

Project Title: 2019 Forage Production Study

Objective: To evaluate the performance of cool and warm season forage grasses

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Summary:

Five cool season and five warm season forage grasses were planted in May 2019 to evaluate their performance (yield and quality) and suitability for production in northwest Montana. Seeding rates used in this study followed the industry recommendation. Other management information is provided in Table 1.

All nine grasses established relatively well, except for Timothy. Based on this first year of study, the biggest hurdle for Timothy is plant establishment compared with the other species studied.

Irrigation was applied on six separate occasions between July 29 and August 30, for a total of 3.5". Weed pressure within plots was low, and hand-weeding was performed throughout the growing season.

Among the cool season grasses, the Barricade mix (Alaska brome, smooth brome, meadow brome, Rush intermediate wheatgrass, and tall fescue) yielded the highest (numerically). However, it did not differ statistically with orchard grass and Oahe intermediate wheatgrass. Among the warm season grasses, Corvallis teff was numerically the highest yielder but was not statistically different than Moxie teff or Piper sudangrass. Forage quality data are not yet available for this report.

Table 1. Management information

Seeding date:	5/29/2019	Field Location:	R8
Julian date:	149	Harvest Date:	Various; see below
Seeding rate:	Various; see below	Soil type:	Fine sandy loam
Previous crop:	Barley	Tillage:	Conventional
Herbicide:	None	Soil residual nutrient (NO ₃ ⁻ , P, K lb/A):	22-15-99 (spring, 2019)
Insecticide:	None	Nutrient fertilizer applied (N, P ₂ O ₅ , K ₂ O lb/A):	100-20-60
Fungicide:	None		

Table 2. Yield performance of the forage species. Same letter assignment denotes nonsignificance at $P = 0.05$ level.

Species	Type	1 st Cut	2 nd Cut	Total
		-----tons/A-----		
Corvallis teff	WS	1.4	2.2	3.6 a
Moxie teff	WS	1.2	2.1	3.3 ab
Piper sudangrass	WS	2.7	-	2.7 ab
Barricade dryland mix	CS	0.7	1.2	1.9 b
HLR orchard grass	CS	0.7	1.1	1.8 b
Oahe intermediate wheat grass	CS	1.2	0.4	1.6 b
Tifleaf pearl millet	WS	1.6	-	1.6 bc
Luna pubescent wheat grass	CS	0.7	0.4	1.1 cd
Crabgrass	WS	1.0	-	1.0 d
Timothy	CS	0.2	0.1	0.3 d

WS: warm season, CS: cool season