



*Short Communication*

## STUDY AND ANALYSIS OF INCOME AND EXPENDITURE LEVEL OF POTATO (*SOLANUM TUBEROSUM*) UNDER DIFFERENT SIZE OF HOLDINGS

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### Abstract

The main objective of the present study was to work out the income and expenditure level of potato by the use of bio fertilizer along with organic and inorganic fertilizer also in randomly selected villages of district Ghazipur, U.P. during 2011-12. It was found that yield and net return was increased from smaller to large farm ranges increasing trends under demo and local checks. Benefit cost ratio also ranges increasing from smaller to larger ones. The study concludes that yield and net return was increased only due to proper use of organic and bio fertilizer management, this study further concludes that in future more better use of organic and bio fertilizer management produces more yield and better net return in all size groups.

**Key words:** Yield, bio fertilizer, increasing trends.

### Introduction

The potato crop has a special value as food. Potato belongs to the family Solanaceae. It occupies the largest area under any single vegetable in India. The consumption of potato per head in our country is not very much highered in comparison to others. This crop needs irrigation at frequent intervals. Five to six irrigations are sufficient. Potato tubers are planted either whole or cut into pieces sowing time is mid of September to the first week of January. Where crop has been sown in plains of the Northern area. Two successive crops can be raised on the same land. Organic manures as play very much important role in the production of yield and quality. This should be put into the soil 3 to 4 weeks before planting 80 Kg. of Nitrogen, full dose of phosphorus and full dose of potash will be incorporated into the soil as basal dressing, rest 40 Kg. of nitrogen should be apply as top dressing at the time of first earthing. Use of proper planting measures resulted to protect the crop from late blight and insect pest etc. Application of good quality of organic manure or FYM along with recommended doses of NPK provides significantly higher yield and better quality

reported by Emin Caliskan *et al.* (2004). Organic manures not only been responsible for adding the natural sources of NPK but it play an important role to improve the physical and chemical properties of nutrient, deficiency in the Soil which improves higher tuber yield said by Roust and Neyround (2003). The tuber and their size has been increased when they have got sufficient amount of nitrogen because this is one of the very much most important food as well as Vegetable (crops in our country which is responsible for producing better calories and weight in comparison to others, Application of herbicides or hand weeding resulted higher tuber yield.

### Materials and Methods

The present study was conducted along with farmers scientist collaboration in randomly selected village and block namely Sepah of Kasimabad Block. The study has been taken during the Season of 2011-12 in Ghazipur district of Uttar Pradesh. Three farmers have been selected on random basis under small, medium and large size of holdings. The main motto was to increase their production with better quality and also suggested them to compare the advance practices along with local ones.

Kufri red variety has been suggested which was taken on the field during the second fortnight of November with the use of NPK 120:80:100 Kg. per hectare along with 20 tone/ha. of organic manure, put the line to line distance was 50 to 60 Cm. and plant to plant was 15 to 20 Cm. Used Azotobacter as bio fertilizers according to the crop needs which was helpful to increase the size of tubers and their production. Survey method has been used to collect the data and tabular analysis was being used. Family schedule has been used to collect the data from selected farmers regarding their holding and family size, production area, cost and return of the crop etc. Analyzed income and expenditure of the crop and current price rate weed growing throughout the crop season reduced the crop yield more than 50%. Therefore according to the crop need hand weeding along with Chemical weeding process has been applied to controlled the losses. The application of herbicides or hand weeding formed more uptake of nutrients by the crop because weed control practices provides better growth, tuber yield and their qualities etc.

## Results and Discussion

Yield 215 Qt./ha., 225 Qt./ha. and 250 Qt./ha., has been formed in demonstrated crop under small, medium and in large size of holding groups, while 118 Qt./ha., 120 Qt./ha. and 140 Qt./ha. was found in local check formed

fertilizer has been used which resulted higher yield. Use of bio fertilizers low down the cost of certification and increase their yield day with the application of recommended and optimum dose N.P.K. confirm the findings of Upadhyay *et al.* (1994). Table-2 Shows the income and expenditure where gross cost was Rs. 60,381/ha., Rs. 64,989/ha. and Rs. 69,186/ha, Net return Rs. per hectare was 1,02,109/-, 1,05,357/- and 1,11,864/- under small, medium and large size of holding visible increasing trends from smaller to larger ones in Demo. While gross cost Rs. per hectare was 48,695/-, 50,987/- and 55,172/- along with Net return Rs. per hectare 50,042/-, 55,862/- and 64,953/- was formed in local checks formed increasing trends. Benefit cost ratio was 2.03, 2.10, 2.18 ranges increasing trends from small to large. Higher net return was formed with the better use of organic and inorganic fertilizers along with inoculation of bio fertilizer also, concluded that use of bio fertilizer was cheaper source to improve the soil and plant quality. Finally the study concludes that in future that all size of holdings groups improve and increase their yield more and more by use bio fertilizer management.

## References

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**Table 1:** Yield (Qt/ha.) of Potato under different size of holdings during 2011–12

Size of Holdings	No. of Farms	Area of Farms (ha.)	Seed Rate (Qt./ ha.)	Organic Manure (Tone/ha.)	Fertilizer (Kg./ha)			Duration of Crop Days	Yield (Qt./ ha.)		Percentage increase in yield
					N	P	K		Demo	Local	
Small	3	1	25.00	20	120	80	100	100-120	215	118	82.20
Medium	3	1	25.00	20	120	80	100	100-120	225	120	87.50
Large	3	1	25.00	20	120	80	100	100-120	250	140	78.57

**Table 2 :** Analysis of Income and Expenditure of Potato under different size of Holdings during 2011 – 12

Size of Holdings	No. of Farms	Income and Expenditure of Demo (Rs./ha.)				Economics and Expenditure of Local Check (Rs./ha.)			
		Gross Cost	Gross Income	Net Return	Benefit cost Ratio	Gross Cost	Gross Income	Net Return	Benefit cost Ratio
		Small	3	60,381	1,62,490	1,02,109	2.69	48,695	987,37
Medium	3	64,989	1,70,346	1,05,357	2.62	50,987	1,06,849	55,862	2.10
Large	3	69,186	1,81,050	1,11,864	2.62	55,172	1,20,125	64,953	2.18

increasing trend from small to large size groups. Percentage increase in yield was 82.20%, 87.50% and 78.57% show in table-1 shows no specific trends. There were a wide range of increase in the production in comparison to demonstrated and local ones, this was only due to proper management of weed, in seat pest management properly and timely along with better management of organic manures and Azobacter as bio

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