



Wintering Cows on Hay: Eastern Oklahoma Winter Feeding Demonstration

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Extension specialists have long recognized that cow herds in Eastern Oklahoma can be wintered with little or no purchased feed when the forage program is managed to provide high quality hay for winter feeding. Wide use of the large package hay systems now allows cattlemen to put up large quantities of hay with relatively low labor costs and many progressive cattlemen are successfully using this system. However, some producers are still skeptical about total reliance on hay as the major winter feed source. Because weather conditions and other factors may result in some hay that is too poor in quality to be efficiently used without some type of supplemental feed, there is uncertainty about the value of the hay.

With proper interpretation of a forage analysis, it is relatively easy to correct deficiencies in many hays so that hay can provide the major portion of the winter feed bill. In some cases, supplementation can be accomplished with high quality forage crops such as small grains pasture as well as with purchased feeds. In order to demonstrate the potential for using low to medium quality grass hay as the principle winter feed source, a demonstration trial was conducted at the Eastern Research Station located about 15 miles West of Muskogee, Oklahoma.

Cattle Management

Twenty six spring calving Hereford and Hereford X Angus females (11 mature cows and 15 first-calf heifers) and 27 mature fall-calving Hereford and Hereford X Angus cows were used in the trial. The spring calving cattle were maintained on dormant bermuda pastures that were effectively grazed out before the winter.

From November 4 to March 31, the spring calving mature cows were fed free choice bermuda hay in large round bales that tested 7.0-8.5% crude protein. In addition to the hay, the cows also were fed 1.0 lb. of cottonseed meal per head per day up to February 4 (beginning of calving) and were fed 2 lb. of cottonseed meal from February 4 to March 31. Spring calving heifers were managed the same as the mature cows except that first calf heifers were fed 2 lb. of cottonseed meal before calving and 3 lb. after calving.

Fall calving cows were also maintained on dormant bermuda pastures and provided free choice bermuda hay

in large round bales testing 5.0-6.5% crude protein from November 8 to March 31. In addition the cows were allowed to graze wheat pasture on Monday, Wednesday, and Friday. No purchased supplement was fed to the fall calving cows. Calves were allowed access to the wheat pasture through creep gates during the entire winter period.

Cattle Performance

All cows were in good body condition at the start of the winter. Based on Oklahoma State University research, mature spring calving cows in good condition can lose up to 20% of their fall weight, including calving loss, and rebreed successfully while first calf heifers can lose up to 10% of their fall weight. Protein levels in the bermuda hay (5.0 to 8.5%) were deemed too low for feeding alone and supplemental protein was fed to increase both digestibility and intake of the hay. Free choice grass hay with greater than 9-10% crude protein is probably adequate in both protein and energy for mature cows since protein and energy levels are highly correlated in grass hays. More cottonseed meal was fed to first calf heifers than to mature cows because heifers have a higher protein requirement and cannot consume as much hay as mature cows.

Winter weight changes (Table 1) show that the bermuda hay that contained 7.0 to 8.5% crude protein was adequate for both mature spring calving cows and the first calf heifers

Table 1. Winter Weight Changes of Cows Wintered on Hay and Cottonseed Meal.

	Fall Weight	Spring Weight	% Change
Spring Calving			
Cows	1192	1007	-15.5 ^a
Heifers	941	855	-9.0 ^a
Fall Calving	1069 ^b	951	-11.0

a Loss includes weight of calf and fetal fluids.

b Weight after calving.

when properly supplemented with small amounts of cottonseed meal. Cows lost 15.5% of their fall weight during the winter while first calf heifers lost 9.0%. Cows consumed 21 lb. of hay/day and heifers consumed 15.5 lb./day. The low hay consumption for the heifers supports the need for high quality hay or additional supplementation for younger cattle that must grow as well as develop a calf and provide milk after calving.

Fall calving cows lost 11% of their fall weight during the winter (Table 1) while consuming 26.5 lbs. of hay/day and limit grazing wheat pasture 3 days each week. Some weight loss is unavoidable with lactating cows during winter unless a very high level of feeding is used. In most circumstances it is most economically feasible to allow some weight loss since performance is not affected and the weight will be regained during the following summer. Producers should be careful, however to avoid sudden weight losses just prior to and during the breeding season. As was demonstrated in this trial, it is not necessary for cows to graze the small grain pasture every day. Dry cows can utilize small grains as a supplemental protein source with less frequent access to small grain forage (1 day in 4).

The Angus-sired calves of the fall calving cows were weighed on March 31, at an average age of 5 months. Steer calves weighed 346 lb. and heifer calves weighed 359, indicating that the level of nutrition for the cows along with creep grazing for the calves was adequate to support growth in the calves.

Rebreeding performance for all cows and heifers was excellent. Of the spring calving females, 91% were pregnant after a 60 day breeding season using a Simmental bull. Fall calving cows were exposed to the same Simmental bull for 90 days with a 96% calf crop born the next fall.

Conclusions and Recommendations

This demonstration shows that cows can be successfully wintered with hay as the primary feed source. A forage analysis of the hay is absolutely necessary to insure that any deficiencies are corrected. Had the hays used in this trial been fed without additional protein, it is likely that cow performance would have been poor. Alternately, many hays are of sufficient quality that no additional supplement is necessary. In this case, a forage analysis can save many dollars of unneeded supplement.

Cow condition needs to be continually monitored. Cows used in this demonstration were in good body condition at the beginning of the winter and care was taken to maintain adequate condition. The recommendations for allowable percent of weight loss during the winter apply only to cows in good condition at the start of the winter. If cows are thin, additional feed needs to be given to reduce the expected weight loss during the winter or to actually increase weight on very thin cows.

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