

Central Washington Animal Agriculture Team



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Stockpiling for Winter Grazing

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As the cost of producing hay continues to escalate, the importance of extending the grazing season also increases. Data from several states all indicate that the cost of grazing stockpiled pasture is about 1/3rd that of hay feeding for beef cow operations. Every day spent grazing usually saves about 50 to 60¢/cow/day compared to feeding hay. Winter stockpile pasture shouldn't happen by accident, but should be part of your long term pasture strategy. Key points for successful stockpiling are fairly simple.

lower part of stockpiled pastures in January and February, as long as livestock have not stirred the canopy. Bromegrass and timothy do not stockpile well as fall growth tends to deteriorate very quickly in winter weather but regrowth on hay fields can be utilized in early fall. An important aspect of strip grazing stockpiled pastures that is often overlooked is that loss of forage quality from freezing and thawing is much less in an undisturbed sward compared to a pasture that the cattle have been walking through for months.

Fields that have been severely grazed through spring and summer tend to have

SELECTING APPROPRIATE PASTURE SITES

Tall fescue dominant fields are the best choice for stockpiling (Figure 1). Nitrogen-fertilized fescue is the most weather resistant type of pasture for winter grazing but other mixtures can provide higher quality grazing earlier in the winter than straight fescue pastures. Tall fescue + red clover is a good second choice with forage yields similar to N-fertilized fescue and higher quality. Other legumes such as lespedeza and alfalfa can be stockpiled in fescue mixtures but they tend to lose their leaves much more quickly than red clover. Orchardgrass by itself does not stockpile well, but in a mixture with fescue it is a very satisfactory component. We often find green orchardgrass in the

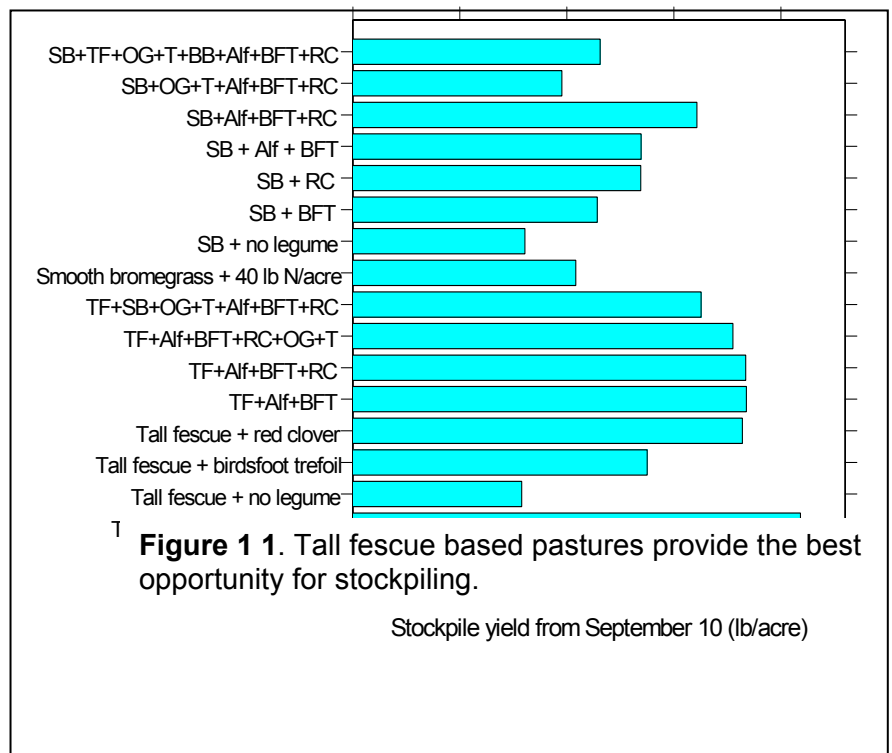


Figure 1 1. Tall fescue based pastures provide the best opportunity for stockpiling.

Stockpile yield from September 10 (lb/acre)

reduced root growth and may not produce well in late summer and fall, especially in drier years. Fields that were cut for hay or have been rotationally grazed through the early season are the best choices for stockpiling. Pastures containing heavy growth of summer annual grasses such as crabgrass or foxtail should be avoided as the summer annual grass will utilize most available soil moisture and nitrogen. Avoid wet sites and low lying fields to minimize mud problems.

PASTURE PREPARATION

Quality of stockpiled pasture can be significantly increased by starting the stockpile growth from a uniform three to four inch residual height. Accumulating pasture growth with seedheads and dead leaves results in a lower quality stockpile and reduced fall growth rate. Presence of broadleaf weeds also reduces quality and growth rate. Heavy infestations can also reduce utilization in the winter. To avoid these problems, the pasture should be clipped or heavily grazed prior to the beginning of the stockpiling period. Clipped or grazed paddocks usually respond to N-fertilization with increased tillering. If significant manure accumulation is present after spring and summer grazing, harrowing the pasture helps produce more uniform fall growth.

TIMING TO BEGIN STOCKPILING

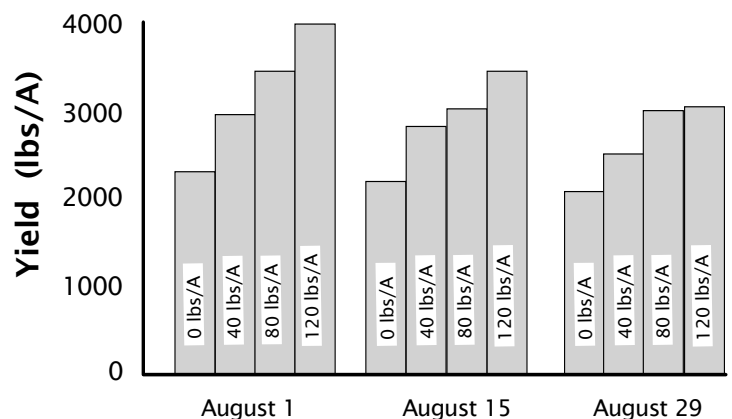
Having enough late season growing period to allow good yields but not too long to allow deterioration of feed quality is critical. We estimate that the maximum per acre yield is achieved with about 75 days of growth in the late summer-fall growing season. Stockpiling longer than this will not result in any more stored feed per acre but will result in lower quality forage. To determine when to begin stockpiling pasture, estimate your last day of active growth in the fall and back up 75 days. For example, we consider November 1 to be the end of our growing season, so we target August 15 as the beginning of the stockpiling season. A shorter fall stockpiling period will produce higher quality forage but at the cost of reduced yield.

FERTILIZATION

Applying 40 - 80 lb N/acre at the beginning of the stockpiling period is usually a cost effective practice. If soil moisture is favorable, use the higher rate. If conditions have been dry, use the lower rate. In pastures where at least 30-40% of the annual production has been coming from a legume, applying N probably won't pay. The first two weeks of August is usually the optimum time for applying N in north Missouri. When application is delayed until late August, yield potential is dramatically reduced.

Ammonium nitrate (34-0-0) or diammonium phosphate (18-46-0) are the preferred N forms for August application. Volatilization losses from urea (46-0-0) applied during August can be quite high. If urea is the only N-fertilizer material available, try to plan application to coincide with forecast rain or apply late in evening when heavy dew is expected. Manure or lagoon slurry can also be used at this time. The long delay between application and grazing minimizes any risk of rejection by livestock grazing the pasture.

Figure 2 1. Impact of rate and timing of nitrogen fertilization on dry matter yield of stockpiled tall fescue.



SUMMARY

Plan on growing high quality stockpile by following these simple guidelines for stockpiling: 1) choose fields with the best adapted species, 2) start from a short, uniform residual, 3) begin the stockpile period about 75 days before the end of the growing season, and, 4) fertilize appropriately.