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How to Stockpile Perennial Forages

The practice of stockpiling forages for fall and winter grazing is widely used and promoted. The definition of Stockpiling is: "Allowing standing forage to accumulate for grazing at a later period, often for fall and winter grazing after dormancy." Many of the cool season (C3) grass species can be stockpiled as some species tend to grow and maintain their forage quality longer into the winter than others. The cool season grasses are predominantly the species used for stockpiling in the Midwest. Native warm season (C4) grasses can be stockpiled; however, the warm seasons will require more protein supplements to balance the nutritional needs during the winter months.

One of multiple benefits from stockpiling forages is the reduced feed costs. It has been documented that 60 percent of the annual cost to keep a cow is in winter stored feed expense. The added conservation benefit is that the animals are spreading their manure back on the land where the livestock are grazing. This will lower the amount animal waste being left in barn lots and improve the nutrient runoff issues. This could also improve water quality issues on the farm.

The basic stockpiling practice is to remove the animals from a pasture by August 1st and allow the forages to regrow for a minimum of 60-75 days ahead of the average first frost date. These same acres can be rested longer into fall after the frost for additional growth. If stockpiling occurs earlier than August 1st then the quality will decline. The acres to be stockpiled can be from a pasture or hay fields. However, either area must be rested from grazing or mowing hay for the same amount of time. The areas to be stockpiled should be grazed or mowed to achieve a uniform height as the forage regrows (stockpiles) for best results.

The forage regrowth will be vegetative that grows in the late summer and fall. To stimulate additional regrowth, nitrogen may be applied at the rates of 40-80 pounds per acre in early August. The nitrogen can be applied later in August or September; however, that will not produce as much forage growth as when applied in early August. If legumes make up 30-40 percent of the total forage mixture, by dry matter weight, no nitrogen will be needed.

Strip Grazing Stockpiled Fescue is the most efficient method.

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Most cool season grasses can be stockpiled, understanding that some forage species will hold their nutritional value longer than others into the winter months. The taller cool season grasses are normally stockpiled such as Tall Fescue, Orchardgrass and Smooth Brome. The nutritional level does not last as long for Orchard grass and Smooth Brome as it does in Tall fescue. For this reason it is recommended that the Orchard grass and Smooth Brome should be grazed first ahead of the Tall Fescue.

Normally stockpiling can produce as much as 0.75 -1.5 tons of dry matter forages per acre, depending upon available moisture in the fall. To graze throughout the winter, it may take an acre of stockpiled forage per animal unit. To avoid wasting a good percentage of your stockpiled forage, strip grazing is recommended. Strip grazing is a method of allocating a small area of forage, 1-3 days feed allowance at a time, for the herd. The use of polywire and step in posts, that can be moved easily, aid in moving the animals into the small areas to be grazed. At the University of Missouri Forage Systems Research Center, it has been found strip grazing increases the grazing days by 40 percent over continuous grazing stockpiled forages. It is recommended to start grazing closest to the water source and gradually work the animals away to save some of your forage from destruction.

Tall Fescue, when allowed to grow in fall, provides a good souce of nutritional value for cattle over winter.

While almost any pasture can be stockpiled, for several reasons tall fescue produces the most desirable fall and winter forage supply. Tall Fescue will maintain more active growth at lower temperatures than most other cool-season grasses and will continue to accumulate yield later into the year. In response to shortening day length and cooler night temperatures, Tall Fescue accumulates a high level of soluble carbohydrates in both the leaves and stem bases. With up to 20 percent of the dry weight of the plant as free sugars, the nutritive quality of fall grown Tall Fescue is quite high. The heavy waxy layer or cuticle on the leaves makes the plant more resistance to frost damage than most other cool season grasses.

While dry matter yield of the Tall Fescue-Red clover mixture will be similar to Tall Fescue receiving 60-80 lb N/acre, the stockpiled forage mixture (Tall Fescue-Red clover) will deteriorate much more rapidly as winter progresses. For this reason, it is advisable to graze stockpiled grass-legume pastures in the early part of the winter and save the pastures with heaviest fescue concentration for later in the winter.

From the forage quality management aspect, graze corn stalk residue first. The corn stalk residue is best grazed the first 60 days after harvest. Then graze other crop residues as soon as available in the fall while the perennial forages are stockpiling. Graze other fall-grown annual forage crops before grazing the Orchardgrass or Smooth Brome and then graze the Tall Fescue last in the cycle.

Sources:

- Missouri Grazing Manual, Jim Gerrish, Extending the Grazing Season
- Grazing in Illinois Manual
- University of Illinois Extension, Dean Oswald Animal Systems Educator, Stockpiling Cool Season Grasses for Winter Grazing