Int.J.Curr.Microbiol.App.Sci (2018) Special Issue-7: 3283-3286

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Special Issue-7 pp. 3283-3286**
Journal homepage: http://www.ijcmas.com

Original Research Article

Maize: A Study on Cost of Cultivation and Profit Measures in Auriya District of Western U.P., India

K. K. Singh[1], Bholendra Sisodia[2], G. P. Singh[3], R. A. Singh[4], Neeraj Singh Gautam[2] and Santosh Tripathi[5]

[1]Department of Agril. Eco., ZARSSR, Ghazipur, N.D.U.A & T., Faizabad, India
[2]Department of Agril. Eco., India
[3]Department of Agril. Eco. N.D.U.A & T., Faizabad, India
[4]Directorate of research, N.D.U.A & T., Faizabad, India
[5]R. M., Khetan Chemicals and Fertilizers Pvt Ltd Bihar, India
**Corresponding author*

A B S T R A C T

Maize belongs to family Poacea. Maize is one of the miracle and high yield potential cereal crop of the world. Maize is the third most important food grain crop in India followed by wheat and rice. Maize is grown throughout the India on an area about 6 million hectare, contributing about 25 percent of the total area of the continent. Maize grains contains about 10 percent protein, 4 percent oil, 70 percent carbohydrate, 2.3 percent crud fiber and 10.4 percent albuminoids and 1.4 percent ashes. The study is based on 100 respondents of four size group viz. Marginal, small, medium and large. The respondents were selected by proportionate random sampling method. The study period pertains to agricultural year 2014-15. Multistage stratified random sampling procedure was applied for selection of respondents. Overall average farm size of holding was estimated 1.42 hectare in the study area. Cost of cultivation of maize was observed Rs. 40742.30. Gross income was estimated Rs. 51721.25 and net income Rs. 9700.18 in the study area. Family labour income, farm investment income, farm business income and cost of production were observed Rs. 20561.82, 24297.69, 36241.59 and Rs. 917.94 respectively from maize cultivation. Input out ratio of maize crop was found 1:1.19. Maize crop is suitable for intensive cultivation and providing opportunity of employment. Maize is one of the most suitable crop for boosting food security of India.

Keywords

Cultivation, profit measures, Auriya district

Introduction

Maize (Zea maize L.) belongs to family Poacea. Maize is the third most important food crop in India followed by wheat and rice. In India, about 28 percent of produced maize is used for food purpose, 48 percent for poultry feed, 12 percent for milling industries and 1 percent as seed. (AICRP-2007). Maize grain contains about 10 percent protein, 4 percent oil, 70 percent carbohydrate, 2-3 percent fiber, 10.40 percent albuminoids and 1.4 percent ashes.

Deriving by structural change in agricultural and food consumption pattern, maize seems to be an important cereal crop of future. Among the states of India, Andhra Pradesh ranks first in production followed by M.P., Kernatka, Rajasthan and U.P. In U.P. maize

was cultivated an area about 698000 hectares with production 11544.92 quintals having productivity 2.23 tonnes ha^{-1}. (Directorate of maize research, New Delhi, 2013-14).

Auriya district of U.P. enjoys sufficient acreage under maize cultivation with comparatively low productivity. There is sufficient scope of increasing productivity of maize in this district. Maize is one of the important lucrative crop for this area and proper cultivation of this crop can enhance the earning capacity of the farmers.

Keeping the above facts in due consideration the study entitles; "Maize: "A study on cost of cultivation and profit measures in Auriya district of western U.P." Assumes special significance and importance, the study was carried out with following objectives, (i) to workout cost of cultivation of maize crop in the study area; (ii) to workout input output relationship and various profit measures of maize cultivation in the study area.

Materials and Methods

Multistage stratified purposive random sampling procedure was applied for selection of district, Block, village and respondents. Auriya district was purposively selected. "Sahar" block was enjoying highest acreage under maize cultivation also selected purposively.

According to acreage under maize cultivation, five top ranking villages were selected from sahar block. Ultimately 100 respondents of different stratum viz. marginal, small, medium and large were drawn from selected village following proportionate random sampling procedure. Suitable tabular analysis was applied for estimating cost of cultivation and various profit measures of maize cultivation.

Results and Discussion

Cost of cultivation of maize is presented in table-1. This table reveals that overall average cost of cultivation of maize in study area was recorded Rs. 40742.30, Cost of cultivation was observed highest on marginal farm followed by small, medium and large farm. It reflects inverse relationship between cost of cultivation and size group of farms. This table also reveals that major components of cost of cultivation of maize were cost of human labour, manure and fertilizer, irrigation and tractor charges in the study area.

Table-2 reflects various costs and profit measures of maize cultivation in the study area. This table revealed that overall average gross income from maize cultivation was observed Rs. 51721.25. There was inverse relationship between size group farms and gross income. Overall average of various profit measure, such as, net income, family labour income, farm investment income. and Farm business income from maize cultivation were Rs. 9700.18, Rs. 20561.82, Rs. 24297.69 and Rs. 36241.59 respectively in the study area. Average cost of production of maize was found Rs. 917.94 in the study area. Average input-output ratio was 1:1.19 from maize cultivation in the study area. Maize crop is suitable for intensive cultivation and generated ample opportunity of employment of growers.

This study reflects that maize cultivation is appropriate for intensive cultivation and also generate ample opportunity of employment. The study is based on 100 maize grower of different size group viz. i) marginal, ii) small, iii) medium and iv) large. Multistage stratified purposive proportionate random sampling procedure was applied for selection of respondents. Tabular analysis was applied for arriving result.

Table.1 Cost of cultivation of maize (Rs./ha)

S. No.	Particulars	Size group of sample farms				Overall average
		Marginal	Small	Medium	Large	
1	Family labour	11598.83 (27.48)	9049.36 (22.47)	5513.58 (14.31)	4878.15 (12.93)	9464.12 (23.22)
2	Hired labour	2886.62 (6.84)	4432.29 (11.00)	7062.52 (18.33)	7350.33 (19.48)	4270.29 (10.48)
3	Total human labour	14485.45 (34.32)	13481.65 (33.47)	12576.1 (32.64)	12228.48 (32.42)	13734.47 (33.71)
4	Tractor power	3318.60 (7.86)	3127.70 (7.76)	3018.59 (7.83)	2918.59 (7.73)	3185.69 (7.81)
5	Seed cost	1252.59 (2.96)	1186.70 (2.94)	1025.80 (2.66)	995.35 (2.63)	1182.39 (2.90)
6	Manure & fertilizer	5256.91 (12.45)	5079.59 (12.61)	4904.20 (12.72)	4745.60 (13.58)	5113.39 (12.55)
7	Irrigation charges	1369.22 (3.24)	1145.65 (2.84)	1025.00 (2.66)	985.99 (2.61)	1221.24 (2.99)
8	Chemical	439.69 (1.04)	365.68 (0.90)	265.91 (0.69)	238.68 (0.63)	384.79 (0.94)
9	Interest of working capital	261.22 (0.61)	243.86 (0.60)	228.15 (0.59)	218.36 (0.57)	247.95 (0.60)
10	Rental value on owned land	12000 (28.43)	12000 (29.79)	12000 (31.14)	12000 (31.81)	12000 (29.45)
11	Interest on owned fixed capital	3812.24 (9.03)	3638.69 (9.08)	3481.56 (8.38)	3387.4 (8.98)	3679.56 (9.03)
12	**Grand total**	42195.92 (100)	40269.52 (100)	38525.31 (100)	37718.83 (100)	40742.30 (100)

Table.2 Measures of cost and return of maize (Rs./ha)

S. No.	Item	Size groups of farms				Overall average
	Costs	Marginal	Small	Medium	Large	
1.	Cost A_1/A_2	15174.41	15581.47	17530.17	17453.28	15777.81
2.	Cost B_1	18986.65	19220.16	21011.73	20840.68	19457.37
3.	Cost B_2	30986.65	31220.16	33011.73	32840.68	31457.37
4.	Cost C_1	30585.48	28269.52	26525.31	25718.83	28921.50
5.	Cost C_2	42585.48	40269.52	38525.31	37718.83	40921.50
6.	Cost C_3	43197.72	41708.21	40806.87	38406.23	42021.06
7.	Gross income	53535	51406.50	49316.70	46236.70	51721.25
8.	Net income	10337.28	9698.29	8509.83	7830.47	9700.18
9.	Family labour income	22773.35	19979.84	16908.27	15799.32	20561.82
10.	Farm investment income	24374.52	24130.48	24594.69	24121.17	24297.69
11.	Farm business income	38585.86	35618.53	32389.83	31187.72	36241.59
12.	Cost of production	1016.76	939.77	957.62	872.51	917.94
	Input-output ratio					
I.	A_1/A_2	1:3.54	1:3.28	1:2.84	1:2.28	1:3.26
II.	B_1	1:2.83	1:2.66	1:2.37	1:2.33	1:2.67
III.	B_2	1:1.73	1:1.63	1:1.51	1:1.48	1:1.64
IV.	C_1	1:1.75	1:1.81	1:1.88	1:1.89	1:1.79
V.	C_2	1:1.26	1:1.27	1:1.29	1:1.28	1:1.26
VI.	C_3	1:1.18	1:1.19	1:1.22	1:1.23	1:1.19

Note: Figures in parentheses show the percent to corresponding total.

The objective of the study area were (i) to workout cost of cultivation of maize crop in the study area; (ii) to workout input output relationship and various profit measures of maize cultivation in the study area. Per hectare cost of cultivation of maize was found 40722.30.

Various income measures such as gross income, family income, farm income, farm business income and input-output ratio was found 1:1.19 in the study area.

Maize cultivation is suitable for improving land use pattern of the farmers.

Maize can be grown by the farmers round the year. Cultivation of maize generate opportunities of employment for the cultivates and others too. Maize crop production is suitable for boosting food security mission of India.

References

Navadkar, D. S. *et al.,* 2012. Economics production and marketing of maize in Ahmed Nager district of Maharastra. Agriculture Situation in India! 69 (6): 309-316

Raj Kumar and Chahal, S.S. 2011. An Economic Analysis of Maize Marketing in Punjab. International Research Journal of Agricultural Economics and Statistics; 2(1): 79-86

Sanjay Kumar and Grower, D.K. 2014. Maize (fodder) In Punjab: an economic analysis. Indian Journal of Agricultural research; 48(4): 307-312

Verma, A.R. 2007. Economics of Production, resource use efficiency, marketing and constraints of Maize in Tribal District Dhar of M.P. Agricultural Marketing: 46 (4) 108-116