

Hay Feeding Methods and Wintering Costs

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A three year wintering investigation was conducted at Dickinson Research Extension Center in North Dakota to determine the effect of hay feeding methods on cow wintering cost. The average amount of hay wasted needs to be calculated when determining how much hay to provide to cows every day or when making forage purchases. A conventional method of rolling round bales out on the grounds was compared to either shredding rounds hay bales on the ground with a bale processor or feeding hay in a tapered-cone round bale feeder. The cows used in the study were in the third trimester of pregnancy and were fed for an average of 59 days during the test period. This study compared cow wintering performance, hay consumption necessary to maintain cow body condition, labor inputs, wintering cost, and hay waste, when hay was either rolled out on the ground, shredded with a bale processor on the ground, or fed in a tapered-cone round bale feeder.

Cow growth, body condition, hay intake, fat depth, and waste data were collected for three years. Cows were weighed, visually condition scored, and measured for rib fat depth using real-time ultrasound at the beginning, middle, and end of the 59-day study between the 12th and 13th rib. Hay waste was estimated manually and with GPS special mapping. Cows were fed to maintain or improve their starting body condition prior to calving.

Cows fed using the conventional method in which bales are rolled out on the ground gained less than when cows were fed with either the bale processor or tapered-cone feeder. Starting, ending and condition score change differed between years, but there were no differences due to method of feeding hay. During the first two years of the study, cows fed using the tapered-cone feeder had greater rib fat depth increase than either the roll out or bale processor methods. There was no difference among feeding methods in the third year. Hay intake to maintain body condition was greatest for the cows fed with the bale processor and lowest for the tapered-cone bale feeder. On average, when compared to the tapered-cone feeder, 5.0 and 15.3% more hay was fed per cow using the roll out and bale processor methods, respectively.

Waste contributed to the increased amount of hay required among the roll out and bale processor cow groups to maintain body condition and subsequent production. This study indicates that if you are feeding hay on the ground, add at least 15 percent to the total amount fed or purchased to compensate for waste. For example, if you normally feed 28-30 lbs per head per day, increase that amount to 33-35 pounds of hay to ensure that adequate nutrition is provided to the cow on a daily basis. If you are feeding on mud, then doubling the amount will help compensate for waste. When calculating the amount of hay needed to feed the cow herd during the winter, remember to compensate for waste.

Source: Landblom, D.G., G.P. Lardy, R. Fast, D.J. Wachenheim, and T.A. Petry. 2006. Effect of hay feeding methods on cow performance, hay waste and wintering cost. Dickinson Research Extension Center North Dakota State University 2006 Annual Report.