



# Beef Tips

September 2015

Department of Animal Sciences & Industry

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

## Upcoming Events

### K-State Beef Stocker

#### Field Day

Sept. 24, 2015  
Manhattan, KS  
[www.ksubeef.org](http://www.ksubeef.org)

### Family and Friends Reunion

Oct. 9, 2015

Stanley Stout Livestock Marketing Arena  
Manhattan, KS

<http://www.asi.k-state.edu/familyandfriendsreunion.html>

### Range Beef Cow

#### Symposium

Nov. 17 - 19, 2015  
Loveland, CO

<http://www.rangebeefcow.com/2015>

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## Preparation key for the transition of weaning

*Justin Waggoner, beef systems specialist*

As summer begins to fade, the grass begins to cure, and the grazing season draws to a close, our thoughts begin to shift towards the fall. Weaning spring-born calves is likely one of the most significant events on the fall calendar of most cattle operations. Weaning, without doubt, is one of the most stressful events in the life of a calf. It's generally accepted that we can't completely remove the stress associated with an event, so it is often approached with a "let's get it over with" attitude and weaning typically goes well (or at least we hope it does).

However, we often overlook that weaning is also our opportunity as cattle producers to prepare calves for the next phase of the beef production cycle. Weaning represents a transition and how well we prepare calves for the transition is essential to the outcome. The goal of weaning is to produce a healthy calf that is comfortable without its dam, readily consumes feed and has successfully acclimated to a new environment. The primary barriers to this goal are the stressors experienced by calves during weaning which are: 1) maternal separation 2) moving to a new environment 3) becoming accustomed to unfamiliar feedstuffs and 4) reduced immune function resulting from the aforementioned stressors. There are a number of different management practices that may be implemented on an operation, depending on the resources available to more effectively prepare calves for weaning. A few of these practices are listed below.

**Establish a herd health program.** Producers should consult their veterinarian and develop a herd health program that includes a vaccination program and a treatment plan for calves that become sick. A sound vaccination program prepares calves for disease exposure. While a

treatment plan allows producers to have the supplies and pharmaceuticals on hand to treat illness in newly-weaned calves immediately.

**Don't add additional stressors.** It is well established that stress significantly impacts cattle health and well-being, reduces animal performance and increases disease susceptibility. Castration, dehorning, and branding are all stressors that can add to the stress of weaning. These tasks should be completed well in advanced of weaning (a minimum of 3 weeks is typically recommended).

**Clean the pen.** If calves are going to be weaned in a drylot, remove the previous year's manure and start with a clean pen. Simply put; dust equals increased respiratory pulls. Cleaning the pen prior to weaning minimizes dust and allows pens to drain better should conditions become wet.

**Place feed bunks and water tanks along and perpendicular to fences.** One of the typical behaviors associated with newly weaned calves is fence walking. Fence-walking can be made more productive by placing feed bunks or water tanks along the perimeter of the weaning area. This allows calves to come in contact with feedstuffs and water sources.

**Provide access to the weaning pen or pasture.** When possible, providing cows and calves access to the weaning area for a few days/weeks prior to weaning allows calves to become accustomed to the weaning area with the dam. This reduces the additional stress of an environment change on calves following weaning.

*continued...see Weaning on page 4*

## Tally Time – Measure hay quality and quantity for most efficient use

Sandy Johnson, livestock specialist

Kansas producers have been busy putting up silage and baling hay. Abundant rainfall in much of the state this year has made making hay challenging but also improved volume of hay supplies. Both of these factors, in addition to prices of other commodities, will influence how best to use these forages this year.

Expect that forage that was rained on in the windrow to have lower energy values from the leaching of soluble carbohydrates. If forage was baled when moisture content was too high, heating could result in damaged protein. If this occurred, make sure your forage analysis includes heat damaged protein which is largely unavailable to the animal. In some cases, forage may have become more mature than desired before harvest as producers waited for better haying weather. Both protein and energy will decline as the plant matures. All of these factors point to very little hay in the “average” category this year and forage quality may vary widely. The bottom line is that forage testing before feeding will be very important to achieving desired performance. Obtaining representative samples and having the forage tested helps producers ensure they meet the animal’s nutrient requirements in the most efficient manner.

Obtain forage samples for testing from each field and cutting. As bales are moved from the field for storage, retain the identity of each forage group (field and cutting). Spray paint or surveyors ribbons attached to the twine or netting are some options to mark lots. This segregation is very important in situations where a single forage is a large proportion of a given diet and/or high nitrates may occur. Additionally, segregating forages based on cutting and quality makes it easier to reserve higher quality forages for animals with the greatest nutrient requirements, such as lactating cows. While in most areas of the state nitrates are less likely to be an issue this year, including a nitrate test for forages in the sorghum family is cheap insurance since fertility imbalance can also cause high nitrates. Build a forage inventory record that includes the amount of forage and the forage analysis.

The improved forage supply situation this year has made alfalfa a competitor for the lowest cost source of crude protein (cost per pound of crude protein, dry basis). In the past several years, distillers grains have often been one of the lowest cost sources of protein and that will likely continue. If the cost of protein delivered to the animal from these two sources is similar then there are several other considerations to take into account. Energy concentration of the distillers grains is higher than even in the best alfalfa so it has an advantage if ad-

ditional energy is needed. The higher concentration of protein in distillers grains may be an advantage in some feeding situations. While protein does not need to be fed every day, depending on the total amount of crude protein needed, the frequency of feeding may need to be more often for alfalfa than distillers grains because of the volume. Phosphorus is the most expensive macro mineral to provide and the relatively high content in distillers grains would reduce what was required from the mineral. A tool is available to help evaluate these different supplement characteristics called SUPPCOST. A link to the Excel based tool can be found under the Quick Links on the right hand column of the KSUBeef.org website or on AgManager.info.

The availability of forages this year is a pleasant change for producers who have experienced various degrees of drought the past several years. Quality may be variable but something to feed is always better than nothing. Feed costs still represent the largest portion of production costs so wise use of hay by testing for nutrient content is warranted. In some cases alfalfa may be the lowest cost protein supplement. Table 1 shows the cost per pound of crude protein on a dry basis for alfalfa hay with crude protein values from 14 to 20% . This can be compared to the values in Table 2 which show cost per pound of crude protein of Dried Distillers grains (32% CP, dry basis and 90% dry matter) at various prices.

Table 1. Cost per pound of crude protein, dry matter basis for various protein levels of alfalfa (90% dry matter).

Alfalfa \$/ton	Crude protein, %, dry basis			
	14	16	18	20
60	\$ 0.24	\$ 0.21	\$ 0.19	\$ 0.17
80	\$ 0.32	\$ 0.28	\$ 0.14	\$ 0.22
100	\$ 0.40	\$ 0.35	\$ 0.31	\$ 0.28
120	\$ 0.48	\$ 0.42	\$ 0.37	\$ 0.33
140	\$ 0.56	\$ 0.49	\$ 0.43	\$ 0.39

Table 2. Cost per pound of crude protein (CP), dry matter basis for Dried Distillers Grains (DDG, 32% CP, 90% DM).

DDG, \$/ton	\$/lb CP, dry basis
110	\$ 0.19
130	\$ 0.23
150	\$ 0.26
170	\$ 0.30
190	\$ 0.33

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

## Fall backgrounding and stocker margins

Glynn Tonsor, livestock and meat marketing specialist

As fall weaning approaches it is prudent for cow-calf producers to assess backgrounding prospects and likewise for commercial stocker operators to assess available margins. Each of these decisions are driven by a comparison of expected value of gain (revenue associated with weight increase) and expected cost of gain (expense incurred in adding weight), coupled with the operators views and tolerance for associated risk.

Value of gain (VOG) is largely driven by cattle market fundamentals and can be assessed using available futures market and basis information. Accordingly decision tools available online are useful to gain VOG information. Producers with a specific weight gain and feeding duration in mind can utilize projections available on BeefBasis.com.

As an example, as of August 10th suppose a producer near Salina, KS had 100 steer calves he expected to sell on September 16th weighing 550 lbs at \$225.82/cwt. Further suppose this producer was considering retaining ownership by backgrounding the calves until November 18th when he anticipates they would weigh either 650 or 700 lbs. The Beef-Basis.com resource indicates the projected VOG would be \$71/cwt to \$95/cwt depending on the actual daily gain realized over 64 days.

As noted earlier, it is not enough to understand expected VOG as cost of gain (COG) expectations must also be in hand for ultimate assessment of \$/head and \$/cwt margins for all backgrounding and stocker placement possibilities. Producers with some insight on their own COG can compare those estimates directly with the VOG values from Beef-Basis.com to derive estimated margins. Those producers with less operation-specific information on COG may utilize the [Buy-Sell decision tool](#) available on AgManger.info to identify breakeven prices for alternative COG (and other) assumptions. This resource can be used to shed light on how sensitive expected margins are to adjustments in COG.

Ultimately, all producers are encouraged to utilize the ever-growing set of online resources to gain additional information and make more informed decisions such as whether to place cattle in their backgrounding or stocker operations. Given the historically high value for cattle and the associated financial resources at stake, any marginal gain in information and associated improvements in decision making are inherently more valuable than in the past.

Table 1. Backgrounding and stocker example, Sept. 16th, 550 lb calves in Salina, KS

Sale Weight, lbs	Sale Date	Sell Price	Avg. Daily Gain	Days on Feed	Value of Gain	
					\$/cwt	\$/head
650	11/18/15	\$ 201.94	1.56	64	\$ 70.61	\$ 70.60
700	11/18/15	\$ 197.74	2.34	64	\$ 94.79	\$ 142.17
750	1/20/16	\$ 195.70	1.57	127	\$ 112.88	\$ 225.74
850	1/20/16	\$ 190.98	2.36	127	\$ 127.12	\$ 381.32

Source: <http://www.beefbasis.com/VOG.aspx>

Alternatively consider a stocker operation who is assessing prospects for buying these September weaned calves for placement in her operation with a planned sale date of January 20, 2016. A VOG between \$113/cwt and \$127/cwt may be expected for ending weights in the 750-800 lb range.

This article is from the Aug. 10th issue of "In the Cattle Markets" found at <http://lmic.info/publications/in-the-cattle-markets>. Tonsor is one of the several university contributors to this weekly series.

**“Weaning represents a transition and how well we prepare calves for the transition is essential to the outcome.”**

## **Weaning .... continued from page 1**

*If possible, move the cows not the calves.* Once both cows and calves have become accustomed to the weaning pen or pasture, remove the cows from the area, leaving the calves in an area they are familiar with.

*Provide fenceline contact if practical.* Research indicates that allowing fenceline contact between cows and calves for 7 days after separation reduces behavioral stress and minimizes post-weaning weight loss (Price et al., 2003; <http://jas.fass.org/cgi/content/full/81/1/116>). Fences should be sturdy and tight enough that calves cannot nurse. If fenceline contact is not practical, then cows should be moved to a location where they cannot hear calves.

*Don't become a source of stress.* Sorting cows and calves on weaning day can be difficult especially when facilities are limited or poorly designed. However, sorting cows and calves doesn't have to be difficult. Dr. Joe Stookey, University of Saskatchewan, has an excellent video that demonstrates how easy this process can be. The video may be viewed online at <https://www.youtube.com/watch?v=P4FUE-OrXRw>.

*Help calves adjust to new feedstuffs.* One of the essential transitions a calf has to make during weaning is the transition from mother's milk and grazed forage to grazed forage and supplement, hay and supplement, or a ration containing novel feeds delivered in a bunk. Feeding both cows and calves a small amount of the supplement or weaning ration prior to weaning, in the weaning pen or pasture can be used help acclimate calves to both the feeds and the environment. Additionally, feed intake of

weaned calves is often low (1.0 to 1.5 % of bodyweight, dry basis) immediately following weaning. Calves also have relatively high nutrient requirements. Thus, the weaning diet must be nutrient dense to meet the nutrient requirements of the calves at the expected intakes previously mentioned. Unfortunately, the dry feeds calves are often most familiar with (typically grass hays) are not necessarily nutrient dense.

At the K-State Agriculture Research Center, Hays, KS, a feeding management protocol for weaning calves has been developed that works well for transitioning weaned calves to a total mixed ration. The protocol is summarized in the table below. Essentially, high-quality grass hay and the weaning ration are offered each at 0.5% of the calves' current bodyweight, dry basis, on the day of weaning. The weaning ration is placed in the bottom of the bunk and the hay is placed on top. The amount the weaning ration is steadily increased, while the amount of hay offered remains constant. In addition, on day 4 the hay is placed on the bottom of the bunk. Over a period of 7-10 days the dry intake of the calves is steadily increased and should reach approximately 2.2-2.5% of the calves bodyweight by 10-14 days following weaning.

**Table 1. K-State ARC-Hays weaning feed management protocol\***

<b>Day</b>	<b>Weaning Diet</b>	<b>Hay</b>	<b>Feedstuff Order</b>
1	0.5% bodyweight	0.5% bodyweight	Diet bottom/hay on top
2	0.7% bodyweight	0.5% bodyweight	Diet bottom/hay on top
3	0.9% bodyweight	0.5% bodyweight	Diet bottom/hay on top
4	1.1% bodyweight	0.5% bodyweight	Hay bottom/diet on top
5	1.3% bodyweight	0.5% bodyweight	Hay bottom/diet on top
6	1.5% bodyweight	0.5% bodyweight	Hay bottom/diet on top
7	1.8% bodyweight		
8	—Increase diet by 0.25 to 0.50 lb per calf/day—		

\*Remove any uneaten foodstuffs before feeding current days ration.

## We Need Your Help

The K-State Research and Extension Beef Team values your input and we need feedback that describes the impact of our Extension programs on your operation or business. We have developed a short survey that we ask you to complete based on your experiences with Beef Extension programs.

The survey is available online or by using the QR code below. The responses will be kept totally confidential and will not be tied to individual persons or operations. We encourage you to complete this evaluation at your earliest convenience. If you receive a paper copy of the survey in the mail from a county or district office you only need to complete one form, either paper or online.

Our overall goal in this effort is to improve our Extension programs and their relevance to Kansas producers. Your input will help us serve you better.

You can find a link to the survey on the [www.KSUBeef.org](http://www.KSUBeef.org) page or follow this link [https://kstate.qualtrics.com/SE/?SID=SV\\_7VeApRB349BRBE9](https://kstate.qualtrics.com/SE/?SID=SV_7VeApRB349BRBE9). Thanks for your help and cooperation in this manner!



## 2015 Range Beef Cow Symposium

The 2015 Range Beef Cow Symposium (RBCS), will be held Nov. 16-19, 2015, at The Ranch, an event center on the Larimer County Fairgrounds in Loveland, Colo.

Details including the schedule, registration and hotel information are available online at <http://www.rangebeefcow.com/2015/>.

The Range Beef Cow Symposium is sponsored by the Cooperative Extension Service and animal science departments of the University of Wyoming, South Dakota State University, Colorado State University and the University of Nebraska. The biennial symposium has a reputation of being an excellent educational program, offering practical production management information since the first symposium in Chadron, Neb., in 1969.

The event rotates between Colorado, western Nebraska, western South Dakota and Wyoming. Focusing on beef production issues in the Western states, the symposium regularly attracts 800 -1,200 attendees and more than 80 agribusiness booth vendors for the three-day event.

The Bull Pen Sessions are one of the most popular aspects of the symposium. This is a time for attendees to have considerable discussion with the speakers and an opportunity to ask specific questions. The majority of symposium speakers on Tuesday and Wednesday will be present in the evening following their presentations.

Commercial displays representing many segments of the industry are an integral part of the symposium. Exhibitors will be present to introduce new products and discuss their product lineups.

*Angus Journal* provides extensive coverage of the current meeting at [RangeBeefCow.com](http://RangeBeefCow.com) and has a complete archive of past meetings (2003, 2005, 2007, 2009, 2011 and 2013 events). During and after the conference, *Angus Journal* will post summaries of the sessions, along with the Power-Point presentations and proceedings, if available, and video coverage as provided by the American Angus Association public relations team. Go to the Newsroom page for coverage.

For more information about the symposium, contact Kevin R. Pond at 970-491-7295 or Jason Ahola at 605-394-2236, or [jason.ahola@colostate.edu](mailto:jason.ahola@colostate.edu).

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