Economics of BN Hybrid Grass Production Bundelkhand Region of India: A Case Study

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Introduction

Napier grass is also called as Elephant Grass due to its tallness and vigorous vegetative growth. The plants tiller freely and a single clump may produce more than 60 tillers under favorable climatic and soil conditions. Unfortunately, the grass coarse-textured, the leaf blade sheaths as well as sharply serrated, leaf margins. Therefore, cross was made between Bajra which is more succulent, leafy, fine-textured, palatable, fast growing and drought resistant and Napier to combine these qualities with its high yielding potential. The outcome Hybrid Napier is a perennial grass which can be retained on field for 2-3 years. Hybrid napier grass are mostly grown under assured water supply but cultivating under varying agro-climatic condition is also possible. Low grass production in dry land area is mainly due to the limited availability of soil moisture and plant nutrients. Agrawal *et al*., (2001) reported NB hybrid is superior to guinea grass or *setaria* grass. However the economy of production plays an important role in introduction/ adoption of a crop in an area, village or farm. Many earlier studies have been conducted on economics of BN Hybrid production at research farm, or other government farms. But the information on economics of BN hybrid production at farmer's field and its integration livestock feeding as well rooted slips are limited. Therefore, the present study was conducted with the object to study the economics of BN hybrid at farmer's field in Bundelkhand.

Materials and Methods

Field study was conducted at 4 farmers field during July 2013 to June 2015, at Kadesara Kalan village of, Talbehat, Lalitpur district (24^0 11' to 25^0 14' N and 78^0 10' to 79^0 00') of Bundelkhand region. The grass was sole planted in 0.1 to 0.2 hectare areas at 75 cms apart rows. The intra row spacing was kept at 60 cm. Planting was done manually after commencement of rains in the month of July. The basal dose of 60 kg N and 40 kg P_2O_5/ha was given besides 4000 kg FYM/ha (20-25 days prior to planting). First cut was taken at 65 days after planting. One manual weeding was done in the month of August and July in respective years. The standard irrigation schedules and other management practices were followed as per recommendation (Kumar *et al*., 2012). In first year seven and in second year eight cuts were taken manually with the sickle. The need for renovation or dressing of tussock was not realized as tussocks were pruned regularly to uproot and sale the rooted slips. Rooted slips were sold twice in a year.

Table 1: Average cost of production (four farmers)

Agricultural operations	**Cost (Rs.)**
Field Preparation	3,300
Plantation material and plantation	24,000
Fertilizer cost + FYM	5,910
Weed management	6,000
Irrigation	16,000
Other cost	5,000
Total Input	**60,210**
Output Income	
Return from green fodder	1,63,540
Return from rooted slip sale	18,937
Total output	**1,82,477**
Net return	**1,22,268**

Table 2: Economic returns

Farmer's Name	Area (ha)	Green fodder yield (q/ha)			Rooted slips sold	Return (Rs./ha)				B: C Ratio
		2013-14	2014-15	Total		GFY	Rooted slips	Gross	Net	
Sh. Hariram	0.20	1011	821	1832	20000	146560	15000	161560	101350	1.68
Sh. Jasrath Ahirwar	0.20	1402	1125	2527	31000	202160	23250	225410	165200	2.74
Sh. Dhaniram	0.10	1024	877	1901	28000	152080	21000	173080	112870	1.87
Md. Siddiqui	0.10	1055	862	1917	22000	153360	16500	169860	109650	1.82
Average	0.15	1123	921	2044	25250	163540	18938	182478	122268	

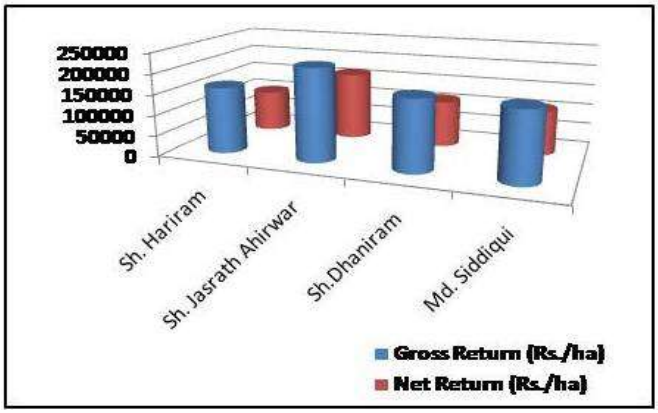

Fig. 1: Farmer's Gross and Net return.

Results and Discussion

On the basis of study Sh. Jasrath Ahirwar got maximum total return (Rs. 1, 65,200) followed by Sh. Dhaniram (Rs. 1,12,870), Md. Siddiqui, (Rs.1,09,650) and Sh. Hariram (Rs.1,01,350). The average cost of cultivation was recorded Rs 60,210 per hectare (Table 1) and net return was Rs. 1, 22,268 per hectare (Table 2). The highest B: C ratio was recorded at the farm of Sh. Jasrath Ahirwar.

Conclusion

The cultivation of BN Hybrid for green fodder and rooted slips is highly profitable at farmers' field in Kadesara Kalan of Bundelkhand region of India.

References

Agrawal, R. K., K. K. Singh and K. C. Sharma. 2001. Effect of split application of nitrogen on yield and quality of perennial grasses. *Indian Journal of Animal Nutrition* 18 (3): 267-270.

Kumar, S., R. K. Agrawal, A. K. Dixit, A. K. Rai, J. B. Singh and S. K. Rai. 2012. *Forage Production Technology for Arable Lands*. Technical Bulletin. IGFRI, Jhansi