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Short Communication

Use of Organic Inputs on the Economics of Scented Rice in Chhattisgarh

Lalita Ramteke, Ashish Banjare, Arvind Nandanwar, Arti verma and Vijay Jain

Krishi Vigyan Kendra, Pahanda (A) Durg,Chhattisgarh Pin code-490042

ABSTRACT

Organic farming performs major role in scented rice production. The experiment was conducted at Sehradabri farm of Krishi Vigyan Kendra, district Dhamtari of Chhattisgarh State. The treatments wereT1 (1)control without use of organic manure or biofertilizer only use FYM and T2 (2) along with FYM 5t/ ha+ vermicompost as recommended rate i.e.5t/ha, T3 (3) along with FYM 5t/ha+ vermicompost as recommended rate i.e.5t/ha and PSB culture + Azospirrillum@ of 3. 5kg/ha each .Results showed that the application of vermicompost along with FYM ,PSB and Azospirrillum culture increased no. of tillers , panicle length ,weight of 1000 grain and increased the grain yield in scented rice cultivation. Similar trends were reported in gross and net returns, showing better opportunities of organic agriculture in scented rice.

Key Words- Biofertilizer,Economic performance, Organic farming, Scented rice.

INTRODUCTION

Chhattisgarh is also known to be the rice bowl according their land situation and among all cultivars "Nagri Dubraj" more popular in Chhattisgarh state. Organic farming provides a way for continued rice production by resources poor Farmers and preserves the local aroma of the particular area in the variety. Organic manure have the capacity to fulfill nutrient demands of the crops adequately and promotes the activity of macro and micro flora in the soil (Sharma, 2005) under scented rice varieties increasing day by day with the opening of the world market as well as increased domestic consumption due to their premium quality (Singh *et al,* 2008). Hence experiment was planned to study the increased area of scented rice with combination of organic sources and suitable varieties for tribal zone.

MATERIALS AND METHODS

The experiment was conducted in kharif season of 2013-14, 2014-15 and 2015-16 at Sehradabri farm of KVK, Dhamtari, Chhattisgarh. The treatments were T1: control without use of organic manure or biofertilizer, T2: application of FYM 5t/ha and T3: application of FYM 5t/ha+ vermicompost@ 5t/ha and PSB+Azospirrillum culture@ 3.5kg/ha each as seedling root dip with three replications for scented rice variety Nagri Dubraj. Planted 16 days old seedlings was planted at spacing 20x15 cm with 2-3 three seedlings per hill, t -Test and comparison between two variables were applied as values.

Table 1. Nutrient content of different organic manures.

Organic manure	% N	% P	%K
FYM	0.91	0.42	0.57
Vermicompost	0.5	1.5	0.5
Neem Leaf	2.40	0.64	1.29

The seedlings of rice were transplanted manually. FYM were incorporated in the soil 15 days prior to transplanting while vermicompost and enriched compost were applied 2 days prior to transplanting of seedlings. Weeds were controlled by two hands weeding 20 and 40 Days. After transplanting, water was maintained at a depth of 2cm up to one week before harvest. The field was

Correspondence Author's email-lalitanages@rediffmail.com

Table 2. Effect of organic inputs on quality parameters of rice.

Treatment	No. of tillers/ plant			Plant height(cm)			Test weight (g)			Grain yield/ha		
	1st year	2nd year	3rd year	1st year	2nd year	3rd year	1st year	2nd year	3rd year	1st year	2nd year	3rd year
T1(control)	12	14	14	90.1	90	90	21.8	20	21.0	12.50	15.5	25
T2(FYM)+ Vermi compost @5t/ha)	14	16	15	90.3	92	92	22.1	21.1	21.8	15	20.5	27
T3(FYM+Vermicompost @ 5t/ha+ PSB+ Azospirrillum culture @ of 3.5kg/ha	16	18	20	90.5	91	91	22.3	22.3	23.3	17.5	23.5	29

drained one week before harvest. The experiment received uniform plant protection and cultural management practiced throughout the crop period with neem oil and pseudomonas was utilized for pest and dieses management.

RESULTS AND DISCUSSION

Organic manure significantly increased the tillers production yield attributes and grain yield among the three treatments (Table 2). Result revealed that T3 is having highest yield as compared to T1 & T2 respectively. Production was very low in 1st year and it is gradually increasing year wise all the three treatments due to the use of organic components.

Economic analysis was done to understand relative profitability of different organic inputs by analyzing cost of production, gross return, net return and B/C ratio (Table 3) among different treatments, highest cost of cultivation (26250) recorded equally in enriched compost and vermicompost.

CONCLUSION

From the above study it was concluded that under organic farming situation among the different organic inputs enriched compost @5t/ha can be applied for higher yield as well as higher quality production of scented rice for fetching higher price to make it economically profitable. Organic agriculture is not new concept of India and traditionally Indian farmers are organic farmers basically. Using easily available local natural resources, organic farming can be practiced with a view to protect /preserve/safe guard our own natural resources and environment for a fertile soil. Healthy crop and quality food and let our future generations enjoy the benefit of non-chemical agriculture. Now a day's organic farming is our basic need, from the above study we fulfill our primary requirements, sustain the soil health and conserves the local variety of the schedule tribes.

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Table 3. Effect of organic inputs on economics of rice Nagri dubraj .

Treatment	Cost of cultivation (Rs./ha)	Gross return(Rs./ha)	Net return(Rs./ha)	B/C Ratio
T1	22083.3	28750.0	6666.7	1.6
T2	24583.3	34500.0	9916.7	1.9
T3	26250.0	58500.0	32250.0	2.6