

# MU Guide

PUBLISHED BY UNIVERSITY EXTENSION, UNIVERSITY OF MISSOURI-COLUMBIA

## Creep Feeding Beef Calves

David L. Lalman,  
Department of Animal Sciences

Creep feeding is the feeding of concentrates to suckling calves to supplement their mothers' milk. Creep-fed calves usually are heavier and may be fatter at weaning.

Milk provides the nutrients suckling calves need until they are about three months old. From three months until weaning, milk supplies half or less of the nutrients a calf needs to gain 1.5 pounds or more per day.

Does creep feeding pay? There is no simple answer. A number of production conditions and the market for calves must be considered before deciding whether creep feeding is likely to pay.

### When is creep feeding most likely to pay?

- **In purebred herds where you want heavy weaning weight and extra bloom on calves.**
- When calves were born in the fall or early winter. Creep feeding usually will increase the weaning weight of calves born in fall more than those born in the spring, even if fall-calving cows are fed well throughout the winter.
- **When pastures are poor for the cow herd during the suckling period.** Pasture forage often is scant and of low quality during July and August unless legumes, warm-season grasses or Sudan grass hybrids are available. These are the months when creep feeding is of most benefit on many farms.
- **In drought years.** Creep feeding increases weaning weights most in drought years when pastures are below normal.
- **When there are many first-calf heifers or cows over 11 years of age in a herd.**
- **In herds that have inherently poor milkers.** Creep feeding is more likely to be profitable for steer calves than for heifer calves if they will be sold as weanling feeders, since steer calves sell for more per pound as feeders. In University of

Missouri trials, creep feeding increased the weaning weight of bull calves more than heifer calves born in the fall.

- **When the price discount is small for heavier-weight feeder calves.** This happens occasionally when feeder calf prices are low and grain prices are high.
- **When grain prices are low in relation to feeder calf prices.**
- **When large-frame calves are to be put on a high-energy feed at weaning and finished for slaughter.** Creep feeding for 90 days before weaning tends to decrease the time and weight at which these calves will grade choice.

### When is creep feeding not likely to pay?

- **When calves are to be pastured or wintered on roughage after weaning to gain before they are finished for slaughter.** The heavier weaning weight of the creep-fed calves is largely offset in this period because of faster gains by the lighter-weight, non-creep-fed calves. In a University of Missouri study, calves born in the fall and creep fed in winter had lost half their extra gain advantage from creep feeding after they were pastured the following summer without creep feed.
- **If grain feeding will continue for more than 90 days after weaning.** The fatter creep-fed calves make slower and less efficient gains in the feedlot. This may not apply to large-frame calves whose extra gain from creep feeding is mostly growth.
- **If pasture is excellent for the cow herd throughout the summer and when creep-fed calves dropped in late winter or early spring are to be sold for feeders.** When pastures are good, creep feeding gives less increase in weaning weight, and a unit of gain requires more feed.

The selling price per pound for heavier creep-fed calves will likely need to be as high as the price for the lighter-weight, non-creep-fed calves to make creep feeding pay when pastures are this good.

Creep feeding potential replacement heifers can reduce their milking ability as cows. This generally applies to heifers fed ad libitum creep feed for 90 days or longer. Consider a limited creep feeding program for replacement heifers.

Another criticism of creep feeding is that it masks the differences in the milking abilities of cows in a herd. This is detrimental to selection for weaning weight to increase the milking capacity of a herd.

## Expect extra gain

Calves full-fed a creep ration usually will weigh 40 to 70 pounds more than non-creep-fed calves at seven to eight months of age. A summary of many tests shows extra gains ranging from 20 to 125 pounds, with an average of about 60 pounds. Four years of work at the University of Missouri showed creep feeding increased the weaning weight of spring calves by 57 pounds and fall calves by 74 pounds.

## Extra feed

Experimental work has shown that creep-fed calves given unlimited access to conventional creep rations (Table 1) need from 500 to 1,500 pounds of grain to put on 100 pounds of extra weaning weight. Expect to use from 700 to 1,000 pounds of feed for each 100 pounds of additional weaning weight.

When pastures are good, the increased weight from creep feeding is not put on as efficiently as you might expect for such a young animal. This is because the creep-fed calf does not graze as readily as non-creep-fed calves. The calf substitutes creep feed for grass. Also, much of the additional gain is fat when the calves are creep fed on good pasture. Fat gain requires more feed than growth gain.

If 900 pounds of feed are needed for each 100 pounds of extra weaning weight and the feed costs 6 cents a pound, the cost of the feed for the weight increase is 54 cents a pound.

The cost of additional gain often is near the selling price for feeders. This is why you need a high price per pound for the heavier creep-fed calves to make creep feeding pay. A decrease of 3 to 5 cents a pound in the selling price of a 575-pound calf in comparison to a 500- to 525-pound calf can offset the net profit made on the 50 to 75 pounds added by creep feeding. A wide variety of ingredients can be used successfully in full-fed creep rations. Table 1 gives specifications for several creep ration options.

## Limited creep feeding

Creep feeding is most likely to be profitable for spring calves from July through October when grass

pastures become mature and decline in protein and energy. Limit-feeding a high-protein ration for 60 to 90 days starting in July, rather than full-feeding a high-energy ration, has been used to better meet the calf's nutrient requirements.

The ration has been limited with plain white salt to reduce fattening of the calf and to lessen the amount of creep feed needed for extra gain. Limiting a high-protein creep (20–44%) works best when forage quantity is adequate but quality is low. A low-protein creep (16–20%) is better when grass is short and energy is inadequate for the calf.

Soybean or cottonseed meal alone has been limited to about 1 pound per head daily in some studies.

In a summary of 11 trials, calves averaged 0.86 pound per head daily consumption of limited supplements ranging from 34 to 41 percent in crude protein. They gained 0.28 pound more per head daily than calves not receiving the supplements, requiring 3.07 pounds of creep feed per pound of extra gain.

Two to 8 percent salt in the supplement appears necessary to control intake at 1 to 3 pounds per head daily. The lower level of intake would be ideal for a 40 percent supplement, and the higher level may be desirable for a 16 percent crude protein supplement used for larger amounts of supplemental energy.

A recommended starting procedure is as follows:

1. Use very low salt levels of 0 to 2 percent until the calves consume 1 to 2 pounds per head daily of the supplement. The initial creep must be very palatable to encourage intake. Adding 3 to 5 percent molasses to the mixture is one way to encourage consumption.

2. Frequently monitor consumption of the creep and adjust salt to get the desired intake (1 to 3 pounds). It may take from 5 to 10 percent salt to keep intake at the desired level when calves become accustomed to the feed.

3. Use a meal form of supplement; salt levels are easier to adjust in meal than in pelleted supplements.

## Creep grazing

Another method to improve the diet of suckling calves is to give them access to a higher-quality forage than is available to their dams. Alfalfa, other legumes or summer annuals can be used. Another method is to allow calves to graze ahead of cows in a rotational grazing system.

## Creep feeder

Plans for the construction of creep feeders for calves are available from your county extension specialist. The feeder needs a roof to protect the feed from rain and should hold a week's supply of feed. Allow one linear foot of trough space for each two to three calves. Six- to seven-month-old calves in a pro-

**Table 1. Creep rations for calves (in pounds).**

Rations	1	2	3	4	5*	6*
Ground ear corn	—	—	—	797	—	—
Ground shelled corn or milo	476	343	496	—	127	93
Ground oats	300	400	—	—	—	—
Dry molasses	—	100	100	—	—	—
Dehydrated alfalfa meal (17%)	100	—	—	—	—	—
Soybean meal	100	135	185	175	—	885
Cottonseed meal	—	—	—	—	853	—
Cottonseed hulls	—	—	200	—	—	—
Ground limestone	6	5	4	8	20	8
Dicalcium phosphate	9	10	11	11	—	14
Potassium carbonate	5	3	—	5	—	—
Trace mineralized salt	4	4	4	4	—	—
Vitamin A (5,000 I.U.)	x	x	x	x	x	x
<b>Total</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>
<b>Analyses</b>						
Crude protein, %	13.9	14.2	13.9	14.0	36.0	40.0
Total digestible nutrients, %	70.0	71.0	67.3	70.0	68.5	73.4
Crude fiber, %	7.3	5.9	10.6	7.8	10.5	5.7
Calcium, %	0.6	0.6	0.6	0.6	0.85	0.86
Phosphorus, %	0.5	0.5	0.5	0.5	0.85	0.84
Potassium, %	1.0	1.0	1.0	1.0	1.0	1.0

\*Limit-fed at 1 to 1.5 lbs. daily.

gram of unlimited access to feed will eat 6 to 7 pounds of feed daily. Thus a feeder that is 8 feet long and feeds from both sides has 16 feet of linear trough space and can handle 30 to 50 calves. It should have a 30- to 50-bushel capacity.

The feeder should be portable. Painting it white seems to help the calves find it in a green pasture if the feeder is moved often with rotation grazing. If a fence is used around the feeder to keep cows out, the entrance for the calves should be 2 feet wide by 3 feet high. Feeders that are not enclosed by a fence should be made strong enough to prevent cows from tearing them up.

## Location

Locate the creep near water or in the shade where cattle loaf frequently. Place mineral feeders and back-rubbers for cows near the creep feeders. A suckling calf will not travel far from its mother to eat even the most palatable creep feed. Creep feeding usually is not successful in large pastures where there are several watering places.

## Rations

Try to service the feeder daily. See that the feed is moving down into the trough properly. Remove any damp or moldy feeds and do not let the trough get empty. Moldy or damp feed can cause calves to go off feed, and they are likely to founder when they come

back on feed. The same is true if the trough is allowed to remain empty for a time.

A full-fed creep ration (see Table 1) should contain 14 to 16 percent crude protein, 65 to 72 percent total digestible nutrients, 7 to 10 percent crude fiber, 0.6 percent calcium, 0.5 percent phosphorus, 1 percent potassium and 3,000 to 5,000 international units of vitamin A per pound (as fed).

Creep rations with more fiber than that supplied by corn usually are better, especially in purebred herds. More fiber helps protect against founder. Soybean hulls, corn gluten feed, wheat middlings, ground ear corn, oats, wheat bran or alfalfa meal can be substituted for part of the ground shelled corn to add bulk. Suckling calves make efficient use of whole oats and whole shelled corn. Whole oats alone were a satisfactory creep ration for calves in North Dakota State University trials.

Ground milo can be substituted pound for pound for shelled corn. Ground wheat can replace up to 50 percent of the total grain in a creep ration. Soybean hulls, corn gluten feed and other byproducts of the milling and brewing industry are often economical feeds for creep rations.

Cottonseed meal can replace soybean meal in these creep rations. It will supply more fiber and phosphorus than soybean meal.

Feeding a good-quality legume hay as well as grain in a creep ration until the herd goes on pasture is desirable for fall or winter calves.

## Additives

Including growth-promoting ionophores such as Bovatec® or Rumensin® in a creep ration can improve gain and creep conversion efficiency. They should be added at 50 to 100 mg per pound of a limit-fed creep to supply 75 to 150 mg per head daily. Add enough to a full-fed supplement to supply an equivalent amount of the additive per head daily.



**OUTREACH & EXTENSION**  
**UNIVERSITY OF MISSOURI**  
**COLUMBIA**

■ Issued in furtherance of Cooperative Extension Work Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. Ronald J. Turner, Director, Cooperative Extension, University of Missouri and Lincoln University, Columbia, MO 65211. ■ University Extension does not discriminate on the basis of race, color, national origin, sex, religion, age, disability or status as a Vietnam era veteran in employment or programs. ■ If you have special needs as addressed by the Americans with Disabilities Act and need this publication in an alternative format, write ADA Officer, Extension and Agricultural Information, 1-98 Agriculture Building, Columbia, MO 65211, or call (314) 882-8237. Reasonable efforts will be made to accommodate your special needs.