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Headline: Winter Feed Cost Projections: Part 2.

WARSAW, Mo. – A few weeks ago, I wrote an article on the cost of feeding beef cows during the winter if a producer puts up their own hay. Many producers buy some or all of their hay, so how does that impact winter feed costs?

Current feed prices do not favor paying much of a premium for higher quality hay provided missing nutrients are supplemented in the correct amounts with appropriate forms of delivering those missing nutrients. My example rations indicate the need to feed between 4.5 and 6.5 of a grain-based supplement per cow per day in order to meet nutrient requirements for dry or lactating cows respectively when poor quality hay is being fed. Failure to do so will result in cow weight loss, and trigger a whole cascade of issues negative to animal productivity.

My poor quality hay example rations are based on hay testing at 6% crude protein and 48% total digestible nutrients. Those numbers are similar to the poorest hay sample results I saw from the 2016 hay crop. Hay quality this poor plus access to a protein tub or feeding a couple pounds of range cubes per day will not be adequate to overcome the nutrient deficiencies of the hay. There is simply not enough energy in those supplement choices to meet cow energy demand.

Purchasing hay also involves dealing with other issues that impact winter feed costs. These include purchased bale weight, bale storage losses, and winter feeding losses.

Many times, hay is sold by the bale, not by weight. How does this impact feed cost? A 1,200 pound cow will consume about 2.25% of her body weight in dry matter or 30 pounds of as-fed hay per day. A 50-head cow herd eating hay for 90 days requires 135,000 pounds of hay, not including storage or feeding losses. This equals 135 bales weighting 1,000 pounds, 113 bales weighting 1,200 pounds, or 96 bales weighting 1,400 pounds. In order to purchase 135,000 pounds of hay for \$25 per bale, we will spend \$3,375 for 1,000 pound bales, \$2,825 for 1,200 pound bales, or \$2,400 for 1,400 pound bales. This gives us a cost per ton of \$35.56 for the 1,400 pound bale, \$41.85 for the 1,200 pound bale, or \$50 per ton for the 1,000 pound bale.

Storage and feeding losses add to hay feeding costs. Consider that 36% of the volume of hay in a 5' X 5' round bale is in the outer 6 inches of the bale. Using a 1,400 pound bale as an example, if the outer 6 inches of the bale is lost due to weathering loss, we are left with 900 pounds of hay in the bale available for consumption by livestock. Suddenly the \$35.56 per ton hay actually costs \$56 per ton when corrected for waste due to weathering loss.

Feeding losses can be just as dramatic. Research indicates feed waste over 20% for round bale feeders that have an open ring at the bottom of the feeder. Adding a sheeted ring to the feeder bottom reduces hay feeding waste to between 6 to 13%.

Hay feeding economics is extremely complicated and is impacted by factors such as hay quality, bale weight, storage waste, and feeding waste. Producers who purchase hay need to pay attention to these details and not just cost per bale.

For more information on feeding programs, contact me via e-mail at schmitze@missouri.edu or by phone at the Benton County Extension Center at (660) 438-5012.

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