News from KSU Animal Sciences

November, 2016

News from KSU Animal Sciences

In This Issue

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K-STATE Research and Extension

UPCOMING EVENTS…

- **Don't miss the 2016 K-State Swine Day to be held November 17th at the KSU Alumni Center**. Registration is $35 per participant at the door and begins at 8:00 a.m. with a trade show. The complete schedule and information can be found at www.KSUswine.org. For more information, contact Lois Schreiner (lschrein@ksu.edu; 785-532-1267).

- **VFD Meetings** - With the new veterinary feed directives set to go into effect January 1, K-State Research and Extension has planned meetings to help producers prepare for the upcoming regulations. Producers have a number of opportunities to increase their understanding of the impact of the veterinary feed directive (VFD) at meetings across Kansas this fall offered by K-State Research and Extension (KSRE). Meeting schedules include:
  - Nov. 15, 5:30 p.m. CST, Ag Research Center Hays, KS; Cost of meal $5, RSVP by Nov. 10 to 785-628-9430, tam3@ksu.edu
  - Nov. 16, 5:30 p.m. CST, Midland Railroad Hotel, Wilson, KS; Cost of meals and materials $10, RSVP by Nov. 7 to 785- 483-3157, 785-472-4442 or sheilat@ksu.edu
  - Nov. 22, 7 p.m. CST, Nemaha County Community Building, Seneca, KS, 785-336-2184
  - Nov. 22, 2 p.m. CST, HCC Klinefelter Barn, Hiawatha, KS, 785-742-7871
  - Nov. 30, 6 p.m. CST, Sheridan County 4-H Building, Hoxie, KS; RSVP by Nov. 28 to 785-475-8121 or 785-675-3378
  - Nov. 30, 6 p.m. CST, Marais des Cygnes Extension District Office, Paola, KS; RSVP by Nov. 23 to 913-294-4306 or 913-795-2829
  - Dec. 6, 11 a.m. CST, Extension Meeting Room, Howard, KS; Cost of meals and materials $5, RSVP by Dec. 2 to 620-374-2174
  - Dec. 7, 6:00-8:00 p.m. CST; Gaylord Community Center, Gaylord, KS; RSVP by Dec. 1 to 785-738-3597 or ncates@ksu.edu

  Dates are set but final details of the following meetings are pending.
  - Dec. 5, Stockton, KS; 785-425-6851
  - Dec. 8, El Dorado, KS; 316-321-9660

  For more information including flyers, visit http://bit.ly/vfdmeetings or contact A.J. Tarpoff (tarpoff@ksu.edu; 785-532-1255).

- The 2017 **K-State Swine Profitability Conference** will be held on Tuesday, February 7, 2017, at the Stanley Stout Center, Manhattan, KS. A great program has been lined up including presentations by Nathan Smith, KS Smith Farms; Dr. Barry Kerkaert, Pipestone Veterinary Services; Brad Greenway, South Dakota and more. Watch for more details and registration information coming soon at www.KSUswine.org.

- The Kansas Junior Producer Days have been scheduled! The **Junior Swine Producer Day will be held on Saturday, March 11, 2017** in Weber Arena on the K-State campus in Manhattan. The **Junior Meat Goat Producer Day will be Saturday, March 25, 2017,** also in Weber Arena. Youth, parents, project leaders, and extension agents of all skill levels and knowledge bases are invited to attend these educational programs. Topics related to livestock production and managing youth projects will be covered. The annual K-State Sheep and Meat Goat Center Sale will also be held after the Junior Meat Goat Day program, at the Sheep & Meat Goat Center. More details regarding each junior day program and specific registration information will be released in the next few weeks. Please check the K-State Youth Livestock Program website and Facebook page for updated information, as the events approach.

- **K-State AS&I Department launches KSUAntibiotics.org** – The KSU Animal Sciences and Industry Department has developed a website on antibiotics - http://ksuantibiotics.org/. Antibiotics are critical tools for treatment and control of diseases in livestock. This website includes links to sites that provide an overview of antibiotic resistance, mechanisms, the current knowledge about resistance in livestock production, the USDA and FDA action plans concerning resistance, and news feeds where you can find the latest information on the topic. There are links to the rules concerning Veterinary Feed Directives (VFD) and other antibiotic regulations along with videos created by the Beef Cattle Institute regarding VFD and a section that leads the user to reviews on the main alternatives to antibiotics that have been tested. For more information on the website, contact Mike Tokach (mtokach@ksu.edu; 785-532-2032).

CALENDAR OF UPCOMING EVENTS

Date	Event	Location
November 15, 2016	VFD Meeting	Hays, KS
November 16, 2016	VFD Meeting	Wilson, KS
November 17, 2016	KSU Swine Day	Manhattan
November 22, 2016	VFD Meeting	Seneca, KS
November 22, 2016	VFD Meeting	Hiawatha, KS
November 30, 2016	VFD Meeting	Hoxie, KS
November 30, 2016	VFD Meeting	Paola, KS
December 5, 2016	VFD Meeting	Stockton, KS
December 6, 2016	VFD Meeting	Howard, KS
December 7, 2016	VFD Meeting	Gaylord, KS
December 8, 2016	VFD Meeting	El Dorado, KS
February 7, 2017	KSU Swine Profitability Conference	Manhattan
March 11, 2017	KS Junior Swine Producer Day	Manhattan
March 25, 2017	KS Junior Meat Goat Producer Day	Manhattan

WHAT'S NEW . . . . .

Management Minute – Chris Reinhardt, Ph.D., Extension Feedlot Specialist

"Continuing Ed"

The day we choose to quit learning new things is the day we should ride off into the sunset, either literally or figuratively. We should want to be, and we should want to employ, eager lifelong learners. People who are eager to learn new skills and concepts are a near guarantee that the organization will continue to grow and improve in all areas of the business and even in its appreciation of its own culture.

If we've been successful in attracting this type of person into our organization, we probably don't need to stimulate their desire to learn new things; instead, the challenge is to continually strive to provide meaningful learning opportunities for those individuals.

There are two general types of training to consider: professional development (job duty-specific training), and personal development (which may or may not be skills and ideas which are directly or even indirectly applicable to the individual's specific job duties.)

Most organizations are willing to provide, and some are proactive in providing, professional development opportunities. However, it is more difficult for many organizations to justify personal development as a company-funded benefit.

One way to think about professional development, especially for the individual who is an eager student of new information, is as a type of "insurance". Health insurance (personal and family health benefits, not workers' compensation) really doesn't have a direct benefit to the organization. Instead, health insurance benefits are a form of compensation not directly tied to salary and bonuses.

For the individual who is constantly seeking opportunities to improve, company sponsored opportunities for personal development can be a form of indirect compensation. But on another level, if the nature of the personal development training can be of benefit both at the personal level and the professional context as well, there is a chance for the company to benefit from the training two-fold: the individual feels cared for on a personal level by the organization; but the organization also in turn receives a more skilled person, whose skills can be perpetually improved over time through various training opportunities.

The end goal should be to keep valuable individuals engaged in their job and satisfied with their role in the organization. Personal and professional development may be very simple, inexpensive, and effective ways to both improve the value of the individual to the organization, and to increase the satisfaction of the individual within their role in the organization.

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

Feedlot Facts – Chris Reinhardt, Ph.D., Extension Feedlot Specialist

"Feeding Corn to Cows this Winter"

(appeared originally in the November, 2016 issue of "Beef Tips" http://enewsletters.k-state.edu/beeftips/category/november-2016/)

Although some areas received abundant rain this summer and have ample hay supplies, other regions received only marginal rains, resulting in a marginal hay crop. On the other hand, most of the corn-growing regions of the Midwest and High Plains had excellent growing and harvest conditions which have contributed to abundant grain supplies, resulting in relatively low corn prices this fall.

This combination of coinciding circumstances have raised the question, "Can I feed corn to cows instead of hay?" Well, the answer is an emphatic, "Maybe…"

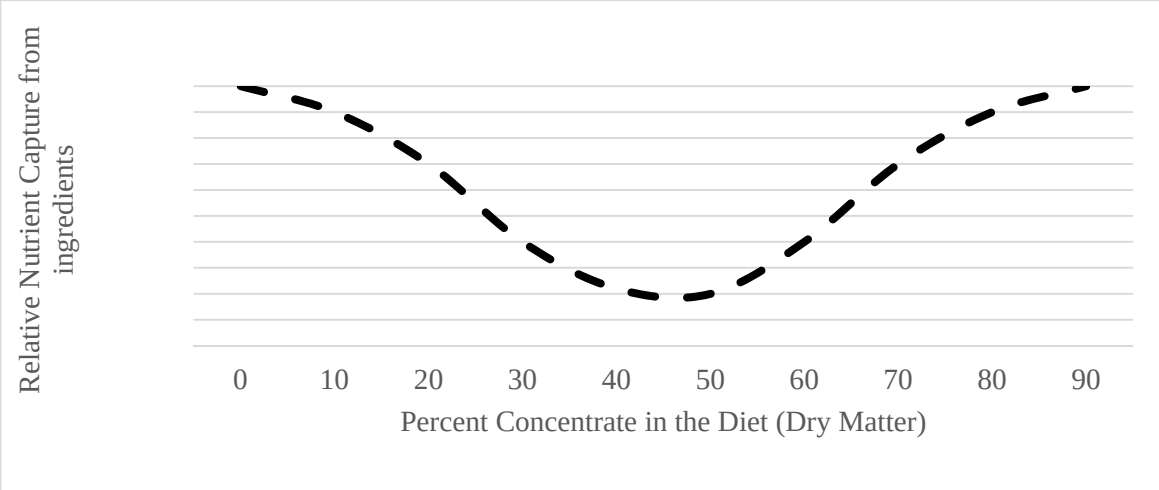
Nutritionists look at a cow as essentially a rumen with legs, a mouth, and an udder. The cow has a mouth to feed the rumen---more specifically, to feed the rumen microbes, and the job of the rumen microbes is to feed the cow. For most of a cow's life she has fed these microbes a diet primarily of cellulose in the form of grass, hay, corn stalks, wheat straw, etc. What little concentrate (grain, by-product feeds, protein supplements) she's received has been in the form of a small amounts of supplement in addition to the forages which have been her main diet.

Feedlot Facts – "Feeding Corn to Cows this Winter" (cont.)

The rumen microbes digest the cellulose in forages best when the rumen pH remains in the range of 6.0 to 6.5; this is one (although not the only) reason cows chew their cud: the saliva produced and injected into the cud during rumination contains buffers to keep the pH above 6.0. The more grain or other concentrate feeds we provide, the more likely the rumen pH is to decline below 6.0. The other extreme would be finishing feedlot cattle consuming a high-grain diet which results in a rumen pH in the low 5's or perhaps even the high 4's---very acidic. This acidic pH makes for an environment unfavorable for forage digestion.

So when we begin to consider feeding more than a small amount of concentrate to cows, we need to consider that the rumen pH will likely fall below the pH which is optimum for forage digestion. For this reason it is advised that we consider feeding a diet which is either less than 25% concentrate (on a dry matter basis), or greater than 75% concentrate, and avoid feeding in between these two levels. Why? Because as we exceed 25% of the diet as concentrate, the rumen pH will decline and the nutritional value of the forages in the diet decline, resulting in wasted expense. (NOTE: this effect becomes more pronounced with increasingly low-quality forages than with high-quality forages.)

A schematic of the results of feeding concentrates in addition to a basal diet of forage looks something like this:



With that out of the way, one way to capture the value of low-cost grains and concentrate feeds this fall and winter, without placing cows on a "finishing" diet, is to consider limit-feeding a high-grain diet. By "high-grain", we typically mean 70-75% concentrate with sufficient forage to prevent acidosis in aggressive eaters. By "limit-feeding", we typically mean providing a level of intake of the high-energy diet which supplies a similar total daily amount of energy, protein, minerals, and vitamins, in a smaller intake amount, than we would normally expect when full-feeding a forage-based diet.

For example, you may feed a "conventional", forage-based winter cow diet of 25 lbs of prairie hay (0.45 Mcal NE_M/lb, dry matter basis) with 6 lbs of dried distiller's grains (0.99 Mcal NE_M/lb, dry matter basis), providing a total of 17.3 Mcal NE_M per day. This same 17.3 Mcal NE_M per animal per day could be supplied from 8 lb cracked corn (1.02 Mcal/lb), 7 lb dried distiller's grains, and 5 lb of prairie hay. If you've done the math, that's a "conventional", forage-based diet fed at 31 lbs (dry matter basis) vs. the "limit-fed high-energy" diet fed at 20 lbs. If the cows weigh an average of 1,320 lbs, that's 2.4% of body weight vs. 1.5% of body weight. FULL DISCLOSURE: the limit-fed cows are going to be hungry and fairly aggressive every morning. Even though they're receiving the exact same amount of daily energy supply, because they're not physically full, they will be more than ready come breakfast time. You'll need stout fences and at 30-36 inches of bunk space per animal in the pen.

There are certainly challenges to limit-feeding cows, most of them pertain to logistics, facilities, and equipment. But two reasons to consider the limit-fed program are: (1) potential per-head feed cost savings; and (2) the chance to reduce the drain on your winter hay stores. In addition, depending on local spot market prices in your area, you may consider inserting other by-product feeds into the high-energy, limit-fed diet, such as: soy hulls, wheat midds, and corn gluten feed, since these all have energy values close to (although not equal to) that of corn.

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

- **Delayed Insemination of Non-Estrual Beef Heifers in 7-day CO-Synch Timed Artificial Insemination** – A total of 465 beef heifers were used in an estrous synchronizing 7-day CO-Synch+CIDR protocol. Immediately after prostaglandin-F2α (PGF) injection, Estrotect patches were placed on all heifers. The color of the patch at 48 hours after injection of PGF determined the treatment groups. All heifers with red patches were artificially inseminated at 48 hours after PGF. Half of the heifers with gray patches were inseminated at 48 hours after PGF, and insemination was delayed until 56 hours after PGF for the other half.

  The pregnancy rate for heifers displaying a red patch (Estrus; 67.8%) was greater than heifers displaying a gray patch (Non-estrus) inseminated at 48 hours after PGF (39.4%), and those receiving delayed insemination (Non-estrus delayed; 42.6%). Pregnancy rates were similar between Non-estrus and Non-estrus delayed heifers.

  Bottom Line…. Delaying insemination to 56 hours in non-estrual beef heifers that have not displayed estrus by 48 hours after PGF does not improve pregnancy rates. View the complete research report at www.asi.ksu.edu/cattlemensday. For more information contact, David Grieger (785-532-1229; dgrieger@ksu.edu) or Bob Weaber (785-532-1460; bweaber@ksu.edu).

- **Re-evaluating Floor Space Allowance and Removal Strategy Effects on the Growth of Heavyweight Finishing Pigs** This study was performed to evaluate the impact of initial floor space allowance and various topping strategies (removal of the heaviest pigs in a pen prior to marketing the finishing group) on the growth performance of heavyweight finishing pigs. A total of 1,092 pigs (initially 80.1 lb) were allotted to one of 4 experimental treatments with 14 pens per treatment. The first treatment stocked pigs at 9.7 ft^2 (15 pigs/pen) throughout the study. The other three treatments initially stocked pigs at 6.9 ft^2. The second treatment (*2:2:2*) topped the two heaviest pigs on d 64 (203 lb), d 76 (227 lb), and d 95 (264 lb), which coincided with the time floor space allowance became limiting, as predicted by Gonyou et al. (20065). The third treatment (*2:4*) topped the 2 heaviest pigs and the 4 heaviest pigs at an average BW of 240 (d 76) and 280 lb (d 105), respectively. The fourth treatment (*6*) topped the 6 heaviest pigs at an average BW of 280 lb (d 105). All pigs remaining in pens after topping events were marketed on d 117 of the study. Overall (d 0 to 117), pigs in pens stocked at 9.7 ft^2 had increased ADG compared to pigs in pens on either the *2:4* or *6* topping strategies, but ADG was not different from pigs in pens on the *2:2:2* topping strategy. This suggests that prediction equations developed by Gonyou et al. (2006) for ADG are useful for predicting the effects of floor space on heavyweight pig ADG. Pigs in pens stocked at 9.7 ft^2 had increased ADFI compared to pigs in pens initially stocked at 6.9 ft^2 regardless of topping strategy. Total weight gain per pen was greater for pens initially stocked at 6.9 ft2 compared to pens stocked at 9.7 ft^2; however, total weight gain per pig was greater for pigs in pens stocked at 9.7 ft^2 compared to pigs in pens initially stocked at 6.9 ft2. Pigs in pens on the *2:2:2* topping strategy had less weight gain than pigs in pens on the *6* topping strategy. Feed usage per pen was decreased for pens stocked at 9.7 ft^2 compared to those initially stocked at 6.9 ft2; however, per pig feed usage was increased for pigs in pens stocked at 9.7 ft^2 compared to pigs in pens initially stocked at 6.9 ft2. Pens on the *2:2:2* topping strategy had less feed usage, either on a pen or pig basis, than those on the *2:4* or the *6* topping strategy. Interestingly, there was a tendency for pigs in pens on the *2:4* topping strategy to have less feed usage than pigs in pens on the *6* topping strategy. Income over feed and facility cost (IOFFC) was decreased, either on a pen or pig basis, for pens stocked at 9.7 ft2. Pigs in pens on the *2:2:2* topping strategy had numerically less IOFFC when revenue was high and feed cost was low compared to pigs in pens on the *2:4* or *6* topping strategy.

  Bottom Line…In conclusion, increasing the floor space allowance or the time points at which pigs are removed from the pen improved the performance of pigs remaining in the pen; however, IOFFC may be reduced due to fewer pigs marketed from each pen (in the case of lower stocking density) or from reducing total weight produced (in pens where pigs are topped earlier at lighter weights). More information is available in the KSU Swine Day Report at www.KSUswine.org. *(This study conducted by J. R. Flohr, M. D. Tokach, J. F. Patience, G. Gourley, J. M. DeRouchey, S. S. Dritz, J. C. Woodworth, and R. D. Goodband)*

- **Evaluating the Effects of Maternal Vitamin D Supplementation on the Subsequent Growth Performance and Carcass Characteristics of a Subsample Population of Growing Pigs** A subsample of 448 growing pigs (PIC 327 × 1050), or approximately 50% of pigs weaned from sows fed varying dietary vitamin D regimens, were used in a split-plot design to determine the influence of maternal and nursery vitamin D regimens on growth performance. Sows were previously administered diets containing vitamin D as either: 1) low vitamin D_3 (363 IU/lb); 2) medium vitamin D_3 (907 IU/lb); 3) high vitamin D_3 (4,354 IU/lb); or 4) 23 µg 25(OH)D_3/lb (Hy-D, DSM Nutritional Products Inc., Parsippany, NJ.

A total of 52 total litters from 2 consecutive weaning groups were represented in the subsample population for growth performance. Once weaned, pigs were allotted to pens in the nursery based on previously administered maternal vitamin D regimens, then pens were randomly assigned to 1 of 2 nursery vitamin D regimens (907 IU of vitamin D_3/lb, or 23 µg 25(OH)D_3/lb). Pigs remained on nursery vitamin D regimens for 35 d, then they were provided common growing and finishing diets until market. One pig per pen was bled at weaning and on d 17, 35, and 70 post-weaning to determine growing pig serum vitamin metabolites. At weaning, pig BW was increased with increased maternal vitamin D_3 supplementation. This was because pigs from sows fed the medium concentration of vitamin D_3 were heavier at weaning compared to pigs from sows fed the low or high concentration of vitamin D_3. Overall from d 0 to 35 in the nursery, pigs from sows fed increasing vitamin D_3 had increased ADG and ADFI, but F/G was similar regardless of maternal Vitamin D regimen. Pigs from sows fed the low concentration of vitamin D_3 had poorer ADG and final nursery BW compared to those from sows fed 25(OH)D_3. Throughout finishing (d 35 post-weaning until market), ADG was increased and ADFI tended to increase with increasing maternal vitamin D_3 supplementation because pigs from sows fed the medium concentration of vitamin D_3 had greater ADG and numerically greater ADFI compared to pigs from sows fed the low or high concentration of vitamin D_3. Average daily gain of pigs from sows fed the low concentration of vitamin D_3 was lower compared to those from sows fed 25(OH)D_3. Carcass data were also collected from 734 pigs (approximately 65% of pigs weaned from sows administered vitamin D regimens) from 3 out of the 4 weaning groups used for the experiment. At marketing, live BW and HCW were heavier for pigs from sows fed 25(OH)D_3 compared to pigs from sows fed the high concentration of vitamin D_3. Also, percentage carcass yield increased with increasing maternal vitamin D_3 supplementation. Loin depth and BF were both decreased with increasing vitamin D_3 supplementation.

Bottom Line…Overall, it appears that vitamin D_3 and 25(OH)D_3, whether through maternal supplementation or through the diet, are useful sources of vitamin D to increase serum 25(OH)D_3 concentrations in growing pigs. Additionally, 25(OH)D_3 (in the nursery diet) can increase serum 25(OH)D_3 of nursery pigs more than feeding the same international unit equivalency of vitamin D_3. Pigs from sows fed the medium concentration of vitamin D_3 performed better after weaning compared to pigs from sows fed the low or high concentrations of vitamin D_3; however, this difference may have been confounded with the variance in weaning weight associated with the subsample population used for the growth portion of the study. Also, it is perceived that pigs from sows fed 25(OH)D_3 had increased live weight and HCW compared to pigs from sows fed the high concentration of vitamin D_3. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. *(This study conducted by J. R. Flohr, J. C. Woodworth, M. D. Tokach, S. S. Dritz, R. D. Goodband, J. M. DeRouchey, and J. R. Bergstrom)*

- **Effects of Commercial Formaldehyde Inclusion and Lysine Level on Pig Performance of 35- to 50-lb Nursery Pigs** A total of 299 pigs (DNA 400 × 200; initial BW 33.6 lb) were used in a 14-d study to determine the effects of two separate commercial formaldehyde products (Termin-8; Anitox Corp, Lawrenceville, GA and SalCURB; Kemin Industries, Inc., Des Moines, IA) on nursery pig performance. Dietary treatments were arranged in a 3 × 2 factorial design with three formaldehyde inclusions: none vs. 6.5 lb/ton SalCURB vs. 6.0 lb/ ton Termin-8 and 2 Lys levels: Standard (1.25% SID Lys) vs. Low (1.10% SID Lys). Formaldehyde treatments were established based on supplier recommendations and diets were treated with supplier-specific equipment. Pens of pigs were balanced by initial BW and randomly allotted to one of six treatments with five pigs per pen and 10 pens per treatment. Overall, there was a tendency for a formaldehyde source × Lys level interaction to affect ADG and F/G, but not ADFI. Pigs fed diets with standard Lys levels, regardless of formaldehyde source, tended to have similar ADG to one another, but greater ADG than pigs fed low Lys levels treated with either formaldehyde source. Furthermore, pigs fed standard Lys levels treated with no formaldehyde or SalCURB tended to have improved F/G compared to pigs fed standard Lys levels treated with Termin-8 or low Lys levels treated with no formaldehyde or SalCURB. Pigs fed diets with low Lys and treated with Termin-8 tended to have poorer F/G than all other treatments. Regardless of source or Lys level, the inclusion of formaldehyde in nursery pig diets tended to reduce ADG and resulted in poorer F/G. Furthermore, the main effect of formaldehyde source affected ADG, F/G, and tended to affect ADFI, with pigs fed Termin-8 performing poorer than those fed SalCURB or no formaldehyde. As expected, Lys level affected ADG and F/G, but did not alter ADFI.

  Bottom Line…In summary, SalCURB inclusion did not alter nursery pig growth performance compared to the untreated basal diet, regardless of Lys level. However, the inclusion of Termin-8 tended to result in poorer F/G in standard Lys diets and poorer ADG and F/G in low Lys diets compared to an untreated control. More information is available on this experiment and others in the KSU Swine Day Report at www.KSUswine.org. *(This study conducted by R. A. Cochrane, L. G. Sica, J. C. Woodworth, S. S. Dritz, C. R. Stark, and C. K. Jones)*

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.

Dale Blasi (dblasi@k-state.edu; 785-532-5427)
Professor/Extension Beef Specialist

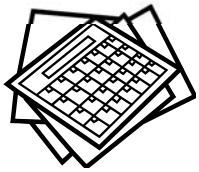
Dale A. Blasi was born and reared on his family's farm and ranch in southeast Colorado, near Trinidad. He received his B.S. in Animal Sciences at Colorado State University in 1984. In 1986, he received his M.S. in Beef Systems Management at Colorado State University. He continued his education at the University of Nebraska where his dissertation addressed protein supplementation strategies for beef cows and growing cattle.

After earning his Ph.D. degree in 1989, he accepted an appointment as a Livestock Specialist in South Central Kansas at Hutchinson for Kansas State University. While there, he focused on cow/calf and stocker nutrition and management strategies, forage quality and harvest efficiency, forage utilization systems and utilization of food industry byproducts. In 1997, he transitioned to the Department of Animal Sciences and Industry at Kansas State University as a State Beef Specialist where he currently has a 10% teaching, 20% research and 70% extension appointment. His responsibilities include providing statewide Extension educational leadership in stocker cattle nutrition and management and utilization of grazed and harvested forages by beef cattle and other livestock, conducting research and interpreting results and serving as a resource person for other state and area specialists, county Extension agents, producers and allied industry personnel. In recent years Dr. Blasi has developed and teaches the class, *ASI 650, Identification and Data Management of Food Animals*, to both undergraduate and graduate students.

Since 1998, he has developed and evaluated information and management applications using handheld computers and individual animal electronic identification technologies for the beef industry. He is manager and director of the KSU Beef Stocker Unit and Animal Identification Knowledge Laboratory, a unique facility designed to evaluate the performance of existing and emerging animal identification technologies in a laboratory and animal management setting.

What Producers Should Be Thinking About…..

WHAT PRODUCERS SHOULD BE THINKING ABOUT IN JANUARY…….



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

Cow herd management

- ☑ Historically, cull cow prices have increased during the next 2 or 3 months. Check your breakevens.
- ☑ Continue feeding or grazing programs started in early winter. Weather conditions may require wrapping up grain sorghum and cornstalk field grazing. Severe winter weather may begin to limit crop residue utilization, so be prepared to move to other grazing and feeding systems
- ☑ Supplement to achieve ideal BCS at calving.
  - Use this formula to compare the basis of cost per lb. of crude protein (CP):
    Cost of supplement, $ per hundredweight (cwt.) ÷ (100 X % CP) = cost per lb. of CP.
  - Use this formula to compare energy sources on basis of cost per lb. of TDN:
    Cost, $ per ton ÷ [2,000 X % dry matter (DM) X % TDN in DM] = cost per lb. of TDN.
- ☑ Control lice; external parasites could increase feed costs.
- ☑ Provide an adequate water supply. Depending on body size and stage of production, cattle need 5-11 gallons (gal.) of water per head per day, even in the coldest weather.
- ☑ Sort cows into management groups. BCS 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 post-partum 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%-65% of their mature weight by the start of the breeding season. Thin, lightweight heifers may need extra feed for 60-80 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 your breed association.
- ☑ Provide some protection, such as a windbreak, during severe winter weather to reduce energy requirements. The 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. 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, or phone 785-532-1267.*