K-STATE Research and Extension

Beef Tips

January 2014 Department of Animal Sciences & Industry www.asi.ksu.edu/beeftips

Upcoming Events

NW Kansas Calving Management Schools
Jan. 6, 2014
Oberlin
Jan. 7, 2014
Phillipsburg, Sylvan Grove
Jan. 8, 2014
LaCrosse,
Sharon Springs
Registration due Jan. 3
See details on p 5
www.KSUBeef.org

Winter Ranch Management "Town Hall" Meetings
Jan. & Feb. 2014
See details on p 5
www.KSUBeef.org

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Use calving ease EPDs to select sires for replacement heifers

Bob Weaber, cow-calf specialist

When one begins the process of selection of bulls to produce replacement heifers or bulls to be service sires of replacement heifers a number of criteria come to mind. Certainly among these are breed composition and the contribution the bull may provide to direct and/ or maternal heterosis, as well as a variety of growth, maternal and carcass traits. Perhaps among the most important is calving ease.

In the case of replacement heifers we need to think of calving ease as both a trait of a calf (how easy it is born or direct calving ease) as well as a trait of the cow (how easy the cow gives birth or maternal calving ease). There is a genetic component to both the direct and maternal aspects of the calving ease trait. As such, producers should be aware of when to use which measure to aid in the production of high quality replacement females with the expectation of long productive lives as well as to minimize dystocia in first calf heifers.

Before we discuss the two different Calving Ease EPDs, a brief discussion on why producers should use Calving Ease EPDs rather than birth weight EPDs to control dystocia rates in heifers and cows. For cow-calf producers, calving ease is the economically relevant trait associated with dystocia. Economically relevant traits (**ERT**s) are those that directly generate revenue or incur costs in beef production systems.

For a commercial cow-calf producer, dystocia (or lack of 'calving ease') is what generates costs in a cow herd through direct losses of calves and their dams, increased labor costs, and certainly lower reproductive rates among cows that have experienced dystocia. Birth weight is an indicator trait. In this case, birth weight provides some information on calving ease. Birth weight alone doesn't directly generate revenue or incur costs independent of calving ease.

It's important to recognize that there is an optimal range of birth weights in beef cattle. Certainly, too heavy of a calf is a problem during delivery of the calf hence our selection, at least historically, for lower birth weights. However, too small of a calf at birth is problematic as well. This is especially true for winter/spring calving herds. During severe cold stress, low body weight calves are more susceptible to hypothermia and subsequent death or disease issues. Indeed, very low birth weight calves in northern latitudes can have dramatically reduced survivability when born in winter months.

Birth weight only accounts for 55 to 60 percent of the genetic variation in calving ease. So, selection for reduced birth weight alone won't improve calving ease as much as selecting directly on calving ease. And since birth weight is strongly correlated with other growth traits, reduction in birth weight is usually associated with decreased growth performance at weaning and yearling. When selecting a service sire for use on virgin heifers, it is recommended to focus on selection of bulls with Calving Ease EPDs in the top 20% of the breed being considered or better. If you are using artificial insemination, select bulls with high accuracy Calving Ease EPDs to further minimize risk of dystocia events.

We'll start our discussion on the use of Maternal Calving Ease (MCE) EPD (or Calving Ease Maternal (CEM) in some breeds) and it's use in selection of bulls to produce replacement heifers. Maternal Calving Ease EPD describes

continued...see Calving Ease on page 4

"You can't manage what you don't measure."

Tally Time – High net revenue more important than low cost

Sandy Johnson, livestock specialist

The first week of December I attended the XXIII Range Beef Cow Symposium in Rapid City, SD. I always take away a number of good things with me from that meeting and wanted to share some of those from this year's meeting.

Julie Walker, one of the meeting hosts and Extension Beef Specialist from South Dakota State University, challenged beef producers to make sure they know their annual cow cost and breakeven cost (cost per pound of weaned calf).

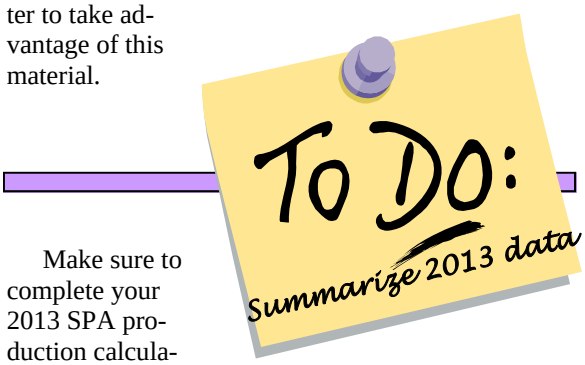
"Managing production costs is not just about spending less money. Being a low-cost producer doesn't necessarily make you more profitable," said Walker. "Lowering costs may also decrease production, decrease product quality or both, resulting in lower revenue. It takes time to measure and record details, but it enables you to make the best management decisions. The old saying is true, 'you can't manage what you don't measure.'"

Chip Ramsey, manager at Rex Ranch, was part of a producer panel tasked with the topic "Increasing Profitability by Managing Cow Costs". He talked about understanding the costs associated with managing for extreme drought. Variable costs increased $300/head in 2012 when they sent cows off the ranch to be fed. He calculated how much hay they would have to have on hand to have fed cows on the ranch and accounted for storage loss and carrying costs. Based on his calculations they would need to experience a drought like they did in 2012 once every 9.3 years in order to carry the additional hay inventory to feed cows at home. While they may carry more hay in the future than they have, they could not afford to carry that much hay and he cautioned about managing for the extreme.

Ramsey also highlighted three ineffective cost saving management strategies: 1) Poor hiring decisions coupled with sink or swim training philosophy; 2) Not spending the time to plan and or budget; and 3) Supplementing too little at crucial times. The example he gave was .25lbs/hd/day protein supplement for 40 days that improved pregnancy rates in May calving two-year olds by 15%. Ramsey said, "we're really in this business, not to lower cost but to increase margin to pay the bills".

Don Schiefelbein farms with 8 brothers and 2 nephews in Minnesota. They started out trying to lower costs but they did not have sufficient revenue to support the growing family. His Dad emphasized that if they were always worried about how to cut up the pie, they were missing the point, rather they should focus on growing the pie. Schiefelbein said, "Ignorance purchases on price, knowledge purchases on value. Do not be a low cost producer, be a high net revenue producer." They have now increased both revenue and expenses to the point where the operation has less debt today than 15 years ago.

These are just a few highlights from the meeting that relate to cow costs. Remember gross revenue is not a proxy for profit, whereas net revenue is income minus expenses. You can access audio, slides and proceedings from the entire 2.5 day program at www.rangebeefcow.com under newsroom. If you didn't get to attend, take some time this winter to take advantage of this material.



Make sure to complete your 2013 SPA production calculations. Benchmark values from 3 different sources are shown below. If you need help with calculations because of drought related inventory adjustments there is help at a variety of places online or contact me directly, sandyj@ksu.edu, 785-462-6281.

SPA performance measures from CHAPS™ (2008-2012) and SW Cow-Calf SPA last five years (36,377 hd) and High Plains Ranch Practicum

Item	CHAPS	SW	High Plains
Pregnancy percentage	93.6	89.4	
Pregnancy loss	0.68	3.0	
Calving percentage	92.97	85.4	
Calf death loss, %	3.27	3.3	
Calf crop percentage	90.67	82.1	89
Calving Distribution			
% calves born d 1 - 21	62.8		
% calves born d 1 – 42	87.98		
% calves born d 1 – 63	95.85		
% calves born d 63+			
Weaning Data			
Avg. weaning weight	558	525	
Pounds weaned/ exposed female	499	434	470

CHAPS™ http://www.chaps2000.com/benchmarks.htm
SW Cow-calf SPA summary http://agrisk.tamu.edu/beef-cow-calf-spa-ranch-economics-and-analysis/ranch-economics-and-analysis-and-beef-cow-calf-spa-information/
High Plains Ranch Practicum - https://sites.google.com/site/highplainsranchpracticum/unit-cost-of-production/benchmark-datasets

Guidelines for successful heifer development

Sandy Johnson, livestock specialist

Development of replacement heifers is a long and thus costly process that becomes even more costly when heifers fail to rebreed or must be culled for reasons other than age. The following guidelines highlight management impacts on development costs and performance.

Nutrition

- Target 60% of mature weight at the start of breeding season and a body condition of 5 to 6.
- A lighter target weight (53- 58%) is appropriate when additional heifers can be exposed for breeding than are needed to maintain herd size and if selling open heifers at the end of the breeding season is profitable. Higher target weights (60-65%) are appropriate when used with an AI program and feed cost is less of a concern. Body condition scores of 7 or greater are expensive to achieve and generally result in lower fertility.
- Determine needed gain from weaning until breeding season begins and develop ration appropriately. Usually .75 – 1.5 lbs per day gain will suffice.
- Monitor weight and body condition during development to achieve gain and condition goals.
- Use of an ionophore can conserve forage and improve reproductive response.
- Gains on summer pasture are inversely related to gains over winter.
- Regardless of target weight at breeding, heifers should continue to grow post breeding and achieve a target of 85% of mature weight and a body condition of 5.5 to 6 at first calving.
- Experience grazing crop residue or winter pasture as heifer calves can be beneficial to future performance when nutrient demands are higher.

Health

- Consult with your local veterinarian for the optimum vaccination and parasite control program for your situation. In most cases three injections of a MLV respiratory complex prior to breeding should be used.
- Two doses of vaccine for Leptospirosis and Vibriosis, 21 days apart with the final dose 30 days before breeding are recommended.
- Response to vaccination is improved in animals in moderate to good body condition and with adequate trace mineral status.

Reproduction

- Heifers should be gaining weight 60 days before and during the breeding season.
- Reproductive tract scores (1=infantile to 5=mature and cycling) taken 50 to 60 days prior to breeding can be used to assess physiological maturity. If 50% of heifers have tract scores of 3 or greater 50-60 days prior to breeding, estrous synchronization programs are more successful.
- The postpartum interval to first estrus is longer in first calf heifers than mature cows. Breeding heifers to calve 2 to 3 weeks ahead of the cow herd reduces the risk of reproductive failure at the second breeding season.
- Risk of calving difficulty is minimized when high accuracy calving ease sires are used via artificial insemination.
- Use a short breeding season, 30 – 45 days or less, to improve odds of rebreeding at second breeding and concentrate calving season labor.
- Change of diet resulting in short-term decreases in energy intake can be detrimental to embryo survival (drylot to pasture post AI). Stress from a new environment, novel feedstuffs, as well as energy content of feedstuffs can contribute. If pasture growth is short, delayed or even extremely lush during the early breeding season, short-term supplementation may be warranted in heifers transitioning from a drylot.
- If heifers must be moved after AI, then transportation should be within 3-4 days of breeding or after 42 days.

Other considerations

- A crossbred heifer is expected to produce the equivalent of at least one more calf in weaning weight than a straight bred heifer in a lifetime.
- Heifers born in the first 21 days of the calving season remain in the herd longer than those born in later cycles. Data show from .6 to 1.2 years longer.
- Heifers that conceive in the first 21 days of the first breeding period have heavier calves at weaning. In a recent study the weight advantage was apparent through 6 calf crops.

"A crossbred heifer is expected to produce the equivalent of at least one more calf in weaning weight than a straight bred heifer in a lifetime."

Calving Ease …. *continued from page 1*

the difference in the expected rate of dystocia among sire groups of daughters. For instance, if Bull A has a MCE EPD of +10 and Bull B has a MCE EPD of -2, we'd expect Bull A's daughters to have 12% more unassisted calvings (i.e. fewer dystocia events) compared to daughters of Bull B when these daughters are mated to service sires of similar genetic merit for Calving Ease and birth weight.

"So, selection for reduced birth weight alone won't improve calving ease as much as selecting directly on calving ease."

Remember, MCE is calving ease viewed as the ability of a sires daughters to calve unassisted. Typically, MCE has a negative genetic association with Calving Ease (direct) and a positive genetic relationship with growth and mature size. So it's important that producers don't just select for higher levels of Calving Ease in their herd as that will have a tendency to decrease the maternal calving ease genetic potential in the cowherd.

Once a producer has used MCE in the selection of sires to produce replacement heifers, one should transition the selection focus to identification of high Calving Ease (CE) EPD (Calving Ease Direct or CED in some breeds) sires to be mated to virgin heifers to produce their first calf. In this scenario, selection for high CE EPD helps increase the percentage of calves born without assistance to first calf heifers. In this case if Bull C has a CE EPD of +12 and Bull D has a CE EPD of +2, we'd expect Bull C's calves to have 10% more unassisted births.

Recommendations for MCE EPD minimums for sires to be used to produce replacement heifers and CED EPD minimums for heifer service sires are in Table 1. Regardless of breed group (British, Continental, or Hybrid) the MCE recommendation reflects the upper 25th percentile of active sires. Percentile requirements for CED EPD vary with breed groups: Continental upper 15%, Hybrid upper 20% and British upper 30%. Producers may adjust this recommendation up or down based on individual needs that reflect herd based experience in dystocia rates in first calf heifers.

Combining the use of Calving Ease and Maternal Calving Ease EPDs in your selection system will help assure a successful calving season and decreased dystocia in your first calf heifers. Dystocia in heifers due to poor selection decisions can be a very expensive mistake resulting in lost profits due to cow and calf death loss, extended post -partum intervals and poorer conception rates in rebreeding first calf heifers. Be sure to do your part this spring when selecting bulls or semen for building and breeding replacement heifers!

Table 1. Recommended minimum values for Calving Ease and Maternal Calving Ease EPD for Service Sires (Values reflect breed sire summaries published throughout 2013).

		Minimum recommended EPD value	
Breed Group	**Sire Breed**	**Calving Ease**	**Maternal Calving Ease ***
British	Angus	8.0	10.0
Hybrid	Balancer	13.0	9.0
Continental	Charolais	8.2	6.4
Continental	Gelbvieh	11	8.0
Hybrid	LimFlex	11.0	5.0
Continental	Limousin	12.0	6.0
Continental	Maine Anjou	10.5	5.2
Hybrid	MaineTainer	8.9	3.9
British	Polled & Horned Hereford	2.1	2.7
British	Red Angus	8.0	8.0
Continental	Salers	0.9	0.6
British	Shorthorn	1.92	0.6
Hybrid	SimAngus	13.0	10.1
Continental	Simmental	12.3	12.3

*Depending on breed - Maternal Calving Ease, Calving Ease Maternal, Calving Ease Daughters

Calving Management Schools

COLBY, Kan. – With the new calving season just around the corner, K-State Research and Extension will host calving schools in five locations, with a focus on challenges producers might face during this critical period.

The program will feature Robert Mortimer, recently retired associate professor of clinical sciences at Colorado State University's Veterinary College. Dr. Mortimer's extensive experience calving heifers and engaging presentation has made him a highly sought after speaker on this topic.

Larry Hollis, beef cattle veterinarian with K-State Research and Extension, will speak on scours prevention and colostrum management.

"Producers have a significant investment to get each cow to a full term pregnancy. Losing calves at or near birth is an economic loss, but it is often a personal loss, too, and can leave producers asking themselves "what if" type questions on how they might have saved a particular calf," said Sandy Johnson, extension livestock specialist based at K-State's Northwest Research Extension Center in Colby. "Continued sharpening of our skills when it comes to saving calves is time well spent for anyone that will calve out heifers or cows."

Dates, locations, and K-State contact information for each school:

• Jan. 6 – Oberlin – 6 p.m. CST – The Gateway – Byron Hale, bhale@ksu.edu or 785-475-8121;

• Jan. 7 – Phillipsburg – 10 a.m. CST – Phillipsburg County Fair Building – Rachael Boyle, rboyle@ksu.edu or 785-425-6851;

• Jan. 7 – Sylvan Grove – 6 p.m. CST – Sylvan Sales Commission – Neil Cates, ncates@ksu.edu or 785-738-3597;

• Jan. 8 – LaCrosse – 10 a.m. CST – LaCrosse Livestock Market – Jared Petersilie, jaredp11@ksu.edu or 785-222-2710; and

• Jan. 8 – Sharon Springs – 6 p.m. MST – CAB Building – Wallace Co. Fairgrounds – Marty Fear, cfear@ksu.edu or 785-332-3171.

Financial support for the program is being provided by Zoetis and other local sponsors at each site. There is no cost to participate, but those wishing to attend are asked to RSVP by Jan. 3 to the appropriate local office so we can plan for adequate meals and materials.

Winter Ranch Management Series

MANHATTAN, Kan. – A two-way verbal exchange between Kansas' cattle producers and extension specialists is the new approach to K-State's 2014 Winter Ranch Management Seminar Series, set to kick-off in January and conclude mid-February.

The series has a history of being a successful stretch of meetings, which are hosted throughout the state of Kansas, said Bob Weaber, beef breeding, genetics and cow/calf specialist for K-State Research and Extension. This year the specialists will deliver the series in a face-to-face "town hall" meeting format.

Weaber, along with other state, district and local extension staff, will take part in the series to help answer producers' questions about beef cattle issues surrounding animal health, nutrition, management, genetics and reproduction.

"Because of the wide range of topics and variety of climatic conditions over the past year in Kansas, there are many different issues facing producers," Weaber said. "This is a great opportunity for us as state specialists to take our expertise out in the country and do a series of 'town hall' format meetings, where we don't have a specific agenda. We want to be responsive to the questions and needs of our producer clientele."

Meeting times may vary by location; Jan. 14, Paola, evening; Jan. 16, Maple Hill, evening; Jan. 21, Eureka, noon; Jan. 21, Helper, evening; Jan. 23, Downs, evening; Jan. 28, Colby, noon; Jan. 28, Ness City, evening; Jan. 29, Wichita, evening; Jan. 30, Greensburg, evening; Feb. 11, Cottonwood Falls, noon; Feb. 12, Concordia, evening. Evening events start at approximately 5 p.m. with registration, dinner at 6 p.m. and program 6:30-8:30 p.m. Mid-day meetings will begin with registration at approximately 11:30 a.m., lunch at noon and program 12:30-2:30 p.m.

Participants are asked to RSVP for a selected location by the close of business the Friday before the event. See details at KSUBeef.org. Registration fees, which cover a meal, vary by location. Interested participants should reach out to their local host contact for registration and RSVP details.

More information about the K-State Winter Ranch Management Seminar Series is available at www.ksubeef.org.