

Economic Benefit to Feeding Ground Large Round Bales of Hay to Cows

J. F. Currin, DVM; W. D. Whittier, DVM, MS
VMRCVM, VA Tech, Blacksburg, VA 24061

Introduction

Wintering beef cows is the most expensive variable cost in beef cow production (OSU). The majority of the costs associated with wintering cows come from feeding them harvested feeds. In parts of the United States some producers have utilized stockpiled fescue and other cool season forages to extend the grazing season as long as possible to reduce the expenses associated with feeding harvested hay. Hay production costs have escalated as well. Rising fuel, fertilizer, and machinery costs have increased the cost of producing hay from \$50 per ton five years ago to \$100-\$125 per ton today (VCE Ag Econ data). Large round bales (LRB) of hay have become the predominant method of hay production in the United States. One of the problems with feeding LRB is the hay losses that occur at feedout. In studies the losses associated with feeding LRB has ranged from 8% to 40% depending on how the hay is fed and how often. Reducing the amount of hay losses during feedout would lower the costs of wintering beef cows.

Materials and Methods

A total of 191 spring calving cows were randomly divided into four groups; 72 primiparous cows were divided into two groups one of 36 and one of 37 cows, and 119 cows were divided into two groups of 60 and 59 cows each. One group of primiparous and one group of multiparous cows were fed LRB of hay through ring feeders. All LRB fed in ring feeders were weighed immediately prior to feeding. The other two groups consisting of primiparous and multiparous cows were fed identical LRB that were ground. The hay was then weighed and fed into a U bunk. The study was started on November 30, 2009 and continued through February 8, 2010, for a total of 72 days. The cows were weighed and body conditioned scored at the start of the study and again at the conclusion of the study. At the end of the study all cows were again weighed and body conditioned scored.

Results

Primiparous and multiparous cows being fed LRB through ring feeders weighed 1434 and 1512 lb (652

and 687 kg), respectively. Primiparous and multiparous cows being fed ground hay weighed 1433 and 1483 (651 and 674 kg), respectively. During the course of the study primiparous and multiparous cows fed LRB of hay through hay rings lost 31 and 6 lb (14.1 and 2.7 kg) of weight, respectively. Primiparous and multiparous cows fed ground hay lost 1 and 2 lb (0.45 and 0.91 kg) of bodyweight, respectively. Hay disappearance for the cows fed LRB through hay rings was 27.8 and 31.6 lb (12.6 and 14.4 kg) for the primiparous and multiparous groups. The dry matter analysis of the hay was 88%, making the dry matter disappearance of the hay 24.6 and 27.8 lb (11.2 and 12.6 kg), respectively. The cows eating ground LRB had hay disappearance of 24.4 and 28.5 lb (11.1 and 12.9 kg) as fed for the primiparous and multiparous groups. Dry matter disappearance for these two groups was 21.5 and 25.1 lb (9.8 and 11.4 kg). Primiparous cows fed ground LRB had 3.1 lb (1.41 kg) less dry matter hay disappearance than cows fed LRB through hay rings. Multiparous cows fed ground LRB had 3.4 lb (1.5 kg) less dry matter disappearance than cows fed LRB through hay rings.

Significance

This study confirmed the hypothesis that grinding and feeding LRB through a trough would result in less hay being fed without any detrimental effects on the cows. The difference in total hay costs for the ground-hay groups compared to the ring-fed groups was \$0.17 less per day. For the duration of the study this resulted in a saving of \$12.42 per cow minus the expense of grinding the hay. The total savings for this 191 cow herd per day was \$32.47 per day. Estimated cost to own and operate a round bale grinder is \$100 per hour of operation. Depending on size, 3-5 LRB per day would have to be ground in order feed this herd. It is impossible to economically grind LRB for a herd this size based on the results of this study as it would take more 20 minutes to grind the hay. For this study cows were fed hay ad lib in both groups. Grinding hay may have an application in cases where hay supply is limited.