



West Central Research, Extension, & Education Center, North Platte

2024 Summer Cover Crop Variety Trial

UNIVERSITY of NEBRASKA
LINCOLN

Type	Species	Variety	Stand count (2ft ²)	Std err	Height (inches)	Std err	GC (%)	Std err	Biomass (tons/acre)	Std err	CN ratio	Std err	CP (%)	Std err	TDN (%)	Std err	RFQ (%)	Std err
Grasses																		
1	Sorghum-sudan	Queen	21	2	4.9	0.4	6.9	1.1	8.3	1.9	50	8.3	5	0.7	57	0.9	93	7
2	Sorghum-sudan	Sugar	25	1	5.2	0.4	9.4	2.0	7.5	0.7	39	1.5	7	0.3	59	0.8	111	4
3	Sudan-grass	Piper	51	4	5.4	0.2	13.7	1.7	8.1	0.9	46	2.3	6	0.7	51	0.2	75	4
4	Forage-sorghum	WS404	20	4	4.3	0.3	4.4	1.1	7.3	0.6	39	4.6	7	0.8	59	1.2	112	7
5	Forage-sorghum	Bundle	23	4	3.5	0.1	4.6	1.6	6.6	0.2	43	3.5	6	0.5	58	1.6	104	9
6	Pearl-millet	Tifleaf	33	5	4.2	0.3	5.1	1.4	7.5	0.6	37	2.5	7	0.4	56	0.8	100	3
7	Foxtail-millet	German	107	8	3.6	0.3	10.5	1.5	12.1	1.5	44	4.2	6	0.7	55	1.8	95	9
8	Corn	BMR grazing	5	1	5.2	0.2	2.9	0.8	7.8	0.7	36	0.9	7	0.4	60	0.5	118	4
9	Teff	-	87	24	3.0	0.3	2.3	0.9	8.3	0.4	29	3.3	9	1.0	55	0.3	103	4
Legumes																		
10	Sunnhemp	-	13	1	3.1	0.1	2.7	0.6	12.5	3.7	29	2.1	-	-	-	-	-	-
11	Cowpea	Iron	13	1	3.8	0.1	6.6	0.9	8.9	1.8	23	2.2	-	-	-	-	-	-
Broadleaves																		
12	Buckwheat	Mancan	28	2	3.3	0.1	9.8	1.3	11.9	3.7	27	2.7	-	-	-	-	-	-
13	Sunflower	Black oil	4	1	1.9	0.2	1.6	0.4	9.3	0.7	26	2.1	-	-	-	-	-	-
14	African cabbage	-	43	5	1.3	0.1	6.1	0.6	8.5	0.9	26	2.9	-	-	-	-	-	-
Mixes																		
15	Simple mix	4-species	17	1	-	-	6.0	0.6	8.2	1.4	28	0.6	-	-	-	-	-	-
16	Grazing mix	5-species	28	2	-	-	6.9	1.2	6.4	0.3	38	3.9	7	0.6	53	1.5	87	5
17	Soil builder	6-species	15	1	-	-	3.4	0.6	8.2	1.3	30	3.9	-	-	-	-	-	-
18	Pollinator	5-species	14	2	-	-	5.7	0.5	9.8	2.8	31	3.0	-	-	-	-	-	-
19	High diversity	12-species	54	23	-	-	4.5	0.5	10.0	1.4	28	1.4	-	-	-	-	-	-

†Std err: Standard error; GC: Ground Cover; C: Carbon; N: nitrogen; CP: Crude Protein; TDN: Total Digestible Nutrients; RFQ: Relative Forage Quality. The stand error value (n = 4) is for each corresponding parameter on the left column.

- ❖ Simple mix: sorghum-sudan (queen), sunnhemp, buckwheat, and sunflower
- ❖ Grazing mix: sudan-grass, pearl-millet, BMR corn, cowpea, and African cabbage
- ❖ Soil builder: sorghum-sudan (queen), forage sorghum (WS404), sunnhemp, cowpea, sunflower, and African cabbage
- ❖ Pollinator: forage sorghum (WS404), sunnhemp, cowpea, buckwheat, and sunflower
- ❖ High diversity: sorghum-sudan (queen), sudan-grass, forage sorghum (WS404), pearl millet, foxtail millet, BMR corn, teff, sunnhemp, cowpea, buckwheat, sunflower, and African cabbage
- ❖ Stand count was recorded 13 days after planting on July 02, 2024
- ❖ Height was recorded only in sole cover crops
- ❖ Cover crop height recorded at the time of stand count (i.e., 13 days after planting on July 02, 2024)
- ❖ Only 10 treatments focusing grass species were selected to assess forage potential of summer cover crops

Management details

Note: The pivot under which our plots were located does not have the capacity for variable rate irrigation. Thus, it received similar amounts of water as adjacent experiments with soybean.

Cooperator/site:	WCREEC/North Platte County
Soil type:	Cozad silt loam
Planting date:	June 19, 2024
Seeding depth:	1.5"
Soil moisture at planting:	Adequate at full profile
Implement/tools:	DCS research drill
Rows/plot:	6
Row spacing:	10"
Plot length:	30'
Alley width:	3'
Tillage:	No-till
Previous crop:	Corn
Pre-plant herbicide:	Engenia 12 oz/acre, glyphosate 32 oz/acre at 15 GPA, and Paraquat 22 oz/acre, NIS 0.75% at 30 GPA
Fertilizer at planting:	None
Irrigation:	6.4"
Fertilizer N	None
Total precipitation during growing period:	5.3"
Termination date:	September 16, 2024