EXTENSION ANIMAL SCIENCES AND INDUSTRY

BEEF TIPS

December 1995 Cooperative Extension Service Kansas State University

PLAN TO ATTEND

FOCUS ON

BASICS OF GOOD MANAGEMENT

Cow–Calf Conference VI

Wednesday, January 17, 1996 Pratt, Kansas

Thursday, January 18, 1996 Winfield, Kansas

Look inside for complete program

Alternative Beef Cow Supplementation Strategies

Split Feeding by Body Condition

For years, progressive cow-calf producers have recognized the important relationship between the physical appearance of their cowherd and reproductive efficiency. Body condition scoring formalizes this time-practiced procedure by placing a quantitative score on the relative degree of fatness or energy reserves that can be observed or palpated. When exercised on a regular basis, body condition scoring can be used by cow-calf producers to monitor the effectiveness of nutrition programs as environmental conditions and nutrient needs change.

Separating the cowherd by body condition and feeding each group according to specific requirements is one "alternative" supplementation strategy that will significantly increase the efficiency of a supplementation program. Unless there has been far-reaching environmental impact on grass availability (drought) or the presence of disease, most prime-aged cows should be in good flesh at weaning. In many instances, cows that are a body condition score of 4 or less at weaning are young cows pregnant with their second calf and pregnant, aged cows, or highly productive cows mismatched to the environment. Logically, this latter group should receive a higher plane of nutrition relative to their better-conditioned peers.

The beauty of this supplementation strategy is that nutritional needs can be better targeted, thereby allowing the producer the option of using a variety of energy-containing feedstuffs and/or better quality forage to realize weight gains necessary to improve body condition, while feeding the cows with abundant flesh (body condition = 5 or greater) with lower quality forages (with adequate supplement) to maintain condition through calving. Moreover, separating the lighter, more timid cows from the domineering presence of boss cows ensures they are able to eat what is intended for them. In order to ensure cows and heifers are at least a body condition score of 5 and 6, respectively, at calving, this strategy must be implemented no later than 100 days prior to calving. Waiting too long to take action to improve body condition is cost prohibitive and, in some cases, impossible.

On an annual basis, cow-calf producers must gamble with the unpredictable occurrence of inclement calving season weather conditions. In this light, the split-feeding supplementation strategy should be regarded as an insurance policy against the potential occurrence of harsh weather and its effects on calf survivability and long-term cowherd productivity. Producers should recognize that calving through rebreeding is the most critical period in the beef cow's production cycle, with energy requirements at their peak. For example, the average cow needs approximately 40 percent more energy and over 60 percent more protein during this period than when dry. Typically, the cow loses approximately 120 to 140 pounds at calving which should be partially regained 60 to 80 days after calving. Furthermore, she has to produce adequate milk, undergo uterine involution and meet her maintenance requirements.

Using a variety of industry and research findings, the following example illustrated in Table 1 was developed to show the economic benefits of split-feeding. For calf survivability and conception rates, the differences shown in this example between cows calving in either a body condition score of 4 or 5 would be assumed to occur under more moderate calving season weather conditions. In this example, the

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Alternative Supplementation Strategies, *continued*

anticipated ROI would be approximately 120 percent in the example cited. A reminder of the harsh 1992-93 winter many Kansas cow-calf producers experienced first-hand exemplifies the dramatic effects severe calving season weather has on calf survivability and cow conception rates. If the identical example discussed above is used with greater differences for calf survivability (85 vs 95 percent) and conception rates (75 vs 90 percent) for body condition 4 and 5 cows, respectively, producers would potentially realize a higher ROI as a result of separating their herd and feeding the body condition 4 cows correctly 100 days before calving.

On the downside, there are factors cow-calf producers must ponder if considering split-feeding as an alternative supplementation strategy. First, this strategy lends itself more to the producer who has control of at least 100 cows. Splitting a cowherd into feeding groups containing less than 40 head will not effectively use labor and equipment. Secondly, split-feeding the cowherd into multiple groups requires additional pasture or fencing and water that must be conveniently located during the winter months. Nevertheless, the economic potential illustrated in Table 1 demands consideration.

Dale A. Blasi, Extension Specialist, Livestock Production, South Central

Table 1.
Economic Benefits of Feeding Beef Cows by Body Condition

The following example (based on industry and research findings) was developed to illustrate the economic advantages of sorting and feeding cattle by body condition score. The following assumptions were made:

1. ***Cowherd age distribution (per 100 cows) based on North Dakota State University CHAPS records (Helmuth, 1995: 1987-1991)***
   A. 63 head or 63% are prime aged cows averaging body condition 5.
   B. 37 head or 37% (32 young and 5 old cows) averaging body condition 4.
2. ***Dormant native grass, prairie hay, grain and 38% commercial protein supplement are feed sources used.***

	Feed As One Group Feed the entire herd as one group 100 days prior to calving with the primary goal of targeting the feeding level to maintain BCS (body condition score) 5 despite the fact 37 head are BCS 4.			**Split Feed** Split the herd based on body condition score and feed differently 100 days prior to calving. Feed the 63 head of prime-aged females to maintain body condition 5 and feed the remaining 37 head (32 head young and 5 head older cows) to improve 1 BCS (body condition score 4 to 5)			
Item	**Body Condition**			**Body Condition**			**Dollars Difference**
	Thin (4)		**Good (5)**	**Thin (4)**		**Good (5)**	
Year 1							
100-day pre-calving BCS	4		5	4		5	
Calving body condition	4		5	5		5	
No. of cows/age group	37		63	37		63	
Feed Cost (100 days)		$6,739			$7,364		($625)
Calf survivability rate, %	92		97	97		97	
Total weaned calves		95			97		$770[a]
Year 2							
Estimated pregnancy, %	80		95	95		95	
Total no. pregnant cows		90			95		$1,000[a]
Additional weaning wt.					879 lbs.		$483[b]
Additional labor required					50 hrs.		(400)[c]
Net return/100 cows							$1,228
Net return per thin cow							$33.19

[a]550-lb. calf sold @ $70/cwt.
[b]Calves born 10 days earlier × 2.5 lbs. weight/day of age @ $55/cwt.
[c]One additional ½ hour/day labor @ $8/hour (includes benefits).

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Cow–Calf Conference VI

Wednesday, January 17, 1996—Pratt, KS
Thursday, January 18, 1996—Winfield, KS

1:00 ■ **Registration and Trade Show**
2:00 ■ **Welcoming Remarks**
Marvin Reynolds, Extension Agent, Agriculture, Pratt County
Chris Baker, Extension Agent, Agriculture, Cowley County
2:05 ■ **Where are the Opportunities to Improve Economic Efficiency?**
Tom Brink, Cattle-Fax, Denver, Colorado
2:45 ■ **Genetics That Will be Profitable in the Future**
Ron Bolze, Jr., Department of Animal Sciences and Industry, Kansas State University, Northwest Area
3:30 ■ **Break and Trade Show**
4:00 ■ **Herd Health Programs That Fit the Profit-Minded Producer**
Mark Spire, Food Animal Health and Management Center, Kansas State University, Manhattan
4:45 ■ **The Essentials of Cow–Calf Nutrition**
Ivan Rush, University of Nebraska, Scottsbluff, Nebraska
5:30 ■ **Steak Dinner and Trade Show**
7:00 ■ **Management Points That Affect Profitability—A Commercial Rancher's Perspective**
Connee Quinn, Elanco Animal Health, Chadron, Nebraska

PROGRAM

Steps to adding value

(First in a 5-part series that will look at how we can add value to calves or products produced at a cow-calf operation.)

1. Partial or Full Retained Ownership of the Calf Crop

More cow-calf producers are taking advantage of retained ownership to increase the value of calves. This allows producers to capitalize on superior genetics pre-and post-weaning.

There are misconceptions about retained ownership. The concept seems to imply that a calf will be retained from the time it's born until it's sold for slaughter. In Kansas and many areas of the United States, retained ownership means adding 200 to 300 pounds of weight to the calf prior to the animal being sold to the feedlots. Data indicates that over 50 percent of Kansas cow-calf producers are already doing this as a way of increasing the value of their calves and utilizing homegrown forages and grains.

Another misconception is that when the calves are retained in a program from birth to slaughter, the cow-calf producer will be the sole owner of these calves. Many cow-calf producers currently retaining ownership are in a partnership or partial ownership of the calves as they go through the feedlot. Currently, many feedlots are in a position to partially finance or co-own a portion of the calf crop while they are being fed.

Is retained ownership profitable and does it really add value? This is the most relevant question in terms of deciding whether to retain ownership or not. An excellent Cattle-Fax report recently summarized, from a historical perspective, whether it's been profitable to retain ownership. Some of the results of the summary are encouraging, others would lead one to be cautious in retaining ownership. If, you look at the program of retaining ownership of the calves through a backgrounding program with the intent that 300 pounds are added and the calves are sold in March, the historical perspective says the profitability of this concept is not good. The Cattle-Fax data shows that only in five of 15 years has this been profitable, and the average return over that time was an extra $2/head above the value of the calf at weaning time. However, in recent years (the last five) the Cattle-Fax data indicates that an average of $57.71/calf of added value could have been added by following this approach. Part of this is explained by the distinct seasonality that has been present in both stocker and fed cattle prices in the past five years. The table to the right illustrates a price index from 1980 to 1994, but in particular, highlights how much this has been accentuated for the March-April period the last five years, as compared to the depressed prices during the summer months.

In contrast to backgrounding, because of this seasonality in the market price for nine out of the last 10 years, it has been profitable to retain ownership of calves from the cow to slaughter if they go directly into the feedlot and are targeted for market in April. Likewise, with heifers it's been very profitable (100 percent of the time the past 10 years). In the past 10 years, placing a 575-pound steer calf in the feedlot in October (targeting the April market) has resulted in a $100.29 advantage in added calf value over selling at weaning time. In contrast, steers or heifers targeted for sale as fat cattle in June-August have not been nearly as profitable.

Practice risk management. An underused opportunity with cattle, particularly in recent years, has been the use of risk management. Fluctuations exists in the price of cattle during the year, and opportunities have been present in recent years to practice risk management as a way of further adding value to cattle sold.

2. Adding Value to the Heifer Calf Portion of the Calf Crop

Develop a market and sell as replacement heifers. Many cow-calf producers have failed to market the superior genetics present in their heifers in the form of replacement heifers. As the industry moves to more contractual arrangements, the market for replacement heifers will grow. This will require the development of new marketing skills by cow-calf producers.

The potential of selling replacement heifers can be done several ways. They can be sold: to operations that are in the heifer development business; to private individuals as replacement heifers at weaning; as bred heifers; and in extreme cases, as pairs to cow-calf producers at the start of the grazing season. Another way to add value to bred heifers would be by using artificial insemination. In the future, we may even see heifers ultrasounded, and the sex of the embryo determined at 55 to 70 days of age with this information used as part of the marketing package.

Utilize single calf heifer program. One of the most profitable programs greatly underused by the cattle industry is breeding and calving a heifer, separating the calf at 50 to 80 days, putting the heifer on full feed, and selling her as a potential Choice grading heifer. The calf is the added "coupon" in this program. Economic analysis of this program has shown that in 18 of the last 20 years this would have been a profitable management practice. Though it is extremely labor intensive, it is a production program that can certainly be profitable.

Seasonal Fed Cattle Prices (80-94)

	Jan.	March	April	July	Sept.	Dec.
Index	100.0	102.6	103.8	98.0	96.9	99.9
Last 5 Years		106.6			95.5	

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Kansas Feedlot Performance and Feed Cost Summary*

Gerry Kuhl, Extension Feedlot Specialist, Kansas State University

October, 1995 Closeout Information**

Sex/No.	Final Weight	Avg. Days on Feed	Avg. Daily Gain	Feed/Gain (Dry Basis)	% Death Loss	Avg. Cost of Gain/Cwt.	Projected Cost of Nov.-Placed Cattle
Steers: 18,204	1,292	143 (126-158)	3.41 (3.20-3.66)	6.19 (5.86-6.48)	0.71	$56.46 (54.25-58.40)	$62.00 (58.00-67.00)
Heifers: 17,138	1,138	135 (105-152)	3.03 (2.76-3.50)	6.32 (5.89-6.77)	0.55	$58.49 (55.02-61.81)	$64.57 (60.00-69.00)

Current Feed Inventory Costs: November 15 Avg. Prices		Range	No. Yards
Corn	$ 3.38/bu	$ 3.32–3.50	7
Milo	$ 5.35/cwt	$ 5.35–5.35	1
Ground Alfalfa Hay	$93.00/ton	$78.00–110.00	6

*Appreciation is expressed to these Kansas Feedyards: Brookover Feed Yards, Brookover Ranch Feedyards, Decatur County Feed Yard, Fairleigh Feed Yards, Kearny County Feeders, Pawnee Valley Feeders, and Supreme Feeders.

**Closeout figures are the means of individual feedyard monthly averages and include feed, yardage, processing, medication, death loss and usually sold FOB the feedlot with a 4% pencil shrink. Interest charges are not normally included.

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