Influence of Alfalfa Cutting on Quality and Yield

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Research and farmer experience have documented the inverse relationship between alfalfa yield and quality as the plant matures. To maximize one, usually compromises the other.

However, information has been limited on the change in quality relative to yield that occurs as alfalfa matures within cuttings over the whole growing season. This change in quality was addressed at the 2006 American Forage and Grassland Council Conference.

Researchers in Wisconsin and Pennsylvania evaluated the rate of change in alfalfa quality and yield during the spring, summer, and fall. Three alfalfa varieties were harvested initially at late vegetative stage. Different plots of each variety were harvested every five days thereafter to 20 days. Yield and quality were measured for each harvest. Plots not harvested for a particular period were cut at one-tenth bloom.

Dry matter yield increased 100 pounds per acre per day for the first cutting (May), 80 pounds per acre per day for the second and third cutting (June and July), and 20 pounds per acre per day for the fourth cutting (August).

Forage quality (crude protein, neutral detergent fiber, and neutral detergent fiber digestibility) declined most rapidly during the first cutting and slowest during the fourth cutting.

The researchers indicated that the tradeoff between alfalfa yield and quality is most apparent during the first cutting, but becomes less of an issue with each subsequent cutting. Quality of harvests made later in the season is impacted less by maturity.

Adapted from proceedings of the 2006 Conference of the American Forage and Grassland Council, pages 37 and 177.

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