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Scented rice: Cost of cultivation and input-output relationship in Muzaffarnagar district of Western U.P.

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Abstract

Paddy belongs to family poaceae. Paddy is the staple food of more than 60 per cent of the world population and for about three fourth of the Indian population. Scented rice was known since the ancient times, and was considered the best among specialty rices. The study is based on 100 sample farms of different categories viz. marginal (40), small (27) medium (17) and large (16). Multistage stratified proportionate random sampling was applied for selection of respondents. Primary information was collected through personal interview method on pre-tested questionnaires. Simple tabular analysis was applied for drawing results. Overall average, per hectare cost of cultivation was estimated Rs.24585.72 in the study area. Per hectare cost of cultivation revealed inverse relationship with the size of holding of the respondents in the study area. Input-output ratio, on overall average farm observed 1:2.28, in the study area. Scented rice is a lucrative crop of the study area and is suitable for doubling the income of the farmers.

Keywords: Cost of cultivation, input-output ratio, random sampling, stratified

Introduction

Scented Rice (*Oryza sativa* L.) belongs to family poaceae. Rice is the staple food of more than 60 per cent of Global and 75 percent of Indian Population. World wide consumption trend retained in future too scented rice is liked by people in crazy manner. About 90 per cent of total rice grown in the world is produced and consumed in Asian region. Scented rice were known and considered the best among specialty rice. Throughout the world, scented rice has been the choicest food of kings, royalty, the elite of society, as well as the common man.

The slogan 'rice is life' is most important for India as this crop plays a pivotal role in our national food security mission. Rice generates sources of livelihood for millions of rural house holds and creating opportunity of direct employment to them. Rice has potential to fulfill the food requirements of increasing population of the world. It provides 32.59% of the dietary energy and 25.44% of protein. It supplies 20% calories at world level and 31% calories at Indian level. Rice contains 7-8 per cent protein, 2 to 2.5 per cent fat and small amount of fiber and ash. During 2017 China was leading country with production 210.10 million metric tonnes followed by India with approximate production 165.3 million metric tone. During 2014-15, West Bengal was first in area and production followed by U.P. In Muzaffarnagar paddy is grown on 37500 ha area with production 90414 metric tones with productivity 24.11 qtl./ha. Study pertains agricultural year 2014-15. Scented rice variety assumes special significance, as for as taste and, market value is concerned. In said distt. In sufficient area scented rice is grown by the cultivators. Seeing the above facts in due consideration the proper study was carried out with following objectives: to work out cost of cultivation and input-output relationship of scented rice on sample farms.

Methodology

Multistage stratified random sampling procedure was applied. Muzaffarnagar district was purposively selected. A list of all block following under Muzaffarnagar district of U.P. was prepared. One block, namely, Janhat having highest acreage under scented rice was selected. A list of all villages growing scented rice falling under selected block was prepared and five villages were randomly selected for the study. A list of all cultivators of each selected villages were prepared along with their size of holding and stratified into marginal, small, medium and large stratum. Ultimately 100 respondents were selected randomly considering their proportion in population. Simple tabular analysis was applied for drawing result.

Result and Discussion

Per hectare costs on various input factors in paddy cultivation were worked out and are presented in table-1. This table revealed that on an overall average, cost of cultivation of scented rice was observed Rs. 24585.72 in the study area. Cost of cultivation was higher on large farms (Rs. 24993.36) followed by small farms (Rs.24563.12), marginal farms (Rs. 24492.19) and, medium farms (Rs.24456.88) respectively. The cost of cultivation reflects inverse relationship with the size group of farms in the study area. Total cost on large farms was maximum due to heavy expenditure on total human

labour, tractor charges, seed cost. Manure and fertilizers and interest on fixed capital. Major components of cost of cultivation on different size group of farms were total human labour cost, seed cost, manure & fertilizer and interest on fixed capital in the study area.

Overall input output ratio was observed 1.2.28 in the study area. Higher input output ratio indicates that cultivation of scented rice is a lucrative enterprise for the farmers of the study area and is a suitable crop for doubling income of the farmers.

Table 1: Per hectare cost of different inputs used in Scented Rice. (Rs./ha)

Sr. No.	Particulars	Size group of sample farms				Overall average
		Marginal	Small	Medium	Large	
1	Family labour	3597.43 (15.01)	2071.42 (8.39)	1250.28 (5.09)	854.29 (3.41)	2347.48 (9.61)
2	Hired labour	563.29 (2.35)	1757.08 (7.12)	2649.72 (10.80)	3195.71 (12.76)	1661.49 (6.80)
3	Total human labour	4160.73 (17.36)	3828.50 (15.51)	3900.00 (15.10)	4050.00 (16.20)	4008.89 (16.41)
4	Tractor power	3814.57 (15.91)	3813.60 (15.45)	3603.25 (14.69)	3513.85 (14.05)	3730.26 (15.27)
5	Seed cost	3200.00 (13.35)	3250.00 (13.17)	3300.00 (13.45)	3450.00 (13.80)	3229.75 (13.22)
6	Manures and fertilizers	2474.43 (10.32)	2566.67 (10.40)	2570.21 (10.48)	2600.00 (10.40)	2536.10 (10.38)
7	Irrigation charges by canal	479.84 (2.00)	367.99 (1.49)	303.02 (1.23)	393.94 (1.57)	405.83 (1.66)
8	Weed control	108.36 (0.45)	364.14 (1.47)	376.91 (1.53)	375.78 (1.50)	265.86 (1.08)
9	Interest on working Capital	275.16 (1.14)	289.81 (1.17)	281.06 (1.14)	287.67 (1.15)	281.04 (1.15)
10	Rental value on owned land	5000 (20.86)	5000 (20.26)	5000 (20.38)	5000 (20.00)	5000 (20.47)
11	Interest on fixed capital	2753.00 (11.48)	2850.00 (11.55)	2960.00 (12.06)	3050.00 (12.20)	2861.90 (11.72)
12	Sub total	22266.09 (90.91)	22330.11 (90.91)	22233.35 (90.91)	22721.24 (90.91)	22350.66 (90.91)
13	Managerial cost (10% of Sub total)	2226.60 (9.09)	2233.01 (9.09)	2223.33 (9.09)	2272.12 (9.09)	2235.06 (9.09)
14	Grand Total(Cost C ₃)	24492.19 (100)	24563.12 (100)	24456.88 (100)	24993.36 (100)	24585.72 (100)
15	Gross income	54000.00	56700.00	57600.00	59400.00	56205.00
16	Input output ratio	1:2.20	1:2.30	1:2.34	1:2.37	1:2.28

Summary and conclusion

The study is based on 100 sample farms of different categories viz. marginal (40), small (27) medium (17) and large (16). Multistage stratified proportionate random sampling was applied for selection of respondents. Primary information were collected through personal interview method on pre-tested questionnaires. Simple tabular analysis was applied for drawing results. Overall average, per hectare cost of cultivation was estimated Rs.24585.72 in the study area. Per hectare cost of cultivation revealed inverse relationship with the size of holding of the respondents in the study area. Major components of cost of cultivation on different size group of farms were total human labour cost, seed cost, manure & fertilizer and interest on fixed capital in the study area. Input-output ratio, on overall average farm observed 1:2.28, in the study area. Scented rice is a lucrative crop of the study area and is suitable for doubling the income of the farmers.

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