per participant by January 24; registration at the door is \$50 per participant. The complete schedule and online registration information can be found at [www.KSUswine.org](http://www.KSUswine.org). For more information, contact Lois at [Ischrein@ksu.edu](mailto:Ischrein@ksu.edu) or 785-532-1267.

## 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)

December 2019 issue



↖ **K-State's Winter Ranch Management Series** - Kansas State University will host its annual Winter Ranch Management seminar series at five Kansas locations in January-February. Dr. Bob Weaber, a cow-calf specialist with K-State Research and Extension and other state, district and local extension staff will be on hand to answer producers' questions on beef cattle issues including animal health, nutrition, management, genetics and reproduction. Tentative dates/locations for the five Winter Ranch Management Workshops include:

<u>Date/time:</u>	<u>Location:</u>	<u>Information Contact:</u>
Jan. 30, noon-3	Ulysses	Elizabeth Kissick, Grant County Extension
Jan. 30, evening	Ashland	Elly Sneath, Meade County Extension
Feb. 11, noon-3	Plainville	Rachael Boyle, Phillips-Rooks Extension District
Feb. 11, evening	Mankato	Brett Melton, River Valley Extension District
Feb. 27, evening	Yates Center	Christopher Petty, Southwind Extension District

For more information, contact the host location or Bob Weaber at 785-532-1240; [bweaber@ksu.edu](mailto:bweaber@ksu.edu)

↖ **Junior Beef Producer Day** is scheduled for Saturday, February 29, 2020, in Weber Arena on the K-State campus in Manhattan. This one-day educational event is devoted to the selection and management of beef projects. All ages and knowledge levels are invited! K-State faculty members, graduate students and guest speakers will cover topics including selection, nutrition and feeding, meat science and alternative proteins, grooming and clipping, low stress cattle handling, the state livestock nomination process, herd health, reproduction, and showmanship. An optional instructor-led YQCA training will also be held at the conclusion of the program. The cost for junior beef producer day is \$15 per person, if registration is submitted by February 7, 2020, or \$20 per person after the early deadline. All attendees, including youth and adults, must register. All participants who sign up by February 7 will also receive a t-shirt. Families may register online at <http://bit.ly/ksuasiregister> or by downloading the flyer (<http://bit.ly/ksujrproducerdays>), completing the bottom portion of the flyer and mailing it, with payment, to the KSU Youth Livestock Program. Those who plan to attend the YQCA certification will need to register separately for that portion through [www.yqca.org](http://www.yqca.org). Detailed instructions will be emailed to those families who indicate they plan to attend on their junior day registration materials. For more information, contact Lexie Hayes at [adhayes@ksu.edu](mailto:adhayes@ksu.edu) or 785-532-1264.

↖ **Make plans to attend Cattlemen's Day 2020** –The 107<sup>th</sup> annual Cattlemen's Day will be hosted Friday, March 6, 2020. The trade show and educational exhibits will open at 8 a.m. in Weber Arena.

Registration for KSU Cattlemen's Day will be \$20 per person in advance or \$30 per person at the door. Morning refreshments and lunch are included with registration. A complete schedule will be coming soon to [www.asi.ksu.edu/cattlemensday](http://www.asi.ksu.edu/cattlemensday) or call 785-532-1267.

If you are interested in exhibiting at Cattlemen's Day or have any questions, please contact Dale Blasi ([dblasi@ksu.edu](mailto:dblasi@ksu.edu); 785-532-5427).

↖ The **43<sup>rd</sup> Annual Legacy Bull and Heifer Sale** will be March 6, 2020, at 4:00 p.m. at the Stanley Stout Center. Visit [www.asiksu.edu/bullsale](http://www.asiksu.edu/bullsale) for more information, as it becomes available, including the sale catalog.

↖ **Junior Sheep Producer Day** will be hosted on Saturday, March 14, 2020, in Weber Arena on the K-State campus in Manhattan. This one-day educational event is devoted to the selection and management of youth sheep projects. All ages and knowledge levels are invited! K-State faculty members, graduate students, and guest speakers will cover topics including selection, nutrition, the state nomination process, flock management, herd health, facilities and equipment, clipping, and showmanship. An optional instructor-led YQCA training will also be held at the conclusion of the program. The cost for junior sheep producer day is \$15 per person, if registration is submitted by February 21, 2020, or \$20 per person after the early deadline. All attendees, including youth and adults, must register. All participants who sign up by February 21 will also receive a t-shirt. Families may register online at <http://bit.ly/ksuasiregister> or by downloading the flyer (<http://bit.ly/ksujrproducerdays>), completing the bottom portion of the flyer and mailing it, with payment, to the KSU Youth Livestock Program. Those who plan to attend the YQCA certification will need to register separately for that portion through [www.yqca.org](http://www.yqca.org). Detailed instructions will be emailed to those families who indicate they plan to attend on their junior day registration materials. For more information, contact Lexie Hayes at [adhayes@ksu.edu](mailto:adhayes@ksu.edu) or 785-532-1264.

↖ **KSU Sheep Producer Day** will be held on Saturday, March 21, 2019, at the Stanley Stout Center. Watch for more details coming soon. For more information, contact Alison Crane ([arcrane@ksu.edu](mailto:arcrane@ksu.edu); 785-532-1672).



**Livestock County Fair Management Clinics scheduled for April 7 and 8** – Every other year, K-State Research and Extension and the Department of Animal Sciences and Industry host a Livestock Fair Management Clinic for county fair board members, extension agents, and other adult volunteers involved in local livestock fair management and leadership. This professional development opportunity consists of an activity-filled day to increase awareness and learn how different county fairs operate and provide a forum for open communication for individuals with local livestock fairs across Kansas. There will be two different locations on two different days with the same general agenda. Tuesday, April 7, will be the first session at the Sedgwick County Extension Office in Wichita. The second session will be held on Wednesday, April 8, at the Logan County Fairgrounds in Oakley. Lunch and refreshments will be provided. The agenda includes:

8:45 – 9:15 a.m.	Registration
9:15 – 9:30 a.m.	Welcome
9:30 – 10:45 a.m.	County Fair Board Structure and Management
10:45 – 11:00 a.m.	Break
11:00 – 11:30 a.m.	Fair Insurance
11:30 – 12:00 p.m.	Showmanship & Round Robin Structure
12:00 – 1:00 p.m.	Lunch (provided)
1:00 – 1:45 p.m.	Official 4-H Livestock Policies and Extension's Role at County Fairs
1:45 – 2:45 p.m.	Livestock Show Management & Premium Sales
2:45 – 3:00 p.m.	Open Forum Questions & Discussion
3:00 p.m.	Wrap-up and Adjourn

Registration is \$15/person and is due by March 27, 2020. Checks can be made payable to "KSU-ASI" and mailed to Livestock Fair Management Clinic, Attn: Lexie Hayes, 214 Weber Hall, KSU, Manhattan, KS 66506. For a registration form and a detailed agenda, please visit the website, [www.YouthLivestock.KSU.edu](http://www.YouthLivestock.KSU.edu). Information is linked to the event on the calendar at the top of the page. If you have any questions, please contact Lexie Hayes at 785-532-1264 or [adhayes@ksu.edu](mailto:adhayes@ksu.edu); Joel DeRouchey at 785-532-2280 or [jderouch@ksu.edu](mailto:jderouch@ksu.edu); or Pam Van Horn at 785-532-5800 or [pvanhorn@ksu.edu](mailto:pvanhorn@ksu.edu).



**YQCA Requirement for 2020 State Shows** – Youth for the Quality Care of Animals (YQCA) is a national, multi-species youth livestock quality assurance program that focuses on food safety, animal well-being, and character development, through age-appropriate educational curriculum for youth 8-21 years of age. This program is an annual certification that grows with a young person, so the learning modules are different every year. The third year of curriculum materials was launched in October 2019, and youth are welcome to begin completing the training at any time. Last year was the first year quality assurance certification was required for Kansas State Fair Grand Drive and Kansas Junior Livestock Show (KJLS) exhibitors. The requirement is expected to continue for 2020. ALL exhibitors, including youth who will be showing market animals, commercial breeding females, and/or registered purebred breeding females, will need to complete the training. Youth may obtain their YQCA certification using one of the following methods: Instructor-led Training - \$3/child; the Online Course - \$12/child; or the Test-Out Option – only 12 & 15 year olds are eligible; online only; cost varies based on age division; Valid Youth PQA+ Number – in lieu of YQCA certification. Youth need to complete their YQCA certification by June 15, 2020. Certification numbers must be valid through October 4, 2020, to be accepted. More information may be found on the KSU Youth Livestock Website, under Youth Livestock Quality Assurance (<https://www.asi.k-state.edu/research-and-extension/youth-programs/YQCA.html>), by contacting the local extension office, or via Lexie Hayes at [adhayes@ksu.edu](mailto:adhayes@ksu.edu) or 785-532-1264.

<b>CALENDAR OF UPCOMING EVENTS</b>		
<b>Date</b>	<b>Event</b>	<b>Location</b>
January 30, 2020	KSU Winter Ranch Management Workshop	Ulysses, KS
January 30, 2020	KSU Winter Ranch Management Workshop	Ashland, KS
February 4, 2020	KSU Swine Profitability Conference	Manhattan
February 11, 2020	KSU Winter Ranch Management Workshop	Plainville, KS
February 11, 2020	KSU Winter Ranch Management Workshop	Mankato, KS
February 27, 2020	KSU Winter Ranch Management Workshop	Yates Center, KS
February 29, 2020	Kansas Junior Beef Producer Day	Manhattan
March 6, 2020	KSU Cattlemen's Day	Manhattan
March 6, 2020	Legacy Bull and Heifer Sale	Manhattan
March 14, 2020	Kansas Junior Sheep Producer Day	Manhattan
March 21, 2020	KSU Sheep Day	Manhattan
April 7, 2020	Livestock County Fair Management Clinic	Wichita, KS
April 8, 2020	Livestock County Fair Management Clinic	Oakley, KS

# What's New.....

Merry Christmas and Happy New Year. The holiday season is an important time for us to take to enjoy family and friends and look forward to the new year. This past year for livestock producers was one that was filled with uncertainty and challenges across all sectors. From extreme wet conditions from winter until late summer for many areas, to planting, harvesting and haying delays, and low market prices for most ag sectors, producers are ready to move into a new decade in 2020. In the coming year we encourage you to use the vast network of Extension personnel at local and state offices to assist you in your management decisions. We are proud to be associated with an excellent team of Extension professionals across Kansas working to fulfill the Land Grant mission to meet your operation and personal needs.

*Thank you and have a Merry Christmas and Prosperous New Year.  
Joel DeRouchey, Extension State Leader, Animal Sciences and Industry*

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

### *“Winter Safety in the Workplace”*

Winter is here and many agriculture workers work in the elements, which brings a new set of seasonal workplace hazards. Falls, slips, and trips are one of the most common causes of workplace injuries (U.S. Bureau of Labor Statistics, 2017). Although falls and slips can occur anytime, extra precautions are required during the winter months. Hypothermia is real, especially for those that work in the elements. Safety experts suggest that clothing should be layered to retain body heat. However, how and what type of layers those clothes are made of is important. At least three layers are recommended. Cotton or other breathable synthetic fiber should be the first or base layer, wool or down is suggested for the middle layer, and the third or outer layer should be composed of material that will block the wind such as a nylon outer shell found on many ski-jackets, etc. Portable heaters are often used as heat sources in many shops and barns. Portable heaters are one of the most common causes of carbon monoxide poisoning and fires. If heaters are used in confined spaces, keep in mind that ventilation is required to avoid carbon monoxide poisoning. Additionally, the areas where heaters are used should be checked for combustible materials.

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

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

### *“Forage Analysis: What Numbers Do I Need?”*

One of the more common questions I receive with regard to analytical testing of forages and other feedstuffs is “I have the sample, now what do I test for or what analysis package should I select?”

The basic components that nutritionists need to evaluate a feedstuff or develop a ration are dry matter or moisture, crude protein, an estimate of the energy content of the feedstuff (Total Digestible Nutrients (**TDN**), Net Energy for Maintenance (**NEm**), Net Energy for gain (**NEg**), and the macro minerals, Calcium and Phosphorous. These are the most basic numbers that are required, but including some additional analyses in the report can give us additional insight into the quality of the feedstuff or improve our ability to predict animal performance, which is the primary reason we analyze feedstuffs. I recommend that the report include acid detergent fiber (**ADF**) and neutral detergent fiber (**NDF**). The amount of NDF in forage reflects the amount of cell wall contents (hemicellulose, cellulose, and lignin) within the sample. The NDF fraction is often associated with the respective bulkiness of forage and is correlated with dry matter intake of the forage or feedstuff. Therefore, the amount of NDF may be used to estimate the expected dry matter intake associated with the forage. The ADF number represents the amount of cellulose and lignin within the forage and is correlated with the respective digestibility of the forage. In general, a higher ADF value is associated with forage that has a greater proportion of cellulose and lignin and would likely be more mature. Additionally, the ADF fraction is used to calculate the energy estimates TDN, NEm, and NEg that appear on the report. There are a number of different mathematical equations that the testing laboratory may use to calculate these numbers, based on the type of sample (corn silage, alfalfa, grass hay, etc.). If the ADF is included in the report, the nutritionist can adjust or recalculate the energy estimates if necessary.

If the forage will be fed in combination with a byproduct feed, such as wet distiller's grain, including an analysis for sulfur can be beneficial if the forage will be used in a growing or feedlot ration. Additionally, if the forage is a known nitrate accumulator (forage sorghums, sudangrass) or may have been stressed due to drought, including a nitrate analysis should always be considered, especially if the forage will be fed to pregnant cows.

Most analytical laboratories have a number of different analysis packages which encompass the most common procedures or numbers that a nutritionist or producer needs to know about their feeds. These packages will typically include the basic procedures (DM, CP, TDN) and then add on specific analyses such as NDF or the Macrominerals (Ca,P, Mg, K, Na, Cl, S). Some laboratories may group analysis packages by the type of sample (Forage vs. mixed ration) or production purposes (dairy vs. beef).

The objective of analytical testing of forages and feedstuffs is to improve our ability to meet the animal's nutrient requirements and ultimately predict animal performance. The unequivocal best method of evaluating the quality of a feedstuff is feeding the feedstuff to an animal and evaluating performance over a set period of time, under a specific set of conditions. Since that would not be cost effective or timely, analytically evaluating feedstuffs in a laboratory is the next best thing and although it is not perfect, it is unequivocally better than the "this looks like really good stuff" method of evaluating feedstuffs.

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

↳ **Research Assistant – Food Micro Lab position open** – Kansas State University Animal Sciences and Industry is looking for a Research Assistant for the Food Microbiology Lab. This is a full-time, unclassified staff position, term contract (job no 508381). This position will work with Dr. Valentina Trinetta in the Food Micro lab. The incumbent should have knowledge and experience in molecular biology. This position will also work with undergraduate and graduate students teaching them the basic steps of bioinformatics and analysis. The incumbent will perform basic molecular experiments such as DNA extraction, DNA quality check, and library preparation. This person will also have knowledge and experience in molecular biology. The incumbent will also perform bioinformatics analysis of data generated by Whole Genome Sequencing platforms. This person will also guide graduate students to the basic step of bioinformatics tools and analysis. Screening of applications will begin immediately and continue until filled. To apply, go to <https://careers.k-state.edu/cw/en-us/job/508381/research-assistant>. For more information, contact Dr. Valentina Trinetta, Search Committee Chair, at 785-532-1667 or [vtrinetta@k-state.edu](mailto:vtrinetta@k-state.edu).

↳ **Pullorum Testing for Poultry Shows, Trades, and Swaps for the NPIP program** - As many of you know, until October 1, 2019, the Division of Animal Health at the Kansas Department of Agriculture had suspended S. Pullorum testing requirements for poultry in Kansas. This was because of a severe shortage of testing agent required to conduct the test. The Department has announced that Kansas will once again require Pullorum testing for all places poultry are brought together after a new supplier has made the testing agent available. This does NOT apply to waterfowl or meat-type broilers.

To order stained antigen, contact Charles River Labs at 1-860-885-0477. Ask for Pullorum-Typhoid Plate Antigen, product number 10105346. Unfortunately, it looks like the packaging is similar to before, which requires the purchase of 1000 tests. It's only 14 cents per test, but the entire bottle will cost \$136 plus significant shipping cost. As before, I am not allowed to split and "resale" the antigen but several groups can get together and split the costs. Another issue with the old supplier was the short expiration dates on bottles, however, at this time I've not had enough contact with the product to know if this has improved.

Remember that persons who desire to test poultry and singe, the Federal form must be licensed by the State of Kansas. For information about becoming a testing agent, go to <https://www.asi.k-state.edu/research-and-extension/poultry/npip-testing-program/> for a short video, reading material, and a quiz. After passing the quiz, names can be passed to The Division of Health for license approval (\$20 annually at last notice). For more information about testing, contact the Kansas Division of Animal Health at (785)564-6601. Dr. Scott Beyer

↳ **Effects of Soybean Meal Concentration in Lactating Sow Diets on Sow and Litter Performance** - A total of 131 sows were used in a study to evaluate the effect of increasing soybean meal concentration in lactating sow diets on sow and litter performance. Sows were blocked by body weight (BW) and parity on d 112 of gestation, and allotted to 1 of 3 treatments of increasing soybean meal (25%, 30%, or 35% of total diet). Diets were formulated to 1.05% standardized ileal digestible (SID) lysine with L-lysine HCl decreasing as soybean meal increased. All other amino acids and nutrients were formulated to meet nutrient requirement recommendations. Diets were fed from d 112 of gestation until weaning (d 20 ± 2). Litters were cross-fostered up to 48 h after farrowing to equalize litter size. Increasing soybean meal concentration increased sow BW loss and tended to increase sow backfat loss from farrowing to weaning. Sow average daily feed intake from d 0 to 7 was similar across dietary treatments. However, from d 7 to 14, d 14 to weaning, and overall, average daily feed intake decreased as soybean meal concentration increased.

There was no evidence for difference in wean to estrus interval, litter size, litter weight, or litter weight gain between dietary treatments. Sow serum urea nitrogen concentrations taken on d 14 of lactation increased as soybean meal concentration increased. However, there was no difference for sow creatinine concentration, regardless of dietary treatment, suggesting the increased urea nitrogen was a reflection of the increased dietary crude protein (CP) as opposed to increased protein catabolism.

**Bottom Line...** In summary, sow feed intake was decreased and weight loss increased with increasing soybean meal concentration from 25 to 35%, with no difference in litter performance observed. 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. Gourley, J.C. Woodworth, J.M. DeRouchey, M.D. Tokach, S.S. Dritz, and R.D. Goodband)

↪ **Effects of High Phytase Supplementation in Lactation Diets on Sow and Litter Performance** - A total of 109 sows were used in a study to evaluate the effect of increasing phytase concentration in lactating sow diets on farrowing duration, and sow and litter performance. On d 107 of gestation, sows were blocked by body weight and parity and allotted to 1 of 3 dietary treatments of increasing phytase concentration (0, 1,000, or 3,000 FTU/kg; Ronozyme HiPhos 2700; DSM Nutritional Products, Inc., Parsippany, NJ). The control diet contained no phytase and was formulated to contain 0.50% standardized total tract digestible phosphorus (STTD P; 0.45% available P) and 0.62% STTD calcium (0.90% total Ca). The phytase diets contained 1,000 or 3,000 FTU/kg also formulated to 0.50% STTD P and 0.62% STTD Ca including the release of 0.132 STTD P and 0.094 STTD Ca in both phytase diets. Diets were balanced for net energy by altering choice white grease. Diets were fed from d 107 of gestation until weaning and all farrowings were monitored with farrowing duration measured starting at the time the first pig was born until the first dispersal of placental tissues with no subsequent pigs born. Litters were cross-fostered within treatment until 48 h post-farrowing to equalize litter size. There were no differences among treatments in body weight at d 107 of gestation, 24 h after farrowing, or at weaning. Sow average daily feed intake (ADFI) from farrowing to weaning tended to increase as phytase units increased. There was no evidence for difference in farrowing performance, wean-to-estrus interval, or litter size among dietary treatments. Although not significant, farrowing duration decreased for sows fed 3,000 FTU/kg. Litter weaning weight increased and overall litter gain increased with 1,000 FTU of phytase.

**Bottom Line...** In summary, sow feed intake tended to increase linearly with increasing phytase; however, feeding 1,000 FTU/kg maximized overall litter gain and weaning weight. Farrowing duration was numerically decreased with increasing units of phytase. This small-scale study presents interesting impacts on sow and litter performance due to high inclusions of dietary phytase; however, a commercial trial with more sows is warranted. 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.L. Batson, H.C. Cartagena, R.D. Goodband, J.C. Woodworth, M.D. Tokach, S.S. Dritz, and J.M. DeRouchey)

↪ **Effect of Fumonisin-Contaminated Corn on Growth Performance of 20- to 60-lb Nursery Pigs** - This experiment was conducted to determine the effect of feeding fumonisin (FUM) contaminated corn on growth performance of 20- to 60-lb nursery pigs. A total of 350 pigs were used. Dietary treatments consisted of FUM-contaminated corn blended with relatively FUM-free corn to provide toxin (FB1 + FB2) of 7.2, 14.7, 21.9, 32.7, and 35.1 ppm. Experimental diets were fed in mash form for 28 d. There were 5 pigs per pen and 14 replicates per treatment. After weaning, pigs were fed common diets for 21 days before the experiment started. Then, pens were assigned to treatments in a randomized complete block design with initial weight as the blocking factor. From d 0 to 28, increasing FUM decreased average daily gain (ADG) and final body weight (BW) and average daily feed intake (ADFI). Feed efficiency (F/G) became poorer as FUM increased. Although tested linear, the greatest reduction in ADG was observed in pigs fed greater than 21.9 ppm of FUM. Increasing FUM increased serum sphinganine (Sa) and sphingosine (So) ratios on day 14 and 28, which corresponded with the decreased growth performance. Data indicated that the serum Sa:So ratio is a reliable biomarker indicating FUM intoxication.

**Bottom Line...** These results suggest that for 20- to 60-lb nursery pigs, diets containing more than 30 ppm of FUM should not be fed, as increasing FUM concentration worsens growth performance and increases serum Sa:So ratio. Furthermore, diets containing greater than 21.9 ppm should be evaluated with caution as further research is warranted to determine the fumonisin concentration between 21.9 and 30 ppm where the negative effects on pig performance are observed. 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 Z.X. Rao, M.D. Tokach, S.S. Dritz, J.C. Woodworth, J.M. DeRouchey, R.D. Goodband, and H.C. Cartagena)

# ASI Faculty Spotlight



**Chris Mullinix (cmullinix@k-state.edu; 785-532-1917)**  
**Livestock Judging Coach and Instructor**

In the fall of 2013, Chris Mullinix returned to Kansas State University as an Instructor of Animal Sciences and head Livestock Judging Team Coach. Chris was born and raised on a diversified cattle and farming operation in central Maryland where his family continues to run a Hereford cow herd, an Angus herd and a small feedyard. Chris received his Animal Science degree at K-State where he was a member of the 1995 National Champion Intercollegiate Livestock Judging Team and was recognized as the contest High Individual. During his undergraduate days, Chris also participated on winning Wool Judging, Dairy Judging and Academic Quadrathlon teams while serving leadership roles in the National Junior Hereford Association, the Little American Royal and Alpha Gamma Rho. For the sixteen years prior to his return to Manhattan, Chris was an Associate Professor at Butler Community College where he was recognized with numerous teaching, coaching and student advising awards at a regional and national level. Most recently, Chris coached the 2019 K-State Livestock Team to a fourth consecutive Reserve National Champion title. Additionally, Chris and Dr. Travis O'Quinn have teamed up to coach three National Champion Meat Animal Evaluation Teams.

In his free time, Chris is an avid K-State sports fan and enjoys working with youth and breeders at livestock events. To date, Chris has judged livestock exhibitions in 43 different states and Canada including events such as the North American in Louisville, the American Royal, the Houston Livestock Show and Rodeo, the Fort Worth Stock Show and Denver's National Western.

Chris is married to another K-State Animal Science graduate, Elissa (Good) Mullinix. Elissa completed both her B.S. and M.S. degrees in the department and currently teaches Ag and Environment Science at Manhattan High. Chris and Elissa have three beautiful children – Mason, age 7, and Kinsley, age 3 and newborn Cameron.

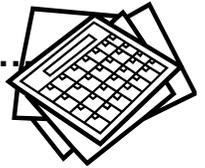


**Luis Mendonca (mendonca@k-state.edu; 785-532-2652)**  
**Associate Professor/Extension Specialist, Dairy Herd Management**

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 continue carrying out research related to health, heat abatement, and reproductive management of dairy cattle.

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

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



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

- Historically, cull cow prices are beginning to rise. Finish culling cows in order of priority:
  1. Those that fall within the "Four-O Rule" (Open, Old, Onry, Oddball).
  2. Those with physical/structure problems (feet and legs, eyes, teeth, etc.).
  3. Poor producers.
- Continue feeding or grazing programs started in early winter. Fully utilize grain sorghum and cornstalk fields. Severe winter weather may begin to limit crop residue utilization. Be prepared to move to other grazing and feeding systems.
- Supplement to achieve ideal body condition scores (BCS) at calving.
- Control lice, external parasites will increase feed costs.
- Provide an adequate water supply. Depending on body size and stage of production, cattle need 5-11 gallons of water per head per day, even in the coldest weather.
- Sort cows into management groups. Body condition score and age can be used as sorting criteria. If you must mix age groups, put thin and young cows together, and feed separately from the mature, properly conditioned cows.
- Use information from forage testing to divide forage supplies into quality lots. Higher-quality feedstuffs should be utilized for replacement females, younger cows, and thin cows that may lack condition and that may be more nutritionally stressed.
- Consult your veterinarian regarding pre- and postpartum vaccination schedules.
- Continue mineral supplementation. Vitamin A should be supplemented if cows are not grazing green forage.
- Plan to attend local, state and regional educational and industry meetings.
- Develop replacement heifers properly. Weigh them now to calculate necessary average daily gain (ADG) to achieve target breeding weights. Target the heifers to weigh about 60 to 65% of their mature weight by the start of the breeding season. Thin, light weight heifers may need extra feed for 60 to 80 days to "flush" before breeding.
- Bull calves to be fed out and sold in the spring as yearlings should be well onto feed. Ultrasound measurements should be taken around one year of age and provided to the association.
- Provide some protection, such as a windbreak, during severe winter weather to reduce energy requirements. The lower critical temperature (LCT) is the temperature at which a cow requires additional energy to simply maintain her current body weight and condition. The LCT for cattle varies with hair coat and body condition (Dry, heavy winter coat = 18 degrees, wet coat = 59 degrees). Increase the amount of dietary energy provided 1% for each degree (including wind chill) below the LCT.

*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.*