



# Beef Tips

November 2010

Department of Animal Sciences & Industry

[www.asi.ksu.edu/beeftips](http://www.asi.ksu.edu/beeftips)

## Upcoming Events

**Cattlemen's Sale Barn Mtng**  
Nov. 10, 2010  
Sylvan Grove and Mankato  
785-378-3174 or 785-524-4432

**Genetic Selection of Cattle in a DNA World**  
Dec. 15, 2010  
Russell, KS  
(785) 462-6281

**Winter Ranch Management Seminar**  
Jan. 10, 2011  
[www.KSUBeef.org](http://www.KSUBeef.org)

**Tri-State Cow/Calf Symposium**  
Jan. 12, 2011  
St. Francis, KS  
785-332-3171

**Four-State Beef Program**  
Jan. 12, 2011  
Holton, KS  
785-364-4125

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## Select bulls with high maternal calving ease EPD to reduce calving difficulty in daughters

*Dan W. Moser, beef cattle genetics*

For many years, commercial cow/calf producers have used birth weight expected progeny differences (**EPD**) in sire selection to minimize calving difficulty. However, some producers have expressed concern that such selection over several generations might result in heifers and cows that have calving difficulty despite lower calf birth weights, as a result of the heifers being smaller at calving.

If calving ability of females is a concern, there's a simple but underutilized tool to avoid the potential problem you describe. It's Maternal Calving Ease EPD. **MCE EPD** (CEM in some breeds) describes the genetics of female calving ability, so if a sire did truly produce harder calving heifers and cows, that number would reflect it. Higher numbers mean easier calving daughters, so to minimize calving difficulty in a herd that raises its own replacements, pick bulls with higher EPD for both Calving Ease and Maternal Calving Ease.

It seems that fewer buyers of British breed bulls pay as much attention to MCE, but if they are planning on keeping daughters of a bull, it's nearly as important as direct calving ease. It's more widely used in the continental breeds, especially Simmental and Gelbvieh, probably because those breeds have provided Calving Ease and Maternal Calving Ease EPD for many years.

Recognize that birth weight is one of the more heritable traits in beef cattle. That means that the heifers with the heavier birth weights are more likely to have heavier calves themselves. When we calculate birth

weight EPDs in seedstock, the calf's adjusted birth weight has quite a bit of impact because of this. So, to avoid future calving difficulty in a commercial herd, it would be wise to cull heifers born with difficulty, or with high birth weights if that information is available. It is especially important to cull big heifer calves that are born to first-calf heifers.

First-calf heifers tend to have lighter calves because of uterine environment and other age-related environmental factors. Some studies estimate that the same calf might be seven pounds heavier if born to a mature cow instead of a first-calf heifer, all else being equal. So, if she was big and out of a first-calf heifer, she would have been even bigger if she had been born to a mature cow, and probably has the genetics that reflect that.

Keep in mind, sire selection drives a vast majority of genetic change, not heifer selection or cow culling. This is especially true for traits like calving ease where powerful genetic evaluation information is available on the bulls you buy. While you might make a bad choice now and then, you won't hurt the cowherd selecting replacement heifers, if you are picking the right bulls to sire those heifers. You won't make great progress selecting heifers or culling cows either. There's much more variation among the bulls you can buy than there is among the heifers you keep or cull, and more information available to help you make the right choice.

## Tally Time – Tools for record keeping

Sandy Johnson, livestock specialist

*“You can’t manage what you don’t measure.”*

If we measure it we can manage it, so finding tools that make measuring easier can help us achieve our management goals. Computers and smart phones have become a part of everyday living. Anyone else like to be able to pull up live radar to see how close the rain is (or isn’t) anywhere you go? When it comes to production records for our cows, there are a number of options available from which to choose. Finding a system that you will actually use is the most important factor.

If you are considering an electronic cow/calf recording keeping system, Oklahoma State University has an excellent publication that helps show what is available and differentiates various software programs. The primary purpose of this type of software is to track individual cow performance records. Some programs have the ability to integrate with financial or pasture use records or interface with electronic scales, electronic identification, hand held devices or smart phones. Look for something that fits what you currently need, but also gives you room to grow.

For many commercial producers, tracking overall herd performance may provide the management information needed; whereas those that intensely use individual records should not forget this portion. The key components of a herd production summary are shown in the example SPA (Standardized Performance Analysis) data in table 1. The best cow/calf record keeping software programs will use SPA calculations for calculating the herd performance summary. Whether or not

certain software packages use SPA calculations is one of the items detailed in the OSU publication. Use of SPA calculations in generating annual herd performance summaries will ensure that inventory changes such as purchasing or selling cows or pairs are handled consistently each year. By using SPA calculations, records from an older paper system could be compared to newer computer generated values or values from another software program using SPA calculations. They can also be compared to industry benchmark values (for review see Tally Time in July 2010 and November 2009 BeefTips issues).

There is also a simple Excel spreadsheet that can provide SPA summary data if you want to just enter inventory numbers such as, cows exposed, cows sold and calves weaned. This may be useful to those that haven’t gone to a computer record keeping system for the cow herd or if you had older non-computerized records for which you wanted to generate this data.

The importance of the SPA production records can be highlighted in the following example. The pounds weaned per cow exposed value of 392 lbs reflects all the production losses from breeding one year to weaning the next. If we assume the total cost of production per cow in this operation is \$600, then unit cost of production is \$600/392 (\$1.53/lb of weaned calf) not \$600/469 (\$1.28/lb). Information on pregnancy diagnosis and calving distribution are considered secondary information in this analysis but can be very useful in diagnosing problems and making improvements.

The time requirement for record keeping is often the biggest challenge for most producers. A system must be user friendly and generate the records needed. A good place to start is with overall herd production summary records and grow from there to meet additional needs. Records we keep should be ones that we use to help make management decisions.

To obtain the Excel spreadsheet with the SPA production summary calculations contact [sandyj@ksu.edu](mailto:sandyj@ksu.edu). The Oklahoma State University publication – Cow/calf Production Record Software is at: <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1926/CR-3279web.pdf>

Table 1. 2010 SPA Performance Summary Example

Item	Cows	Heifers	2010 Avg.
Pregnancy rate, %	88.6	82.2	86.0
Pregnancy loss, %	1.9	1.7	1.9
Calving percentage	86.6	80.5	84.1
Calf death loss, %	2.6	8.3	4.2
Calf Crop percentage	84.1	72.2	80.0
<u>Calving Distribution</u>			
% calves born d 1-21	64.5	61.0	63.5
% calves born d 1-42	86.2	94.9	88.6
% calves born d 1-63	100.0	100.0	100.0
% calves born d 63+	0.0	0.0	0.0
<u>Weaning Data</u>			
Avg. weaning wt	465	479	469
Pounds weaned/ exposed female	416	335	392

***“Excessive consumption of even a moderate energy starter diet can cause acidosis in a calf which hasn’t been fully adapted to grain.”***

## **Feedlot Facts on Weaning**

*Chris Reinhardt, feedlot specialist*

### **Rations**

‘Tis the season: weaning time. This month we’ll address on-the-farm weaning rations. The biggest hurdle in getting calves started off right in the fall is the weather. That’s one reason to consider early weaning and subsequent backgrounding. If calves get through the stressful process of weaning from their dam and onto feed ahead of the annual fall 35° rain, they have a good chance at success.

Good quality grass hay is very palatable and a good way to attract bawling calves to the bunk. Don’t use a bale ring; you’ll just need to re-train them to the bunk later. After 1-2 days of hay feeding, limit hay consumption to about 1.0% of body-weight (5 lb for 500 lb calf) and top-dress 3-5 lb/head (for 500 lb calf) of the weaning ration on top of the hay. As calves consume this small amount of mixed diet, begin to further reduce the amount of hay you feed each day and increase the amount of mixed diet. CAUTION: Increase the feed offered per head very gradually. Excessive consumption of even a moderate energy starter diet can cause acidosis in a calf which hasn’t been fully adapted to grain. Increase the ration no more than 2 lbs/head every other day.

If calves are hungry, feed 1-2 lbs of extra hay in the bunk. If stools become loose, you may have increased the ration too rapidly. If this happens, feed an additional 1-2 lbs/head of hay. Healthy calves should consume about 3% of bodyweight by 14 days on feed. Sick calves may take longer to reach this level of consumption. Gauge any changes you make to feed deliveries on cattle behavior and disease status---slower may be better in the long run. You want to make the weaning diet as easy of transition for the calves as possible. You need to deliver energy, protein, vitamins, and minerals, all in a form that they will readily consume.

A standard mixture of 50% ground hay (grass or grass/alfalfa mix), 50% concentrate (including cracked or ground grain and starter supplement) can be fairly easy to blend and manage. However, if byproduct feeds such as wheat midds, soy hulls, distillers grains, or corn gluten feed are available and inexpensive, they can be substituted for a portion of the grain component. Silage should be

limited to 10% or less in the starter ration, but can be increased in later step-up diets. Avoid the temptation to skimp on QUALITY of starter ingredients; also, avoid the temptation to rush the QUANTITY of starter ration you provide for the calves to eat. When calves have consumed 3% of their body weight of the starter ration continuously for 3-5 days, you can move them up to the next step-up ration.

### **Weaning Decisions**

If you’ve decided to sell your calves, you need to determine how to maximize your return on what you’ve already invested. You may have already determined that selling immediately following weaning through conventional market channels is best for you. However, there are alternatives to selling your calves as a “commodity”.

K-State research has demonstrated the potential values of weaning for at least 2 weeks prior to shipment to the auction market or to the feedyard. Other data have shown benefits of weaning at least 45 days prior to shipment and commingling. But, most importantly, you need to ensure that you will get paid for any added investment you make in adding value to your calves.

The term “adding value” only applies if the buyer perceives the same value that the seller does. If the buyers at the sale you use, don’t pay more for pre-conditioned calves, then preconditioning has no value, at that sale. However, other buyers, at other sales, certainly DO value preconditioning, and it’s your prerogative to seek out these buyers to get paid for adding true value.

*continued...See Feedlot Facts on page 4*

## Genetic Selection of Beef Cattle in a DNA World

Technology is changing many things in life, including how we go about selecting cattle. The list of traits producers can use in selection decisions is growing as is the accuracy of the information to be used. Knowing when to start applying some of the technology and when to wait can be confusing. Genetic selection of beef cattle in a DNA world is the focus of a program to be held Dec. 15, 2010, at the AmericaInn in Russell, KS. The program will run from 9:30 am to 3:30 pm and is designed to help producers understand terminology, technology and application of this rapidly growing list of selection tools.

The program will begin with K-State Research and Extension's Jennifer Bormann, assistant professor of beef cattle breeding and genetics, covering basic concepts and terminology that will serve as the foundation for the day's discussion. Dan Moser, also a beef cattle geneticist with KSU, will look at genomic testing and understanding the contribution genomic information can make in selection.

As feed costs rise, so does interest in selection for feed efficiency. Mike MacNeil, animal breeder with USDA ARS in Miles City, MT, will look at the challenges and possible solutions to selection for feed efficiency. Also on program will be a panel of commercial producers to share what they need from seedstock providers to reach their genetic goals.

Registration cost is \$50 for the first person and \$40 for the second person from the same operation if received by Dec. 8th. For more information or to register, please see [www.KSUSBeef.org](http://www.KSUSBeef.org) or contact Sandy Johnson at 785-462-6281 or [sandyj@ksu.edu](mailto:sandyj@ksu.edu).

### *Feedlot Facts ---continued from page 3...*

This may also apply to other aspects of your calf crop. Perhaps your calves have excellent genetics for growth or muscling or marbling. Make sure to seek out the market which will give you the best value for your unique product.

There are certain grocery stores where upon entry, the shopper makes a tacit agreement with the management: "I will pay you more for groceries, but you must provide me with quality." Shoppers don't go to these stores looking to pinch pennies, but instead to buy high quality products with an assurance of sustained value. The same can be said for value-added sales. Buyers don't come to a dedicated preconditioned calf sale looking for the lowest price, but for sustaining value, i.e. calves that will perform.

So, before you make extensive investment in preconditioning, or after you've made a substantial investment in high-value genetics, make sure you find the market that will pay most for your added value.