



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

## 2022 Summer Cover Crop Variety Trial

UNIVERSITY of NEBRASKA  
LINCOLN

Type	Species	Variety	Stand count (2ft <sup>2</sup> )	Std err	Height (H1) (ft)	Std err	Height (H2) (ft)	Std err	Biomass (tons/acre)	Std err	CN ratio	Std err	CP (%)	Std err	TDN (%)	Std err	RFQ (%)	Std err
<b>Grasses</b>																		
1	Sorghum-sudan	Queen	25	3	1.5	0.13	7.0	0.35	17.8	4.1	39	2.1	8	0.2	62	1.1	135	9
2	Sorghum-sudan	WS902	26	3	1.5	0.08	4.7	0.09	12.5	1.9	33	1.5	8	0.3	60	1.6	135	10
3	Sorghum-sudan	Sugar	28	5	1.7	0.05	6.7	0.32	15.5	1.5	41	1.8	8	0.6	61	1.3	122	7
4	Sudan-grass	Piper	49	5	1.9	0.07	7.5	0.29	16.5	2.6	46	8.3	7	0.2	54	1.2	88	6
5	Forage-sorghum	WS404	20	1	1.4	0.07	5.6	0.22	15.8	2.1	40	4.0	7	0.4	65	1.0	151	7
6	Forage-sorghum	Bundle	19	2	1.0	0.04	4.8	0.25	14.5	4.7	38	2.3	8	0.7	63	1.8	141	8
7	Pearl-millet	Tifleaf	33	5	1.1	0.06	4.0	0.17	8.0	1.5	26	2.3	11	1.0	61	1.1	115	3
8	Foxtail-millet	German	129	22	0.8	0.07	3.4	0.19	5.0	1.5	29	2.3	8	0.7	60	1.5	108	5
9	Corn	BMR grazing	7	1	1.7	0.08	6.2	0.28	10.5	3.5	35	2.1	8	0.2	72	1.1	164	5
10	Teff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Legumes</b>																		
11	Sunnhemp	-	16	1	0.6	0.03	4.2	0.38	3.5	0.5	28	3.1	-	-	-	-	-	-
12	Cowpea	Iron	13	2	0.7	0.03	2.4	0.32	2.3	0.9	18	1.8	-	-	-	-	-	-
<b>Broadleaves</b>																		
13	Buckwheat	Mancan	27	4	0.8	0.04	4.0	0.28	3.3	0.8	24	0.8	-	-	-	-	-	-
14	Sunflower	Black oil	6	1	0.5	0.09	6.0	0.20	9.0	1.4	27	1.1	-	-	-	-	-	-
15	African cabbage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Mixes</b>																		
16	Simple mix	4-species	19	3	-	-	-	-	22.0	7.9	36	1.6	-	-	-	-	-	-
17	Grazing mix	5-species	23	2	-	-	-	-	14.5	1.2	50	4.5	7	0.5	57	1.5	99	5
18	Soil builder	6-species	11	1	-	-	-	-	15.8	0.9	38	2.0	-	-	-	-	-	-
19	Pollinator	5-species	12	1	-	-	-	-	11.0	2.0	38	3.4	-	-	-	-	-	-
20	High diversity	12-species	22	3	-	-	-	-	15.8	3.9	35	1.4	-	-	-	-	-	-

†H: Height; Std err: Standard error; 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 three weeks after planting on July 11, 2022
- ❖ Heights were recorded only in sole cover crops
- ❖ H1: Cover crop height recorded at the time of stand count (i.e., three weeks after planting on July 11, 2022)
- ❖ H2: Cover crop height recorded seven weeks after planting on August 09, 2022
- ❖ 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 similarly high amounts of water as adjacent experiments with high-yielding corn. In addition, N applied through the pivot to the high-yielding corn was also applied to the cover crops.*

Cooperator/site:	WCREEC/North Platte County
Soil type:	Cozad silt loam
Planting date:	June 20, 2022
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:	Soybean
Pre-plant herbicide:	32 oz Roundup and 3 oz Callisto (05/27/2022), and 12 oz Paraquat and 32 oz Roundup (06/21/2022)
Fertilizer at planting:	None
Irrigation:	18"
Fertilizer N	150 lbs. N per acre
Total precipitation during growing period:	5"
Termination date:	September 19, 2022