

Creep Management of Beef Calves

► Creep feeding is a management practice that provides supplemental nutrition as feed or forage to nursing beef calves. This publication discusses management considerations for both creep feeding and creep grazing practices in Alabama.

Creep Feeding

In practice, calf supplementation with feedstuffs is Alabama's most used form of creep management. Creep feeding is often done using a self-feeder or a creep gate in the fence with access to a small paddock where feed is provided.

Creep feeding may provide additional nutrients in the animal's diet to support growth. A lactating beef cow can supply about 50 percent of the nutrients a three- to four-month-old calf needs to maximize growth. Depending on the quality of the provided nutrition program, forage may not be able to make up the other half of calf nutrient needs. Thus, producers often start creep feeding around 100 days postpartum. This nutrient deficiency is more prevalent in drought years when pasture forage availability is low or when cow-calf pairs are provided low-quality forage-based diets (i.e., late summer grazing or low-quality hay during the winter). Creep feeding may help make up some of these deficiencies from forage or environmental conditions. One common assumption about creep feeding is that it will take some pressure off the nutrient demands of the cow. This is because of the thought that by feeding the calf, we are reducing some of the milk consumption from the cow. If we reduce milk consumption from the cow, we reduce some of her energy needs to support lactation. However, research studies that have tracked cow weight change and calf milk consumption have reported that calves will still consume all of the milk available, whether creep fed or not. Thus, creep feeding does not help the cow from a nutritional standpoint. Creep feeding can mask cow milk production capacity because creep-fed calves are often more uniform in weaning weights than non-creep-fed calves.

Creep feedstuffs can be mixed on the farm or purchased. Creep feeds often consist of high-energy grain or byproduct-based blends, which may include ingredients such as corn, oats, soybean hulls, or corn-gluten feed. Processed grains (cracked corn, rolled oats, etc.) have increased digestibility and may blend well with other feed ingredients. A high-protein feed ingredient like



cottonseed meal, soybean meal, or dried distillers' grain may be blended with these feeds to increase the feed protein value needed to support calf growth. Producers may consider using a high-protein feed with an intake limiter, such as salt, to control consumption to a target level. Research has demonstrated that limit-fed high-protein feeds may increase forage intake and digestibility and support increased calf performance. Find more information on limit-fed rations in Extension publication ANR-2669, "Self-Limiting Feeds for Beef Cattle," at www.aces.edu. Strategic creep feeder placement near water sources, shade, or mineral feeders may help calves access feed.

If free-choice feed is provided in a creep feeder, calves will often consume more than the recommended feeding rate in a hand-feeding scenario. This increases the feed-to-gain ratio. A review of 40 creep feeding research trials reported feed conversion ranging from 3:1 to 20:1. An average ratio is 9:1. Generally, the greater the plane of cow nutrition, the worse the conversion is for feed-to-gain. If cows are provided a good quality forage-based diet to meet nutritional needs,

the calf has access to both milk from the dam and the forage diet provided to the cow. They may eat creep feed, but their gain primarily comes from the nutrients provided by the cow and the forage diet provided to the cow-calf pairs.

Creep feeding has been shown to add an average of 50 pounds per head. Table 1 reports the differences in the cost per pound of gain with varying feed cost and feed efficiency rates. With feed costs of \$250 per ton and a feed efficiency of 8 pounds of feed per pound of gain, the cost is \$1.00 per pound of gain. With lower

feed costs and more efficient gains, the cost of gain per pound is lower. Higher cost of gains comes with higher feed costs and less efficient gains.

Knowing the cost of gain is only part of calculating the economics of creep feeding. The value of gain needs to be greater than the cost of gain when considering whether to creep feed. To calculate the grain value, consider the animal's beginning and ending value (weight × price per pound). Divide the difference in value by the weight difference for the value of gain (table 2).

Table 1. Cost Per Pound of Gain Based on Feed Costs (\$/Ton) and Feed Efficiency (Pound Feed Per Pounds of Gain)						
Cost of feed per ton (\$/ton)	150	200	250	300	350	400
Feed efficiency (lb. feed per lb. of gain)	-----Cost of Gain (\$/lb. of Gain)-----					
7.00	0.53	0.70	0.88	1.05	1.23	1.40
7.50	0.56	0.75	0.94	1.13	1.31	1.50
8.00	0.60	0.80	1.00	1.20	1.40	1.60
8.50	0.64	0.85	1.06	1.28	1.49	1.70
9.00	0.68	0.90	1.13	1.35	1.58	1.80

Table 2. Estimating the Value of Projected Gain During Creep Feeding Using Cattle Market Prices			
Item	Weight (lb.)	\$/lb.	\$ Value
Beginning value	575	2.35	\$1,351.25
Ending value	625	2.26	\$1,412.50
Difference	50	-	\$61.25
Value of gain	-	-	\$61.25/50 = \$1.225

In this example, the value of gain is \$1.225 per pound. This value is higher than the cost of gain if the feed is less than \$300 per ton. This also assumes that feed conversion is going to be somewhat efficient. Creep feeding economics are highly dependent on management, monitoring cattle and feed prices, calf growth performance potential, and forage growing season conditions.

Creep feeding can influence calf performance in subsequent stages of the beef production chain. If calves are creep fed but retained for the stocker phase, they may gain weight more slowly during the stocker period. However, creep-fed calves that transition directly to a feed yard post-weaning may transition more quickly than those not creep fed. Retained ownership of creep-fed calves through the feed yard allows producers to realize creep feeding benefits more fully, where increased weight gains and carcass marbling were observed during the finishing period for creep-fed calves.

Creep Grazing

Creep grazing is a form of creep feeding providing supplemental nutrition through high-quality forage rather than feedstuffs. Cool-season annuals like small grains (cereal rye, triticale, oats, wheat), ryegrass, legumes (crimson clover), and brassicas can be used to support high-quality creep grazing in the winter and spring. In the summer, annual forages such as pearl millet, sorghum, sorghum-sudan grass, crabgrass, and mixtures of these grasses with legumes such as cowpea or soybean may support good animal gains when stocked to maintain vegetative forage production. Research has demonstrated that perennial legumes like alfalfa and rhizoma perennial peanut can also be used for creep grazing. The economics of creep grazing largely depends on input costs associated with forage management (fertilizer, seed, labor, quality, etc.), projected calf gains, and value of gain.

The average daily gain of calves managed in a creep grazing system have been reported from 0 to 50 percent greater than that of calves that were not receiving any form of creep grazing or feeding. An increase in gain of 15 to 20 percent compared to average weaning weights without creep grazing is a good average for determining gain potential. The expected benefits of creep grazing are greater when the plane of nutrition provided by the forage is greater for the calf than the cow. For example, if cow-calf pairs are grazing high-quality cool-season annual pasture in the spring, the advantages of creep grazing calves will be minimal. However, if cow-calf pairs are managed on low-to-moderate quality hay and supplemental feed, calves with access to cool-season annuals will have a greater gain response. This may be an effective strategy to (1) provide earlier season forage availability to calves only and (2) better utilize small acreage plantings of annual forages.

A creep gate in the pasture fence line is one method of providing calves with access to high-quality grazing while excluding cows from the area. A creep gate generally has an entrance that is at least 18 inches wide. Temporary electric fencing can also be used to create creep access within the pasture by placing wire at 36 to 42 inches above the ground. This allows the calves to pass under the wire, but keeps cows in their original pasture.

Summary

Producers should evaluate feed and forage input costs, expected gains, and value of the added gain based on calf market prices when considering creep feeding or grazing. Performance of creep-fed calves is best when the plane of nutrition for the cow is somewhat limited, either by forage quality or quantity, cow milk production is reduced, or when producers are considering a retained ownership scenario.



Kim Mullenix, Professor and Head, Department of Animal Sciences; **Leanne Dillard**, *Extension Forage Specialist*, Associate Professor; **Max Runge**, *Extension Economist*, and **Ken Kelley**, *Farm and Agribusiness Regional Extension Agent*, Animal Sciences and Forages, Associate Professor, all with Auburn University

For more information, contact your county Extension office. Visit www.aces.edu/directory.

Trade and brand names used in this publication are given for information purposes only. No guarantee, endorsement, or discrimination among comparable products is intended or implied by the Alabama Cooperative Extension System.

In accordance with Federal law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, this institution is prohibited from discriminating because of race, color, national origin, sex (including gender identity and sexual orientation), age, disability, and reprisal or retaliation for prior civil rights activity. Program information may be made available in languages other than English. Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotope, and American Sign Language) should contact the Alabama Cooperative Extension System Human Resources Department at (334) 844-5531 or the State of Alabama Governor's Office on Disability (GOOD) at (888) 879-3582 or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. To file a program discrimination complaint, a complainant should complete a Form AD3027, USDA Program Discrimination Complaint Form, which can be obtained online at <https://www.usda.gov/oascr/how-to-file-a-program-discrimination-complaint>, from any USDA office, by calling (866) 632-9992, or by writing a letter addressed to USDA. The letter must contain the complainant's name, address, telephone number, and a written description of the alleged discriminatory action in sufficient detail to inform the Assistant Secretary for Civil Rights (ASCR) about the nature and date of an alleged civil rights violation. The completed AD-3027 form or letter must be submitted to USDA by mail: U.S. Department of Agriculture Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; Fax: (833) 256-1665 or (202) 690-7442; or Email: program.intake@usda.gov.

This institution is an equal opportunity provider.

New August 2024, ANR-3098

© 2024 by the Alabama Cooperative Extension System. All rights reserved.

www.aces.edu