Stockpiling Pastures

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Stockpiling is a simple concept. Rather than cutting, drying and storing winter feed, grow forage until frost and let animals harvest feed as long as weather conditions allow. Most livestock classes can graze in up to 8" of snow and are comfortable in colder temperatures than imagined. Now is the time to set aside pasture to graze in late fall and winter.

The right amount of nitrogen and moisture maximizes the amount and quality of stockpiled forage going into winter. A mid-Aug application of 50 lb/ac actual N satisfies the requirement; timely rainfall is equally important. Once stockpiled, availability and quality depend on snow cover and temperature; quality/quantity decline the longer it is in the field. Stockpiling for spring is much more questionable than fall.

Research Concludes. A 1996/97 WI study looked at seven grass species, three harvest dates, and four nitrogen treatments at three sites, researching the benefits of stockpiling in the Upper Midwest.

Yield. Nitrogen application increased fall yield an avg. of 79% over unfertilized plots. Fall application was clearly the most important to fall yield. Treatments including spring and summer N applications affected summer yields but not fall. *Bottom line:* if stockpiling grass, nitrogen is essential for good fall growth.

The first plots were harvested after the first killing frost in Oct. Looking only at N-fertilized plots, stockpiled pasture netted apx. 1.2 tons of DM/ac averaged across sites at Arlington, Lancaster and Marshfield. Yields (t/ac) ranged: tall fescue, 1.41; early maturing orchardgrass, 1.35; late maturing orchardgrass, 1.24; timothy, 1.17; reed canarygrass, 1.09; smooth bromegrass, 0.96; and quackgrass,0.95. Yields were cut at grazing height (3-4 in). Actual animal intake will vary with management, livestock type, and pasture composition.

Stockpiled plots harvested in Dec and Mar had lower yields; beyond Dec, there was an apx. 50% loss in DM due to decomposition and carbohydrate leaching.

Forage Quality. N application resulted in an avg. crude protein (CP) increase of 1% across all grass species, but did not significantly affect digestibility (DG). Oct quality with added N averaged 11.6% CP and 73% DG. Crude protein levels declined up to 2% from Oct-Dec, but did not decline consistently from Dec-Mar. Digestibility values declined an avg. of 3% from Oct-Dec and another 5% from Dec-Mar.

Best Species. Tall fescue is well adapted for stockpiling due to uniform growth distribution over the season, accumulating biomass well in late summer and fall. Its stiff, waxy leaves held up better than avg. over winter. Orchardgrass was next in yield, higher in CP, and similar to tall fesque in DG. Early orchardgrass had consistently higher yields across all sites than late orchardgrass. Timothy and reed canarygrass had avg. yields and avg. CP; however, digestibility of timothy was among the highest, while reed canarygrass was among the lowest. Smooth bromegrass and quackgrass had the lowest yields and higher than avg. protein levels. Smooth brom digestibility was high, while quackgrass DG was low.

Staggering Spring Growth. People say stockpiling rather than grazing in the fall allows plants to store root reserves, contributing to faster greenup/spring growth. Since grazed after fall growth has stopped, root reserves should remain intact for more vigorous spring growth. Non-stockpiled paddocks should green up slower, having gone into winter with no root reserves. This may occur under some circumstances, but the previous study does not support these assumptions. In Arlington, stockpiled pastures did not begin growth any earlier than the non-stockpiled pastures. Early spring yields were similar between stockpiled/winter-grazed and fall-grazed/non-stockpiled pastures.

Putting it all together. A bit of nitrogen and little additional cost can get you at least an additional fall grazing by stockpiling some paddocks. Stockpiled forage is of relatively low quality compared to fresh pasture, but stacks up well against the avg. quality hay made off pasture.