Agriculture Update
Volume 7 | Issue 3 & 4 | August & November, 2012 | 447-449

Research Article

Enhancing income and employment through vegetable crops in district Lucknow, Uttar Pradesh

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ARTICLE CHRONICLE :
Received:
21.09.2012;
Revised :
30.10.2012;
Accepted:
09.11.2012

SUMMARY : The investigation was carried out during 2007-08 in block Bakshi Ka Talab of district Lucknow with thirty random sample of the vegetable growers. The economics and employment of three major vegetable *viz*., okra, cauliflower and tomato were worked out at different size group of farms. The average cost of cultivation for okra came to Rs.14870.68 /ha which fetched a net income of Rs.10369.32 per hectare. The cauliflower crop reflect a net return of Rs.18192.01/ha on investment of Rs.17432.99 as input cost while tomato crop produced a net benefit of Rs. 18106/ha by incurring a input cost of Rs.21774/ha. A comparative study revealed that tomato crop reflect highest gross return of Rs.39880/a while on the front of net return cauliflower proved best and tomato was at par. The cost of production per quintal of okra, cauliflower and tomato came to Rs.234.04, Rs.183.51 and Rs. 218.31, respectively. The input- output analysis revealed that cauliflower crop proved to economical and remunerative fetched more than two times return over cost (1:2.04 B:CR) while tomato ranked second with 1.83 times benefit over investment . On employment front tomato generated highest employment days (60) followed by okra 45 man days and cauliflower 35 man days in the study area.

How to cite this article : Rai, J., Rai, Rajesh and Singh, Arun Kumar (2012). Enhancing income and employment through vegetable crops in district Lucknow, Uttar Pradesh. *Agric. Update*, **7**(3&4): 447-449.

KEY WORDS:
Income, Employment, Family labour income, Farm business income, Cost of production

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BACKGROUND AND OBJECTIVES

India is world's largest producer of vegetable next only to China. Vegetables are excellent source of vitamins, particularly niacin, riboflavin, thiamin and vitamins A and C. They also supply minerals such as calcium and iron besides protein and carbohydrates. The per capita consumptions of vegetables in India is only 256 grams/capita/day against a minimum of 285 grams / capita /day recommended by dietitians. In last decades the increase in area under vegetable crops was merely 0.42 per cent while production has increased by 78.91 per cent. The credit for this vertical expansion in vegetable production and protection technologies due to new technologies (Kumar and Arora,1999)

Uttar Pradesh is third largest vegetable growing state in the country occupied about 0.69 million hectare area with estimated production of 13.89 million tones production. Lucknow division of Uttar Pradesh have occupied about 63156 hectare area under vegetable crops while district Lucknow have 10997 hectares area under different vegetable crops during investigation period (Anonymous, 2009). However, vegetables occupy hardly 2-3 per cent of total cropped area of the country which is very low in view of national demand. Hence, it is necessary to increase the production productivity and economic return per unit of vegetable to fulfill the desired need of growing population and to ensure better nutrition by adopting improved technology.

RESOURCES AND METHODS

The investigation was carried out in district Lucknow during 2007- 08. A multi stage random sampling technique was adopted to select block, village and vegetable growers. Out of eight development blocks of district Lucknow, one block namely Bakshi Ka Talab (BKT) was selected purposely where majority of farmers were engaged in vegetable farming. A list of all the villages

growing vegetables in the block Bakshi Ka Talab (BKT) was prepared. Out of these , five villages *viz.*, Bhouli, Naveen kot Nandana , Devariruhara, Indora and Chandpur were selected randomly for the investigation. A total of thirty vegetable growers (18- marginal, 9- small and 3- medium) were selected randomly from the universe of five selected villages on the proportion of farmers falling in each village under different size group of farms. These farmers were grouped according to the size of land holding they possess, that marginal (0-1 ha), small (1-2 ha) and medium (2-3 ha). Three major vegetables, okra, cauliflower and tomato were taken for study and analysis on the basis of more area and production at different size group of farms. The enquiry was conducted by survey method. The data were collected by personal interview with selected vegetable growers on well prepared schedules. The tabular analysis, weighted average, costs and return analysis have been worked out for analyzing the different data.

OBSERVATIONS AND ANALYSIS

The results obtained from the present investigation have been discussed in the following sub heads:

Yield and return from okra production:

The Table 1, reveals that okra crop gave an average net income of Rs. 10369.32 by incurring an input cost of Rs.14870. 68 on per hectare basis. The average family income and farm business income were worked out at Rs.14903.32 and Rs. 15181.01 per hectare, respectively. The input -output ratio for okra crop came to 1: 1.73 while cost of production was worked out to Rs. 236.04 per quintal. A size group wise analysis shows that net returns, family labour income and farm business income were higher on medium farms as compared to marginal and small farms. It was due to higher yields and income in relation to input on medium farms.

Yield and returns from cauliflower production:

The Table 2 shows that on an average cauliflower crop gave a gross income of Rs.35625 and a net income of Rs. 18192.01 by incurring input cost of Rs. 17432.99 per hectare basis. The average family labour income and farm business income were worked out Rs.22771.88 and Rs.25571.88 per hectare, respectively. The cost of production per quintal came to Rs.183.51 while input- output ratio reflect that cauliflower crop can fetch more than two times return on investment of Re. l. A size group wise examination shows that yield levels , gross and net incomes were comparatively higher on medium farms due to better resources management.

Yield and returns from tomato production:

Table 3 reveals that on an average tomato crop gave Rs. 39880 gross income and Rs. 18106 net income per hectare by

Table 1: Yield, returns and cost of production from okra crop (Rs./ha)

Particulars	Size group in hectare			Average
	Marginal	Small	Medium	
Input cost	14372.00	15270.00	15805.00	14870.68
Yield in q / ha	60	65	70	63.10
Rate in Rs./ha	400.00	400.00	400.00	400.00
Gross income	24000.00	26000.00	28000.00	25240.00
Net income	9628.00	10730.00	12195.00	10369.32
Family labour income	14162.30	15278.05	16443.00	14903.32
Farm business income	19250.90	15911.80	17241.84	15181.01
Cost of production / q	239.60	234.92	225.78	236.04
Input- Output ratio	1:1.66	1:1.70	1:1.77	1:1.73

Table 2 : Yield, returns and cost of production from cauliflower crop (Rs./ha)

Particulars	Size group in hectare			Average
	Marginal	Small	Medium	
Input cost	16750.75	17133.32	18415.00	17432.99
Yield in q / ha	90	95	100	95
Rate in Rs./ha	375	375	375	375
Gross income	33750.00	35625.00	37500.00	35625.00
Net income	16999.25	18491.68	19058.00	18192.01
Family labour income	21993.51	23073.49	23248.55	22771.88
Farm business income	24793.51	25873.49	26048.55	25571.88
Cost of production / q	186.12	180.35	184.15	183.51
Input- Output ratio	1:2.01	1:2.08	1:2.04	1:2.04

Table 3: Yield, returns and cost of production from tomato crop (Rs./ha)

Particulars	Size group in hectare			Average
	Marginal	Small	Medium	
Input cost	19763.62	20264.59	21510.08	21774.00
Yield in q / ha	95	100	115	99.70
Rate in Rs./ ha	400	400	400	400
Gross income	38000.00	40000.00	46000.00	39880.00
Net income	18236.38	19735.41	24489.92	18106.00
Family labour income	24449.30	25509.95	30332.66	24414.60
Farm business income	26949.30	28009.95	32832.66	26646.00
Cost of production / q	208.03	202.64	187.04	218.39
Input- Output ratio	1:1.92	1:1.97	1:2.13	1: 1.83

Table 4: Economics and level of employment of major vegetable crops per hectare

Particulars	Average (marginal, small, medium) size group		
	Okra	Cauliflower	Tomato
Cost of cultivation Rs./ha	14870.68	17432.99	21774.00
Gross return Rs. / ha	25240.00	35625.00	39880.00
Net return Rs. / ha	10369.32	18192.01	18106.00
Family labour income Rs. /ha	14903.32	22771.88	24414.60
Farm business income Rs. /ha	15181.01	25571.88	26646.00
Cost of production / q	236.04	183.51	218.39
Input - Output ratio	1:1. 73	1:2.04	1:1.83
Level of employment (days)	45	35	60

incurring a cost of Rs. 21774 per hectare basis. The average family labour income and farm business income were worked out to Rs. 24414 and Rs. 26646 per hectare, respectively. The input - output analysis of tomato crop fetched 1.83 times return on investment. Similar results were confirmed by (Senthil Kumar, 2007)

As regard the cost of production per quintal it was calculated out as Rs. 218.39. A size group wise investigation shows that all types of returns were higher on medium farms as compared to marginal and small farms. It was due to higher yield because of more investment of inputs on medium farms.

Economics and level of employment from major vegetable crops:

It is evident from the Table 4 that tomato crop incurred highest cost of cultivation Rs. 21774 per hectare with a tune of Rs. 39880 gross return per hectare while highest net return of RS.18192 per hectare was obtained through cauliflower crop. Highest intake of family labour was observed in tomato crop with highest farm business income of Rs.26646 per hectare. The highest cost of production 236.04 per quintal was worked out from okra crop while lowest cost of production Rs. 183.51 per quintal was computed for cauliflower. Cauliflower crop fetched highest return of Rs.2.04 on investment of Re 1, while tomato crop reflect 1.83 times return from Re. l. Maximum level of employment (60 days) was recorded from tomato crop followed by okra (45 days) and 35 days from cauliflower crop (Kumar *et al.*, 2006) .Overall analysis of the data and observation of investigation revealed that vegetable farming is a profitable venture in irrigated eco- system if grown in early condition because of effective demand and better remunerative prices in the market.

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