



Project Title: Cool Season Forage Trial

Objective: To test for yield and quality of selected cool-season forage grasses.

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Summary:

The cool-season perennial forage species were planted on April 22, 2020 (see management table 1 for details). Data from fourteen grass forages species were gathered for this third year of establishment in 2022.

There were two harvest cuts this year. The total yield for 2022 ranged from 2.0 ton/A (Ryegrass-Remington NEA2) to 3.6 ton/A (Dryland mix-Barricade raw). All forage species had statistically similar forage yields (Table 2). This year’s harvest showed plant vitality decreasing compared with the year 2021. The forage quality data for the first cut this year are also shown in Table 2, with no observed statistical differences among the species.

Table 1. Management Information

Seeding date:	4/22/2020	Field Location:	P2
Julian date:	113	Harvest date:	6/7/22, 6/16/22, 9/7/22
Seeding rate:	Variety-dependent	Julian date:	158, 167, 252
Previous crop:	Winter Wheat	Soil type:	Creston Silt Loam
Herbicide:	None in 2022	Tillage:	Conventional
Insecticide:	N/A	Soil residual nutrient: (NO₃-, P, K lb/A):	122-20-376 (Fall, 2019) 84-10-35-10(S) [2020],
Fungicide:	N/A	Nutrient fertilizer applied: (N, P₂O₅, K₂O lb/A):	50 lbs N was reapplied in 2021, & 50 lbs N was reapplied in 2022

Table 2. Third year of establishment (2022) total dry biomass yields and forage qualities of the first cut

Brand	Variety	Total YLD, t/A	CP %	RFV	RFQ	Lignin %	Fat %	NFC %	WSC %
Barricade raw	Dryland mix	3.6	10.8	95.3	138.3	3.5	2.3	20.3	10.5
Arsenal	Meadow brome	3.2	10.7	100.3	149.7	2.9	2.4	23.2	11.6
Armory	Dryland tall fescue	3.0	10.9	94	141.3	3.2	2.1	20.1	10.7
Milkway	Tall fescue/meadow fescue mix	2.8	10.5	98.3	144	2.8	2.0	21.8	10.9
HLR	Orchardgrass	2.8	10.2	99.7	143.7	3.0	2.3	22.8	11.6
Remington	Perennial ryegrass	2.7	9.4	102	152.7	2.4	2.2	25.2	13.0
STF-43	Tall fescue	2.7	10.8	100.3	151	2.5	2.1	22.1	11.7
Driftless	Meadow fescue	2.6	12.1	96	150	3.0	2.1	19.7	10.1
Artillery	Smooth brome	2.4	10.9	101.3	154	2.6	2.3	23.3	11.4
Hamann	Creeping wheatgrass	2.3	10.2	100.7	143	3.2	2.3	22.7	11.8
HDR	Meadow fescue	2.3	9.6	104.7	152.7	2.4	2.1	26.0	13.3
Barricade w/Yellow Jacket	Dryland mix	2.2	9.2	106.7	146.7	2.8	2.2	26.2	13.2
Ammo	Dryland orchardgrass	2.2	10.0	117	162.3	2.3	2.7	28.9	14.3
Remington NEA2	Perennial ryegrass	2.0	9.7	95.3	139	3.3	2.1	21.9	11.8
	Mean	2.6	10.4	100.8	147.7	2.8	2.2	23.2	11.9
	CV	27.8	15.0	11.2	10.2	26.5	12.4	20.2	17.1
	LSD	ns	ns	ns	ns	ns	ns	ns	ns
	PR > F	0.452	0.724	0.637	0.837	0.743	0.457	0.528	0.436

YLD: yield, CP: crude protein, RFV: relative feed value, RFQ: relative forage quality, NFC: non-fibrous carbohydrate, WSC: water-soluble carbohydrate