

Supplementary Table S1.: Partial analysis of variance and significant tests for agronomic traits of the 12 sorghum genotypes assessed in two sites

Change	df	DF	PH	BM	PW	SY	HSW
Site (S)	1	1645.02***	2125.30***	34859.80***	23643.90***	3812.05***	0.25***
Genotype (G)	11	164.01***	1692.404***	4423.50***	1171***	557.04***	0.62***
Replication in sites	2	17.6	73.3	548.4	78.7	6.53	0.01
S x G	11	48.20*	488*	2781	1062***	376.84***	0.16***
Error	22	18.01	136.7	813.9	219.7	48.66	0.03

Df df=degrees of freedom, \*\*\*=significant at  $p < 0.001$  level of significance, \*= significant at  $p < 0.05$  level of significance, DF= days to flowering, PH= plant height, BM= biomass, PW= panicle weight, SY= seed yield, HSW= hundred seed weight

Supplementary Table S2: Analysis of variance and significant tests for the contents of major amino acids and mineral content measured from 12 sorghum genotypes

Source of variation	df	Amino acids								Minerals		
		His	Ile	Leu	Lys	Met	Phe	Thr	Val	Fe	Zn	Prot
Replication	1	0.78	0.28*	89.88	1.60	0.08*	16.78	0.58	0.73	1.09	0.09	4.82
Genotype	11	0.12	0.04	0.79	0.54*	0.27***	0.53	0.10***	0.03	2585.69***	147.92***	2.98*
Residual	11	0.09	0.03	0.32	0.08	0.00	0.19	0.01	0.01	0.5	0.06	0.47

df=degrees of freedom, \*\*\*=significant at p<0.001 level of significance, \*= significant at p <0.05 level of significance, His = Histidine; Ile = Isoleucine; Leu = Leucine; Lys = Lysine; Met = Methionine; Phe = Phenylalanine; Thr = Threonine; Val = Valine; Prot=Protein; Fe=Iron; Zn=Zinc