Ridin' Herd

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Creep-feeding beef calves

There are three possible strategies that can be used to increase calf weaning weight if weaning date is not changed: increase milk production of the dam, increase forage consumption of the calf, or provide supplemental feed to the calf. Management practices exist to increase standing forage quality, but management of forages for the calf only can be difficult. Likewise, increasing milk production of the dam increases the nutrient requirements of the dam and reduces the number of cows that can graze a fixed nutrient resource base and possibly result in a need for supplemental feed.

When, what to creep

Creep-feeding studies consistently have shown an increase in weaning weight. Creep-feeding of beef calves usually is reserved for certain market/management situations such as high calf prices, low feed prices, drylot operations, fall-born calves and purebred bull calves. Because data suggest non-creep-fed calves catch up with their creep-fed mates postweaning, the greatest return is realized if calves are sold at weaning.

Under severe drought conditions, creep-feeding can be used to sustain a minimal level of growth on calves and a level of gain on heifer calves to ensure sufficient size to develop them as replacements for the next year. One risk of creep-feeding is getting calves too fat, resulting in price discounts or lowered lifetime milk production of heifer calves that are developed to become replacements for the cow herd.

During drought conditions when cows are nursing calves, instead of creep-feeding calves to sustain a targeted weight gain, producers should consider early weaning.

Most commercially available creep rations are pelleted and are highly palatable. For creep rations that are not pelleted, the ration must be dust-free and uniformly mixed so ration ingredients cannot be sorted out by the calf. If liquid feed ingredients are added to the creep feed, they must be included at a level that doesn't impede flow of the creep feed through the feeder.

Rolling or coarsely cracking grains rather than fine grinding helps reduce dust and will also reduce rumen upsets of home-mixed creep diets. Simple mixtures of grain and protein supplement make satisfactory creep rations.

Pelleted creep rations are handled easily and will have less feed waste. Bulky feeds such as oats or bran should be included to protect against overeating. Both ground oats and bran are good feeds for getting calves started on feed.

Ionophores are feed additives that increase feed efficiency and average daily gain (ADG). These compounds also can be used to control coccidiosis.

Table 1: Example calculations to determine the value of creep-feeding[a]

		1 No creep	2 Creep	
A.	Weaning weight, lb.	500	565	
B.	Amount of creep feed fed per calf,[b] lb.		520	
C.	Calf price, $ per lb.	$1.35	$1.29	
D.	Calf value, $	$675	$728.85	A x C
E.	Value of added weight, $ per lb.		$0.828	(D2-D1)/(A2-A1)
F.	Value of added gain, $		$53.82	(A2-A1) x E2
G.	Creep feed price per ton delivered		$200	
H.	Creep feed price per pound delivered		$0.10	G2/2,000 lb.
I.	Cost of creep fed, $ per calf		$52.00	B2 x H2
J.	Return per head from creep-feeding		$1.82	F2 – I2

[a]Calculation costs include feed costs and do not include feeder, equipment or labor costs.

[b]Used an 8:1 conversion of pounds of feed per pound of gain, so 8 x 65 lb. of added gain = 520 lb. of creep feed consumed.

Types of creep feeds

Producers use two types of creep feeds — energy creep feeds (most commonly used) and protein creep feeds.

Calves that are fed the high-protein creep will eat less feed, have better feed conversions, and gain less total weight during the creep-feeding period compared to calves fed high-energy creeps. Data suggest feed conversion for high-protein creep feeds fed to calves averages about 4:1, meaning it took 4 pounds (lb.) of feed dry matter to produce a pound of gain.

Data suggest feed conversion varies a lot for calves fed high-energy creep feeds. After removing the highs and lows for feed conversions for the high-energy creep, feed-to-gain is about 8:1 (range: 15:1 to 6.8:1), meaning 8 lb. of creep feed on a dry-matter basis per pound of gain by the calf. ADG for calves fed a high-energy creep feed is between 0.20 lb. and 0.30 lb. greater compared to calves that are not creep-fed.

The wide variation in efficiency of feed use from creep-feeding may be due to the following management factors:

- ►waste of feed due to wind, improper feeder design or adjustment;
- ►location of the feeder, which affects frequency of eating and total feed intake;
- ►the creep feeder is not secure and cows are able to consume some of the feed; and

►overconsumption of high-energy creep feed.

Postweaning, carcass performance

Generally, the greatest benefit of creep-feeding is realized if calves are sold at weaning. Data conflict as to whether the added weight achieved using creep-feeding is still realized at the end of the finishing period. Creep-feeding will benefit calves that will go directly to the feedlot after weaning or that will be sold within a few months of weaning. Creep-fed calves will know how to eat out of a bunk, and there will be less stress for these calves and, therefore, less morbidity.

Finished calves that have been creep-fed can have increased marbling at the time of harvest. Research suggests marbling genes are influenced early in the life of the calf. Researchers have demonstrated this response in calves that have been creep-fed for at least 80 days. In order to retain the response of creep-feeding on marbling, calves need to be placed in the feedlot after weaning and fed a grain-based diet.

Starting calves on creep

Calves will often nibble at grain when they are about 3 weeks of age, but they will not eat appreciable amounts before they are 6 to 8 weeks old. If cows are grazing lush pasture and milking well, it is often difficult to get calves started on creep feed. Calves can be encouraged to start eating creep more quickly by:

►including palatable feed such as ground oats, bran, cottonseed hulls and molasses;
►using an older calf that is already eating; and
►locating the feeder close to where cattle frequently congregate (water, shade, etc.).

Market price of heavier, fleshier feeder calves is usually lower than for those in thinner condition. Net return calculations only consider the cost of the creep feed. Cost of feeders, equipment and labor should be considered before initiating a creep-feeding program.

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Editor's Note: *"Ridin' Herd" is a monthly column written by Rick Rasby, professor of animal science at the University of Nebraska. The column focuses on beef nutrition and its effects on performance and profitability.*