

LIMIT FEEDING HAY TO STRETCH SHORT HAY SUPPLIES

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During years of challenging weather conditions such as late frosts and drought reduced yields can result in increased stress levels of producers worrying about what they will feed beef cows during the winter or increase production costs as hay markets are high. There are several strategies that can assist in reducing forage needs which include timely culling of open cows, selling calves early, feeding grains or co-products, proper bale storage, hay feeder type and limiting access to hay. The following will discuss how hay supplies may be stretched by limiting the time cows have access to hay during as a method to conserve hay.

Most herds in the United States and Wisconsin are spring calving. Weaning calves in the fall reduces nutrient needs of cows as milk production is eliminated and fetal growth during mid-gestation is slow. Therefore, production and nutrient needs are lowest during this time frame with requirements increasing during late gestation. This is a key time frame, post-weaning, to implement forage conserving strategies. The following option assumes cows are in good condition and thin cows should not be managed under these strategies as they will not regain body condition prior to calving decreasing their odds of rebreeding the following season.

Researchers at Purdue investigated restricting cow access to hay. When mature cows were allowed access to hay for 4, 8, 12, or 24 hours, hay disappearance corresponding to hay waste and consumption was reduced with reduced access time. Body weight change did not differ between 8, 12 or 24 hours of access while restricting access to only 4 hours decreased weight gain over the 50 day trial. Restricting access time to hay resulted in a linear decrease in body weight gain in young, second calf cows. In this work, restricting access to hay to 8 hours reduced hay disappearance by approximately 15% while not effecting weight change/gains. Restricting time further to only 4 hours, resulted in reduced intakes but also impacted cow body weight gain and this is not ideal for thin cows needing to regain body condition score. Because replacement heifers and young cows are still growing they have greater nutrient needs than mature cows and reducing time access to hay may restrict growth and body condition impacting future production.

Recently, researchers at the University of Illinois reported findings from a similar trial involving restricting access time to hay. Two trials were conducted lasting 87 and 89 days using third trimester Simmental cows. In the first study, the hay fed was of slightly higher quality having concentrations of 17.6% crude protein, 45% neutral detergent fiber, 1.4 mcal/kg of net energy for maintenance, 0.8 mcal/kg of net energy for gain and a Relative Feed Value of 127. Access to hay in this study was ad libitum (free-choice), 9, 6 or 3 hours. Hay disappearance decreased from 34 lbs of dry matter for free choice cows to approximately 18 lbs for cows having only 3 hours of hay access. Hay waste was similar and averaged 32% and calculated hay intake was reduced from 21 lbs of dry matter to 12 lbs. Cow body weight gains were 94, 87, 73 and 54 lbs for free-choice, 9, 6 and 3 hour access, respectively. Body condition score changes followed similar trends to weight changes with cows maintaining body condition with an increase of 0.1 body condition score when cows had only 3 hours of access to hay.

In the second trial conducted by University of Illinois researchers, hay access was restricted to 6 or 9 hours. Hay used in this trial contained 15.4% crude protein, 57.1% neutral detergent fiber, 1.3 mcal/kg of net energy for maintenance and 0.8 mcal/kg of net energy for gain with a Relative Feed Value of 96. Again, hay disappearance decreased as access time was limited decreasing by 13% and 17% in comparison to free-choice for 9 and 6 hours of access. Hay waste was lower in this trial

averaging 14%. Body weight and body condition score changes were not impacted by restricting hay access in this trial.

These trials indicate that when forage supplies are tight or for producers looking to reduce annual cow costs associated with stored feeds, restricting the time that cows have access to hay can reduce hay disappearance by approximately 15% with little impact on animal performance. Depending upon forage quality, cow body condition score and environmental stress, hay savings may be even greater if time restriction is reduced to 3-4 hours. However, it is not recommended that access be restricted for developing replacement heifers, lactating females, young or thin cows as this may impact future productivity. Additionally, the degree of restriction will be influenced by the quality of the hay. If you are considering this hay saving strategy, it is advised that you test your forages and consult with your area extension agricultural agent or nutritionist. For additional beef related information, visit www.uwex.edu/ces/animalsciences/.