Enhancing Productivity of Guinea Grass Variety JHGG-08-1 through Agro-Techniques in Southern Dry Zone of Karnataka

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Introduction

Guinea grass (*Panicum maximum*) is a major pan tropical grass used throughout the tropics for pasture, cut-and-carry, silage and hay. It is a fast growing and leafy grass, which is palatable to livestock with a good nutritional value. However, it is generally recommended to supplement it with sources of protein in order to meet nutritional requirements or improve animal performance. It grows well on a wide variety of well drained soils of good fertility and it is a good vegetative barrier. It can survive quick moving fires which does not harm the underground roots and drought because of the deep, dense and fibrous root system. The potentiality of the varieties varies with agro climatic situation and soil type, keeping these things in view, the present investigation was undertaken to identify the optimum plant population and nutrient levels for enhancing the productivity and quality of guinea grass variety JHGG-08- in southern Zone of Karnataka.

Materials and Methods

A field experiment was conducted during kharif season of 2011 to identify the optimum level of nutrients and planting geometry for higher green forage yield and quality. The experiment consisted of three planting geometry *viz*., 45cm X 40cm, 60cm X 45cm and 75cm X 45cm and four levels of Nutrients *viz*., 75% RDF (150:37.5:18.75), 100% RDF (200: 50:25), 125% RDF (250:62.5:31.25) and 150% RDF (300:75:37.5) and laid out in RCBD with factorial concept with four replications.

Results and Discussion

Among spacing 60cm x 45cm recorded significantly higher green forage yield (119.3 t/ha). Application of 150% recommended dose of fertilizer recorded higher green forage yield (123.3 t/ha) which was on par with 100% RDF (116.3q/ha). The higher B: C ratio was observed with 100% RDF 3.17. (Aganga and Tshwenyane, 2004; Onyeonagu and Asiegbu, 2012,2013).

Table 1: Green forage yield of guinea grass variety JHGG-08-1 (q/ha) has influenced by planting geometry and nutrient levels.

Nutrient levels (NPK Kg/ha)	Spacing (Cm)				B:C ratio
	45cmX40cm	60cmX45cm	75cmX45cm	Mean	
F1: 75% RDF (150:37.5:18.75)	76.11	99.43	86.32	87.29	2.53
F2: 100% RDF (200: 50:25)	109.32	124.17	115.32	116.27	3.17
F3: 125% RDF (250:62.5:31.25)	116.67	126.32	118.11	120.36	3.10
F4: 150% RDF (300:75:37.5)	121.11	127.34	121.32	123.3	3.01
Mean	105.81	119.32	110.27	-	

	Spacing	Nutrients	Interaction
S.Em+	**1.93**	**2.44**	**4.36**
CD (p=0.05)	**6.12**	**7.28**	**12.95**

Conclusion

Based on results it can be inferred that spacing of 60cmX 45cm with 100% RDF (200:50:25 NPK kg/ha) is optimum and economical.

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