



Newsletter from the Department of Animal Sciences and Industry
 218 Weber Hall - Kansas State University - Manhattan, KS 66506
 785-532-6533 – www.asi.ksu.edu

UPCOMING EVENTS...

- ☞ **The 100th Anniversary of Roundup at the K-State Agricultural Research Center in Hays** will be held on April 17, 2014 in the auditorium at the Ag Research Center. Registration and commercial trade show begins at 9:00 a.m. with the program beginning at 10:00 a.m. The program includes:
 - 10:00 a.m. Brief History of the Fort Hays Experiment Station/Ag Research Center – *Robert Gillen*
 - 10:15 a.m. Chronology of Significant Beef Research Highlights in the First 100 Years – *John Jaeger*
 - 10:45 a.m. Public Value of the Ag Experiment Station – *Ernest Minton*
 - 11:15 a.m. Beef Cattle Outlook Situation: Herd Expansion, Domestic Beef Demand and Export Updates – *Glynn Tonsor*
 - 12:00 noon Lunch
 - 1:00 p.m. Comparing Season Long Stocking and Intensive Early Stocking Strategies in Western Kansas – *Keith Harmony*
 - 1:20 p.m. Effects of Weaning Method on Weaning- and Growing-Phase Performance by Early Weaned Steers – *Garrett Preedy*
 - 1:40 p.m. Break
 - 1:55 p.m. Performance of Pregnancy Beef Cows Limit-Fed Diets Containing Wheat Straw Ammoniated with Two Rates of Anhydrous Ammonia and Wet Distillers Grains – *Justin Waggoner*
 - 2:15 p.m. Recent Weather: A Look at What has Happened and What is in Store – *Jeff Hutton*
 For more information, contact John Jaeger (irjaeger@ksu.edu; 785-625-3425).

- ☞ **Annual Pullet Sale to be held on April 19, 2014.** The students at the KSU Poultry and Gamebird Research and Teaching Unit at KSU are having their annual pullet sale on April 19, 2014 from 9am -5pm direct from the farm at 2000 Marlatt Ave, Manhattan, KS. These birds are hybrid crosses selected to produce an abundance of eggs and they have all been vaccinated. This sale is a popular event each year and reservations are required. They have 4 different types of birds available this year. For specific information about the sale and an order form, go to the web page at <http://www.asi.k-state.edu/species/poultry/>

- ☞ The **2nd Biennial K-State Sheep & Goat Conference** will be held May 2-4, 2014 at the K-State Sheep & Meat Goat Center and Weber Hall on campus. The event is targeted towards all sheep and goat producers. Producers focusing on commercial, purebred, show animal, and other production systems will all benefit from this conference. We will have nationally recognized speakers addressing topics related to selection, management, health, reproduction, nutrition, carcass evaluation, and lamb/chevon marketing. Please watch our website <http://www.ksusheepandgoats.org> (Click on "educational programs") for registration information and more details regarding the conference. Please contact Dr. Brian Faris at 785-532-1255 or brfaris@ksu.edu for any additional information.

April, 2014

News from KSU Animal Sciences

In This Issue

- Upcoming Events
- Management Minute
- Feedlot Facts
- 2014 KSU Cattlemen's Day Article Featured
- 2013 KSU Swine Day Articles Featured
- Faculty Spotlight
- What Producers Should Be Thinking About...

We Need Your Help!

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



- ↳ **High Plains Horseman's Day will be May 3rd at Farmer Arena in Oakley, Kansas.** Lisa Johnson of Wakeeney, KS, known for her Reins for Renewal program (www.reinsforrenewal), will be providing a morning and afternoon clinic. There is a limit of 12 riders per session, but all observers are welcome. Lunch will be provided by Oakley Vet Service. Registration cost is \$50 per session and 4-H members will receive a \$25 refund. The morning session will run from 9 am-noon and the afternoon session from 1-4 pm. For more information contact the Golden Prairie District Extension Office in Oakley, 785-671-3245. Sandy Johnson, sandyj@ksu.edu
- ↳ **Developing and Implementing Your Company's HACCP Plan** for meat, poultry, and food processors will be held June 3-5, 2014 in Weber Hall, Kansas State University, Manhattan. Registration for the 2.5 day International HACCP Alliance accredited workshop is online at <http://animalscience.unl.edu/web/anisci/ANSCEExtensionMeatScienceHACCPInformationandCoursesRegistration> The workshop fee is \$375 per person, and meets USDA training requirements to become a HACCP trained individual. For more information, contact Dr. Liz Boyle at lboyle@ksu.edu or 785-532-1247.
- ↳ The **KSU Youth Horse Judging Camp – Beginners Section** will be held June 5, 2014 and the **KSU Youth Horse Judging Camp – Advanced Section** will be held June 3-4, 2014. Both camps will be held in Weber Arena on the KSU Campus. Registration for both camps must be paid by May 10, 2014. Camp will be limited to the first 30 participants. For more information, camp agenda and registration forms, visit the website www.asi.ksu.edu/p.aspx?tabid=1141 or www.YouthLivestock.KSU.edu. You can also contact Teresa Douthit, (785-532-1268, douthit@ksu.edu) or Tasha Dove at (tashakd@ksu.edu).
- ↳ **K-State Livestock Judging Camps** - A three day, intense judging camp designed for 4-H and FFA members ages 14-18 who are seriously interested in enhancing their livestock judging and oral communication skills. Prior livestock judging experience is necessary for this camp. Workouts will be conducted similar to those at a collegiate level. Chris Mullinix, coach of over 30 national championship teams and KSU livestock judging coach, will conduct the training for each camp. The camp will focus primarily on the proper format, terminology, and presentation of oral reasons. Camp participants will also be exposed to livestock evaluation skills and incorporating performance records in the decision making process. The following dates are set for the 2014 camps: June 9-11; June 13-15; and June 17-19. Please read the camp information at <http://www.asi.k-state.edu/doc/judgingcamp14.pdf>. The registration deadline is May 21.
- ↳ **K-State Animal Sciences Leadership Academy Planned for June 11-14, 2014.** Kansas State University will host the sixth Annual K-State Animal Sciences Leadership Academy June 11-14 for young livestock industry leaders. This four-day event will focus on increasing young leaders' knowledge of Kansas' diverse livestock industry as well as building participant's leadership skills. Participants will be led by Sharon Breiner, as well as three K-State students and will stay in K-State housing for the duration of the event.
- ↳ **The 2014 Beef Improvement Federation (BIF) Research Symposium and Convention is set for June 18-21, 2014, in Lincoln, Nebraska.** - For nearly 50 years the Beef Improvement Federation has hosted their annual research symposium and convention. The convention serves to facilitate discussion and provide education on current issues facing the beef industry. This year, US MARC will be hosting pre-conference tours on Tuesday (all day) and Wed. morning. Tours can be arranged by contacting Janel Nierman (Janel.Nierman@ARS.USDA.GOV; 402-762-4110). For the latest information about the 2014 BIF Symposium and Convention along with registration and hotel information, visit www.beefimprovement.org.

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
April 17, 2014	Hays Roundup	Hays, KS
April 19, 2014	Annual Pullet Sale at Poultry and Gamebird Research/Teaching Unit	Manhattan
May 2-4, 2014	KSU Sheep and Goat Conference	Manhattan
May 3, 2014	High Plains Horseman's Day	Oakley, KS
June 3-4, 2014	KSU Youth Horse Judging Camp – Advanced Section	Manhattan
June 3-5, 2014	Developing and Implementing HACCP in Meat, Poultry & Food Processing	Manhattan
June 5, 2014	KSU Youth Horse Judging Camp – Beginners Section	Manhattan
June 9-11, 2014	K-State Livestock Judging Camp	Manhattan
June 11-14, 2014	K-State Animal Sciences Leadership Academy	Manhattan
June 13-15, 2014	K-State Livestock Judging Camp	Manhattan
June 17-19, 2014	K-State Livestock Judging Camp	Manhattan
June 18-21, 2014	Beef Improvement Federation Symposium and Annual Meeting	Lincoln, NE

WHAT'S NEW.....

Management Minute "Employee Turnover"

↪ Management Minute – Chris Reinhardt, Ph.D., Extension Feedlot Specialist "Employee Turnover"

The supervisor who is continually pessimistic and brow-beating, and is only heard from when an employee is caught making a mistake, will have a team who simply do the bare minimum required and hope to survive day to day. And worse, quality employees will look for any good opportunity to take their talents elsewhere.

Employee turnover occasionally results from a growth in the employee's abilities beyond the present organization's needs and opportunities. In this case, all parties usually recognize the need for the employee to move onward and upward; this is a happy ending. However, turnover of the chronic nature is the result of the intersection of a poor work environment in the employees' present position and quality work opportunities in the broader marketplace. If the employee's present environment---the combination of compensation, benefits, team camaraderie, and satisfaction---is generally positive, the greater the outside opportunity will need to be to attract good employees away.

Conversely, the poorer the present work experience is, for whatever reason, the more eager employees will be to leave for a better job---and it won't take much of an opportunity to steal away good employees.

That universal axiom provides both a warning and an opportunity. The warning is obvious and clear: take care of your good employees or someone else will. The opportunity is more subtle. Your employees' general work satisfaction is always about more than money. In fact, if someone complains about money, there are usually deeper issues involved, such as stress at home or at work, perceived lack of respect, etc. Additional compensation may mask these issues for a very short time, but they will undoubtedly return.

Stay in touch with all your direct reports and monitor the following:

1. Workplace conflict
2. Stress at home
3. Employee's perceived respect by team mates and supervisors
4. Employee ongoing growth and future aspirations
5. Fatigue
6. Boredom

Early intervention by shifting duties, conflict resolution, or encouraging time off may short-circuit a larger emotional and psychological issue which may, in turn, head off a much more challenging workplace situation which most certainly would otherwise result in an unnecessary loss of good people.

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

Feedlot Facts "Don't wait...."

↪ Feedlot Facts – Chris Reinhardt, Ph.D., Extension Feedlot Specialist "Don't wait...."

It has been a long winter for many ranchers throughout the plains, and many have grown weary of the seemingly relentless weather. However, many have not received adequate winter and spring precipitation to sustain normal grazing pressure throughout the coming summer grazing season.

A common wishful paradigm in ranching is that we're only "one good rain away" from drought recovery. More often than not, that simply isn't the case. The reality is that it takes a long time and a complex series of drought-related events to lead to damaged range, and it requires an equal if not longer time and series of management decisions before we can expect full recovery of pasture carrying capacity.

While ranchers in dry areas would always welcome even a minor rain event, even a large, brief rain cannot reverse the myriad effects of a long-term drought. To maintain a robust and productive range ecology, volume of moisture, timing of moisture, sustained moisture, and timing and intensity of grazing pressure and rest periods all play a role.

↩ **Feedlot Facts – “Don’t wait....” (cont.)**

The astute rancher will recognize when a little late rain amounts to “too little, too late”. But effective long-term range management and an effective drought plan involve more than simply deciding sometime mid-summer that rain isn’t coming, declaring the grazing season “Over”, and weaning calves early. In order to protect and maintain the range ecology during ongoing drought conditions it is important to have critical dates marked on your calendar.

In a mixed grass range ecology, different grasses mature at different times of the year and respond differently to moisture, temperature, and grazing pressure. Ranchers who routinely maintain light or moderate grazing densities can better withstand a single year of lower than normal rainfall. However, even under moderate stocking density, multiple years of drought will lead to reduced plant populations.

The range ecology is complex, and a comprehensive drought monitoring plan will be also; however, a simple plan with timely intervention strategies is a good place to start. The Kansas Water Office (Topeka, KS, June, 2012) defines three stages of drought: (1) Watch, (2) Warning, and (3) Emergency. A Watch exists when the previous 3 month precipitation is $\leq 70\%$ of normal; a Warning is when the previous 6 months precipitation is $\leq 65\%$ of normal, and an Emergency exists when the previous 6 months precipitation is $\leq 60\%$ of normal.

If the range is 30-40% behind “normal” or “optimum” for forage growth, it is obviously unlikely that a few rains will provide needed recovery in the short term. So if winter precipitation was below normal, and spring rains have not made up the difference, it’s time to take action by modifying stocking density. If late spring and early summer rains do not alleviate the situation, and the condition progresses further, plan to take more extreme cuts to stocking density.

Calves have the ability to thrive without their mothers, with appropriate management and nutrition, by 90 days of age. Producers should make plans for the possibility of early weaning now, not only after summer drought conditions demand it of them. The future quality and recovery of your pastures relies on your early and ongoing response to drought conditions. Be sure to consult your local extension specialist for drought monitoring guidelines specific for your geography. Develop a plan and stick to it; you’ll be rewarded in the long run.

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

↩ **Genetic Relationships Among Temperament, Immune Function, and Carcass Merit in Beef Cattle -**

This study was conducted to investigate the genetic relationships between cattle temperament measured by chute score and exit velocity, immunological factors, and a range of economically relevant carcass performance traits. Cattle temperament (measured by chute score and exit velocity), weights, and gains were recorded throughout their time in the feedlot (140 days). Factors affecting immune function (interleukin-8 and cortisol) were also recorded at the time of feedlot placement. Carcass traits, including hot carcass weight, marbling score, yield grade, ribeye area, and fat thickness were recorded post-harvest. Resulting genetic relationships between temperament, immunological factors, and carcass merit were then determined.

Results from this study indicate that cortisol and temperament measures all have negative genetic relationships with bovine respiratory disease susceptibility in beef cattle, and more temperamental cattle do not seem to be inherently more susceptible to bovine respiratory disease incidence in the feedlot segment. Measures of temperament are genetically correlated with one another, and exit velocity is estimated to be more repeatable than chute score. Genetic correlations indicate that cattle with genetic potential to be more aggressive or fearful will have genetics for greater ribeye area, reduced marbling score, and reduced yield grade.

Bottom Line: Evidence from this study indicates that genetically more temperamental cattle generally have larger ribeye area, reduced marbling score, and reduced yield grade, but they don’t have a genetic advantage in resistance to bovine respiratory disease. View the complete report at www.asi.ksu.edu/cattlemensday. For more information, contact Bob Weaber (785-532-1460; bweaber@ksu.edu).

↩ **Effects of Corn Steep Liquor Supplementation on Performance and Herbivory Patterns of Beef Cows Grazing Native Range Infested with Sericea Lespedeza (*Lespedeza Cuneata*) –** The objective of this study was to evaluate the effects of supplementing corn steep liquor on herbivory patterns and performance of beef cows grazing native tallgrass rangeland infested with sericea lespedeza. Our study was conducted from May 1 through October 1, 2011, in Chautauqua County, KS, on nine native tallgrass pastures located approximately 10 miles southeast of Sedan. Crossbred beef cows and calves (145 pairs) were assigned randomly to treatments consisting of no supplementation or supplementation with corn steep liquor. Supplementation began June 1 and was delivered three times per week in portable feed bunks. Delivery of corn steep liquor was prorated for an average daily intake of 1.0 gallon/cow daily. Herbivory of individual sericea plants was estimated visually in each pasture at the end of the study (October 1).

Bottom Line: Supplementation of cow-calf pairs with corn steep liquor was associated with increased herbivory of sericea lespedeza during the summer grazing season. As expected, supplementation did not have an immediate, pasture-scale influence on sericea lespedeza biomass availability; however, we speculate that

repeated use of corn steep liquor supplementation on sericea lespedeza-infested tallgrass pastures may impair seed-producing capabilities of sericea lespedeza, ultimately leading to a decline in this invasive plant species. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact KC Olson (785-532-1254; kcolson@ksu.edu) or Dale Blasi (785-532-5427; dblasi@ksu.edu).

↙ **Comparison of Conventional and Alltech Beef PN Finishing Programs: Meat Water-Holding Capacity and Tenderness** - The objective of this study was to compare the fresh cooked meat quality of the Alltech PN Beef Program to a conventional feedlot diet when these diets are used alone or in combination with exogenous growth promotants. Five hundred twelve crossbred steers were fed for 175 days to test two effects. Steers were assigned to either a conventional finishing diet or a diet using the Alltech PN Receiver and Finisher supplements (Alltech, Nicholasville, KY). Both diets were fed with or without the use of implants and Optaflexx (Elanco Animal Health, Greenfield, IN). Animals were harvested after 175 days, loins were collected 24 hours later, and analyses were conducted after 14 days of aging.

Bottom Line: Alltech PN supplements favorably affected meat water holding capacity, but use of exogenous growth promotants decreased water-holding capacity and tenderness. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information, contact John Gonzalez (785-532-3448; johngonz@ksu.edu) or Elizabeth Boyle (785-532-1247; lboyle@ksu.edu).

↙ **Effects of Added Zinc and Copper on Growth Performance and Carcass Characteristics of Finishing Pigs fed Ractopamine HCl** - A total of 253 finishing pigs (PIC 327 × 1050; initial BW 204 lb) were used in a 28-d study to determine the effects of added Zn (Availa-Zn; Zinpro Corp., Eden Prairie, MN), Cu (Availa-Cu; Zinpro Corp.), or both to diets containing ractopamine HCl (RAC; Paylean; Elanco Animal Health, Greenfield, IN) on growth performance and carcass characteristics. Pens of pigs were randomly assigned to 1 of 5 treatments and balanced on average pig weight with 7 to 8 pigs per pen. Treatments included a control diet without RAC (negative control) and 4 diets containing 9 g/ton RAC with or without added Zn (50 ppm) or Cu (125 ppm) in a 2 × 2 factorial.

Overall, pigs fed RAC had increased ADG and improved F/G, which resulted in approximately a 15.5-lb heavier pig compared with those fed the negative control diet. Pigs fed added Zn had decreased ADG and tended to have decreased ADFI. Pigs fed added Cu also tended to have decreased ADG. No differences were observed in F/G when Zn or Cu was added to the diet. Hot carcass weight, carcass yield, loin depth, and percentage lean increased in pigs fed the positive control diet containing RAC compared with those fed the negative control diet, whereas backfat was unaffected. Carcass characteristics were not affected by added Zn or Cu.

Feed cost and revenue increased for pigs fed the positive control diet containing RAC by approximately \$9.63 and \$10.08, respectively, compared with pigs fed the negative control diet; however, no difference was observed in feed cost per lb of gain. Income over feed cost (IOFC) did not differ in pigs fed the negative or positive control diet. Adding Zn decreased revenue per pig, and adding Cu tended to increase feed cost per lb of gain and reduce revenue per pig. There were no differences in IOFC between diets containing added Zn and no added Zn. Added Cu reduced IOFC.

Bottom Line...Growth and carcass characteristics improved in pigs fed dietary RAC as expected, but adding Zn, Cu, or both to diets containing RAC did not improve growth performance, carcass characteristics, or IOFC. Adding copper actually reduced IOFC due to the added expense. More information is available on this experiment in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by K.F. Coble, C.B. Paulk, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, and S.S.Dritz)

↙ **Regression Analysis to Predict Growth Performance from Dietary Net Energy in Growing-Finishing Pigs** - Energy concentration in livestock feed is often altered to optimize pig growth performance and feed cost; therefore, an accurate prediction of growth performance as affected by feeding different energy levels is crucial. Data from 41 trials from 17 journal articles, 10 technical memos, and a thesis were used to develop a regression equation to predict ADG or gain to feed (G:F) as influenced by BW and NE content. Linear and quadratic terms of NE, average BW, CP, standardized ileal digestible [SID] lysine, crude fiber, NDF, ADF, fat, and ash, including their interaction terms, were the variables in the regression analysis.

Bottom Line...Our regression analysis showed that improvements in growth rate and feed efficiency could be obtained by increasing dietary NE across a wide variety of trials with different dietary ingredients and under different environmental conditions, but the magnitude of improvement in growth performances by dietary NE can be minimized if the amino acids are limiting. Regression equations from this paper can be used to predict the influence of dietary NE on ADG and G:F; however, these equations still need validation from growth studies not included in their development. More information is available on this experiment in the KSU Swine Day Report at www.KSUswine.org. (This study conducted by S. Nitikanchana, S.S. Dritz, M.D. Tokach, J.M. DeRouchey, R.D. Goodband, B.J. White, and J.L. Nelssen)

AS&I Faculty Spotlight



Jayendra Amamcharla (jayendra@k-state.edu; 785-532-1221)
Assistant Professor/Dairy Foods

Dr. Jayendra (Jay) Amamcharla obtained his B.S. (Dairying) in 1998 from Acharya N. G. Ranga Agricultural University, India and M.S. (Dairy Engineering) in 2001 from National Dairy Research Institute (NDRI), India. Dr. Amamcharla received his Ph.D. (Agricultural and Biosystems Engineering) in 2008 from North Dakota State University. Subsequently, he worked as a Postdoctoral Research Associate (2008-2012) at the Dairy Science Department, South Dakota State University.

In July 2012, Dr. Amamcharla joined the Department of Animal Sciences and Industry at Kansas State University as an Assistant Professor with teaching and research responsibilities. His teaching responsibilities include Physical Methods of Food Analysis (FDSCI 728) and Research and Development of Food Products (FDSCI 740). His research focuses on the development and validation of rapid and

nondestructive sensing technologies for quality and safety of dairy and food products.



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

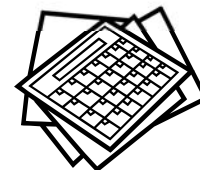
Chris Mullinix has returned to Kansas State University as an Instructor of Animal Sciences and the new head Livestock Judging Team Coach. Chris was born and raised on a diversified cattle and farming operation in central Maryland where his family continues to run a Hereford cow herd, an Angus herd and a small feedyard. Chris received his Animal Science degree at Kansas State University 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 Polled Hereford Association, the Little American Royal and Alpha Gamma Rho.

For the past sixteen years, Chris has been an Associate Professor on faculty with Butler Community College where he has coached more than 30 national contest winning collegiate teams and has been recognized with numerous teaching/student advising awards at a regional and national level. 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 cattle exhibitions in 36 different states including prestigious 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 has also been a faculty member in Butler's Agriculture Department where she continues to teach in an online, adjunct capacity. Chris and Elissa celebrated the arrival of their first child, Mason and feel certain his first sentence will include "Every Man a Wildcat!!" Chris and his family made the move back to Manhattan and they are excited to once again be a part of the rich tradition that is K-State!

What Producers Should Be Thinking About.....

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



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

June is a month to let Mother Nature take her course. **Assuming timely precipitation**, native grasses are usually at peak production; therefore, little supplementation is needed, with the exception of some minerals.

Cow-herd nutrition

- Provide plenty of clean, fresh water.
- Provide free-choice minerals to correct any mineral deficiencies or imbalances.
- Monitor grazing conditions and rotate pastures if possible and practical.
- Consider creep-feeding if it's cost-effective.

Herd health

- Monitor and treat pinkeye cases.
- Provide fly control. Consider all options; price and efficiency will dictate the best options to use.
- Monitor and treat for foot rot.
- To reduce heat stress, avoid handling and transporting cattle during the hottest times of the day.

Forage and pasture management

- Check and maintain summer water supplies.
- Place mineral feeders strategically to enhance grazing distribution.
- Check water gaps after possible washouts.
- Harvest hay in a timely manner; think quality and quantity.

Reproductive management

- If using AI, do not expect all females to conceive. A common practice is to breed once or twice with AI, then turn out cleanup bulls for the balance of a 65-day breeding season. A 42-day AI season with estrus synchronization at the front end gives most females three chances to conceive by AI.
- Watch bulls for libido, mounting and breeding function.
- Record breeding dates to determine calving dates.
- By imposing reproductive pressure (45-day breeding season) on yearling heifers, no late-calving 2-year-olds will result. This will increase lifetime productivity and profits.

Genetic management

- Monitor herd performance. Then identify candidates to cull because of poor performance.

General management

- Check equipment (sprayers, dust bags, oilers, haying equipment, etc.), and repair or replace as needed. Have spare parts on hand because downtime can make a big difference in hay quality.

*We need your input! If you have any suggestions or comments on **News from KSU Animal Sciences**, please let us know by e-mail to lschrein@ksu.edu, or phone 785-532-1267.*