MANAGING YOUR HAY INVENTORY

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Hay is the primary winter feed for most Tennessee cow-calf herds. Results of a 1996 survey of 650 Tennessee cow-calf producers revealed that 92 percent of them fed hay to cow herds during the winter.

The hay supply on most Tennessee beef farms contains batches of varying kinds and varies in nutrient content. (Gill, W.W. et al 2000). Feeding these differing batches to the "right class" of cattle at the "right time" is critical if a producer is to achieve the maximum benefit of the feed while economically meeting the nutritional needs of all the cattle on the farm.

Managing the available hay is critical since each herd has several "classes" of cattle. These include: young calves, growing replacement heifers, mature brood cows in early pregnancy or a maintenance state, pregnant cows in their last trimester, and lactating females. The nutritional demands of animals in each of these classes vary considerably from those in other classes. Additionally, the ability to digest fibrous feeds is low in young animals but improves as their digestive system matures. Proper management of the hay supply allows producers to utilize all the various kinds of reasonable quality hay to meet the various needs of each of the classes of cattle.

Following are brief discussions of some items that should be followed in managing the hay supply and planning and carrying out a winter feeding program.

- ***"A forage test is the first step in planning and managing a winter feeding program."*** A forage test is essential in making cost-effective feeding decisions. The nutrient content of hay on most Tennessee farms varies. A forage test provides an indication of the quality

(nutrient density) of hay. A forage analysis allows the producer to formulate and feed balanced rations. Test each batch of hay. Test hay each year for crude protein and total digestible nutrients (TDN).

- ***"Young animals need the higher quality hay."*** Hay made from forages cut in the early boot stage contains high levels of protein, energy, and vitamins, and it is easily digestible. It is not uncommon to find protein levels as high as 16 percent in hay harvested at this stage of growth if was properly fertilized and baled without excessive weather exposure. The gut of young animals is not very efficient in utilizing the tough fibers found in more mature plants; therefore, feeding hay cut in the early boot stage is ideally suited for them.
- ***"Older, cattle can get along on mature, tougher hay."*** The quality of feed needed by cattle decreases as they mature. They are better able to digest more fibrous plants than young cattle. It makes sense to feed more mature animals those lots of hay which were cut after the boot stage and/or baled after being rained on or after long exposure to the sun, all of which lower the nutritional content of the feed. These hays will probably require supplementation. Again make the feeding decisions based on forage test results.
- ***"Brood cows in last stage of pregnancy and those nursing calves require more and higher quality feed."*** In the first two thirds of pregnancy, the beef female is basically in a state of maintenance in terms of her nutritional needs. As the fetus grows in the last trimester more nutrients are needed. This allows for the feeding of lower quality feeds to mature cows in the first and second trimester, and to those animals in a truly maintenance state such as bulls. As pregnant brood cows enter the last trimester, and then lactation, the quality of the hay fed should be increased to meet their increasing nutritional requirements.

- ***"Save the better quality hay for feeding the last part of winter."*** With the exception of young, growing stock, this is a repeat of what has already been said. For the mature females in the herd, (pregnant beef brood cows), feed the poorest quality hay first when their nutritional needs are lowest. This is the time that mature brood cows can utilize crop residue, such as corn stalks, to help meet nutritional needs. Increase the quality of the hay as their needs and the demands and effects of winter increase. For the younger calves, just the opposite is true. Feed them the best you've got when they are the youngest and slowly lower the quality, as they progress through the winter. Just remember—even a yearling heifer needs about the same amount of as a mature beef cow in the last trimester of pregnancy.
- ***"Cows nursing calves require more and a higher quality feed."*** Selecting replacement heifers based on both increased frame size and milk production results in females going into herds that require a ration of greater nutrient density and more of it than the current mature cows in the herd. Regardless of their age or stage of lactation, the nutritional requirements of large, high milk producing cows demand that they be fed the best quality forage the year around. A large number of Tennessee beef farms do not have this quality of hay available and as a consequence, production suffers, especially in reproduction. The producer needs to make some adjustments, either improve the forage supply or develop a calving season that will allow the greatest percentage of nutrients to be met by grazing high quality forage. With some planning and management, different quality hay can be effectively and economically utilized to meet nutritional needs of the cattle herd during the winter. This would also aid the producer in reducing costs.

For additional information on winter feeding of beef cattle: Review **Feeding and Management of the Beef Female** (SR2004), **The Effects of Stage of Production on the Annual Nutrient Requirements of the Mature Beef Brood Cow** (TN2051), **Nutrition and Its Effect on Reproduction** (TN 2052), **Grouping the Commercial Beef Herd for Winter Feeding** (SR3008), **Forage Testing** (SR5005), **Quality Hay Production** (SR5004), **Hay Feeding Systems** (SR5002) and **Hay Storage for a Cow-Calf Operation** (SR7000). All of these fact sheets are found in the Tennessee Beef Cow-Calf Handbook.

References

Gill, W.W. 2000. Results of Tennessee Forage Test. Personal Communication, University of Tennessee, Agricultural Extension Service.

http://animalscience.ag.utk.edu/

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