

CONSERVATION TILLAGE

FACTS

FOXTAIL MILLET FOR FORAGE

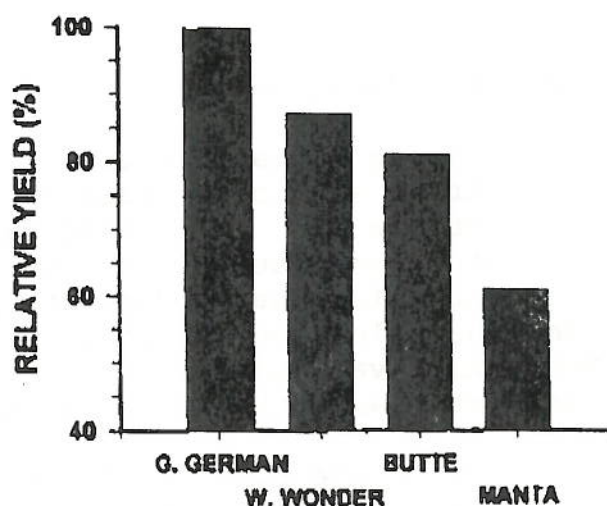
Producers in northeastern Colorado are exploring more intensive crop rotations, with the goal of minimizing fallow. Foxtail millet, grown for hay, offers producers flexibility in crop choice because of its low water use: 10 to 12 inches (precipitation plus soil water use) to produce a crop.

We examined forage yield and quality of foxtail millet at the ARS station near Akron. Four varieties, Manta, Butte, Golden German, and White Wonder, were planted into wheat stubble in early June and harvested for forage at the early milk stage.

Forage Yield

Golden German has the highest yield potential, followed by White Wonder, Butte, and Manta (See figure). During this study, Golden German yielded 6100 lbs dry matter per acre. Manta yields only 62% of Golden German, but this reflects its shorter growing period. Manta was harvested three weeks earlier than the other varieties.

Figure. Yield potential of foxtail millet varieties.



Forage Quality

Manta produced the highest quality forage: protein content was 13% and total digestible nutrients was 65% (See Table). Protein level of the other varieties was near 10%.

Golden German and White Wonder yield the highest quantity, however, Manta offers producers two alternatives: higher protein forage and earlier harvest. Producers are planting winter wheat into proso millet or foxtail millet stubble to eliminate the fallow period before winter wheat. Manta's early harvest (3 weeks earlier) allows more time for the soil profile to store precipitation, thus increasing the available soil water for winter wheat.

Table. Forage quality of foxtail millet varieties.

Variety	Protein (%)	Protein ^a (lbs/ac)	ADF ^b (%)	TDN ^c (%)
Golden German	10.0	610	36	60
White Wonder	9.7	510	36	60
Butte	9.8	480	38	60
Manta	13.0	480	35	65

^aProtein (lbs/ac) = forage quantity times protein (%)

^bAcid Detergent Fiber

^cTotal Digestible Nutrients

A cautionary note: Foxtail millet serves as an alternate host for the wheat curl mite, which transmits the wheat streak mosaic virus. If planting winter wheat into foxtail millet residue, kill all plants after millet harvest to eliminate the wheat curl mite and prevent future virus transmission.

Harvesting Options

Grazing foxtail millet in windrows left in the field offers producers a way to decrease cost of cattle production. Stockmen can increase profits by finding ways to reduce the amount of harvested feed used by the cow herd. Grazing windrowed foxtail millet enables the producer to eliminate the cost of baling, handling bales, and feeding hay to cattle. The University of Nebraska, evaluating six haying and grazing systems, found that the system with the most grazing was the most profitable.

Due to the possible financial benefits of grazing foxtail millet windrows, we are focusing future research on reducing production costs, improving cow utilization efficiency, and preserving forage quality in the windrow.

USDA-ARS and Colorado Conversation Tillage Association Fact Sheet #1-97

By: Randy Anderson (ARS) and Dave Schutz (CSU)

We thank T. Pomeroy, D. Couch, K. Reule, and D. Fritzler for technical support.