
Evaluation of Alternative Feedstuffs for Supplementing Cows

This information sheet highlights the results of a 60-day winter feeding demonstration for fall-calving cows at the Black Belt Research and Extension Center.

In 2016, cattle producers in Alabama experienced drought conditions which shortened the availability of pasture resources in the late summer and early fall. As a result of these conditions, many producers began feeding hay and supplement earlier in the season. Local supply and quality of byproduct feeds commonly found in the Southeast have fluctuated in recent years. A 60-day feeding demonstration was conducted at the Black Belt Research and Extension Center in Marion Junction, AL to evaluate the use of a locally-produced 16% crude protein pelleted feed (Alabama Catfish Feed Mill, LLC) compared to a 50:50 mixture of pelleted soybean hulls and corn gluten feed.

Supplementation Levels

Two breeding groups of mature, SimAngus cows and their calves (initial body weight ~1,300 lb) were used for the evaluation. Cows used for the demonstration had calved from Sep. 19 – Oct. 31, 2016. Cows and their calves were fed one of two diets for 60-days beginning on Jan. 18, 2017:

1) Dallisgrass hay + 7 pounds per head per day of a 16% crude protein pelleted feed (n = 29 cows/calves)

2) Dallisgrass hay + 5 pounds per head per day of a 50:50 mixture of pelleted soybean hulls and corn gluten feed (n = 34 cows/calves)

Supplementation levels were determined based on 1) forage quality of dallisgrass hay, 2) initial feed quality, and 3) stage of production of the cows being fed. Cows were in mid- to late-lactation at the beginning of this evaluation, and were expected to have a dry matter intake of 30 pounds per day, and need a diet of 68% total digestible nutrients (TDN) and 10% crude protein (CP) to maintain production to wean a 600 lb calf. Dallisgrass hay used for the demonstration was 53% TDN and 8% CP.

Results

Initial, final, and change in cow body weight for each group over the 60-day feeding demonstration are reported in Table 1. Cows fed the 16% CP pellet maintained a similar weight during the trial. Those supplemented with the 50:50 mixture lost 100 lb over the 60-day period. Cows in both groups maintained an average body condition score of 5 across the evaluation. Forage and feed quality are reported in Table 2. Batches of feed were sampled monthly and tested for quality. Energy value of the 50:50 mixture used decreased across the trial, although CP increased.

Table 1. Cow initial, final, and change in body weight over the 60-day demonstration.

	16% CP Pellet [†]	50:50 Soyhull:CGF Mixture*
<u>Cows</u>		
Initial Body Weight (lb)	1361	1373
Final Body Weight (lb)	1376	1290
Change in Body Weight (lb)	15	-84
<u>Calves</u>		
Initial Body Weight (lb)	312	315
Final Body Weight (lb)	481	435
Change in Body Weight (lb)	169	120

†7 lb/hd/day fed with free-choice dallisgrass hay; *5 lb/hd/day fed with free-choice dallisgrass hay

Table 2. Changes in quality of feed fed during the 60-day demonstration.

Feed Batch Sample Date	16% CP Pellet [†]		50:50 Soyhull:CGF Mixture*	
	TDN, %	CP, %	TDN, %	CP, %
Jan	63.1	14.1	70.9	13.5
Feb	62.5	16.3	62.5	13.4
Mar	60.4	16.0	56.8	17.5

Conclusions: A forage and feed analysis should be conducted to determine least-cost supplementation strategies for carrying cows in the winter months based on their stage of production (i.e. lactating, dry, pregnant, etc.). When this approach is used, the 16% CP pellet evaluated in this trial maintained cow body weight and performance over the 60-day feeding evaluation compared to a 50:50 soyhull/corn gluten feed mixture.