

Dedication

To my greatness the history

To my all martyr satiation of land of bloody

**To my all widow of loss partner lifely from reason the
fatherland**

**To my all Sudanese satiation heart of affection the
homeland and the humanity**

**To my population the struggler from reason of the
fatherland**

To my father spirit the pure.....

Mather fountain the warm and compassion

**To my colleagues, teachers, friends, and personal first
..... personal she.**

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Abstract

A field experiment was conducted for one season 2009/2010 at demonstration farm of department of agronomy, college of agricultural studies, Sudan University of science and technology to study the effect of seed rate on growth and yield of three cultivars of soybean. Treatment was the two factor combinations of seed rate three levels SR1= 48.000, SR2=195.000 and SR3= 146.000 and three cultivars (Egyptian, 1448 and 1905) arranged in split-plot design with four replications. The results showed that the seed rate no significant differences on vegetative stage

In soybean enough the significant effect on vegetative stage between cultivars and cultivar 1905 recorded as highest characters vegetative. The seed rate had significant effect on grain yield in the presence of treatment V_2SR_3 recorded as higher yield comported with other treatments

Forage seed rate was not significant on dry weight forage. the difference between the three cultivars was significant in most parameters measured by cultivars 1448.

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Source of d.f Variation	Red1 P.H	Red 2 P.H	Red3 P.H	Red4 P.H	Red 1 No of leaves	Red2 No of leaves	Red3 No of leaves
Reps. 3	21.35 _{ns}	3.2	35.4 ^{ns}	109.1 ^{ns}	1.78 ^{ns}	15.5 ^{ns}	81.63 _{ns}
Genotype 2	129.40 [*]	82.6	492.2 ^{**}	1472.4 [*]	50.14 ^{**}	324.7 ^{**}	339.61 ^{ns}
Error(a) 6	13.79	15.3	29.9	138.0 ^{ns}	3.75 ^{ns}	17.55 ^{ns}	105.42 ^{ns}
Seed rate 2	30.26 _{ns}	85.7	63.3 ^{ns}	159.1 [*]	1.37 ^{ns}	23.24 ^{ns}	83.65 ^{ns}
GSR 4	71.07 _{ns}	9.1	8.6 ^{ns}	47.5 ^{ns}	0.49 ^{ns}	15.47 ^{ns}	76.49 ^{ns}
Error(b) 18	-	-	-	-	-	-	-
Total 35	-	-	-	-	-	-	-
VC%	2.49	2.50	2.54	1.83	2.28	2.26	8.12
LSD G	7.21	11.0	14.48	14.20	3.3	8.11	40.31

		3			9		
LSD RS	8.40	12.8	16.86	16.53	3.9	9.45	46.95
		4			4		
LSD GSR	3.17	4.85	6.37	6.25	1.4	3.58	17.75
					9		

Appendix I. summary of ANVA table of guar seed rat:

NS= not significant

*= significant

** = highly significant

Source of d.f Variation	Wet weight of forage(kg/ha)	Dry weight of forage (kg/ha)	Yield (kg/ha)	Harvesting index (kg/ha)
Reps. 3	213201.6 ^{ns}	41597.4 ^{ns}	621657.1 ^{ns}	15.1 ^{ns}
Genotype 2	7130576.8 ^{**}	988316.0 [*]	756074.6 ^{ns}	587.2 ^{**}
Error(a) 6	77391.7 ^{ns}	97672.0 ^{ns}	413327.1 ^{ns}	23.4 ^{ns}
Seed rate 2	1426636.2 [*]	42585.3 ^{ns}	10549721.4 [*]	341.4 [*]
GSR 4	1103245.1 ^{**}	100967.2 ^{ns}	647781.4 [*]	185.9 ^{**}
Error(b) 18	-	-	-	-
Total 35	-	-	-	-
VC%	2.4	4.8	3.7	6.4
LSD G	733.9	532.6	1362.4	8.7
LSD SR	854.8	620.3	1586.8	10.1
LSD GSR	323.2	234.6	600.0	3.8

Appendix III. summary of ANVA table of guar seed rat:

NS= not significant

*= significant

** = highly significant

Source of d.f Variation	50% flowering g	100% flowering g	No. of pod Per plant	Weight of pod/plant	No. of seed Per pod	Weight of Seed/plant	No. of seed Per
Reps. 3	1.4	1.5 ^{ns}	423.2 ^{ns}	57.0 ^{ns}	11.9 ^{ns}	12.6 ^{ns}	966
Genotype 2	931.3 ^{**}	4268.2 ^{**}	2636.0 ⁿ _s	530.0 ^{ns}	14.6 ^{ns}	252.9 [*]	149
Error(a) 6	4.4 ^{ns}	1.88 ^{ns}	3123.1 ⁿ _s	108.0 ^{ns}	16.1 ^{ns}	38.2 ^{ns}	216
Seed rate 2	3.0 ^{ns}	0.2 ^{ns}	6065.3 [*]	32.7 ^{ns}	9.4 ^{ns}	23.0 ^{ns}	898
GSR 4	1.2 ^{ns}	0.9 ^{ns}	880.2 ^{ns}	109.6 ^{ns}	1.4 ^{ns}	22.6 ^{ns}	155
Error(b) 18	-	-	-	-	-	-	-
Total 35	-	-	-	-	-	-	-
VC%	0.31	0.2	2.70	2.61	10.9	3.3	3.8
LSD G	3.5	3.1	67.70	19.4	4.4	13.0	131
LSD RS	4.0	3.7	78.85	22.7	5.2	15.1	153
LSD GSR	1.5	1.4	29.81	8.6	1.9	5.7	57.9

Appendix II. summary of ANVA table of guar seed rat:

NS= not significant

*= significant

** = highly significant