



STUDY THE INCREASE IN YIELD AND NETE INCOME IN POTATO (*SOLANUM TUBEROSUM*) BY USE OF ORGANIC AND INORGANIC MANURES

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Abstract

The main aim of the present study was to work out the increase in yield, net income by using organic and in organic manures at different size of holdings in randomly selected advisory village of Ghazipur district of Uttar Pradesh during 2010-11. Yield and net income up from lower to higher size. Increasing trends formed in all respect along with no specific trends in benefit cost ratio of potato cultivation. The study finally that in future for better yield and better income with reducing cost of all size groups come with a good farm plans.

Key words : Farmers, crop, yield, groups, ranges, increasing trends.

Introduction

This potato occupies the largest area under any single vegetable in the world. It has special value as food. In our country, consumption of potato per head is very low. Potato tubers are planted either whole or cut into pieces. Disease free seed should be sown. In the plains the sowing time is from the middle of September to the beginning of January. Two successive crops can be raised on the same land. This crop needs irrigation at frequent intervals, depending upon the soil and Climatic Conditions. Usually, six irrigations are sufficient. Organic manures to be incorporated into the soil 3 to 4 weeks before planting, 80 kg. of nitrogen and full dose of phosphorus and potash as basal dressing planting rest 40 kg. of nitrogen as top dressing at the first earthing-up. Some local practices for the crop, which are seems to be more useful for the supply of total nutrient in the crop such as green manuring, recycling crop residues and animal manures, inclusion of legumes in rotation is beneficial. Formulation on low cost nutrients management practices based on local resources needs due attention (Grubinger, 1992). Organic manures are the natural source of nutrients

as well as provide stimulatory effect of better efficiency of chemical fertilizers which also improve the physico-chemical properties of soil and reduce the micronutrient deficiency (Reust *et al.*, 2003). For better yield and good quality this crop requires large quantity of nitrogenous fertilizers which provides maximum net return with low costs.

Materials and Methods

The present study was carried out through farmers scientist collaborations in randomly selected village Amhat of Mohamdabad block in Ghazipur district of Uttar Pradesh during 2010-11 ranging small, medium and large size groups of the farmers, selected six formers from each groups randomly for potato crop which has been sown on the field during second fort night of November Kufri-Sindhuri variety has been suggested with 25 to 30 Qt. per hectare of seed rates along with N.P.K. @ 120:80:100 kg/hectare, suggested also organic manures according to their availabilities with line to line distance 50 to 60 cm and plant to plants are 15 to 20 cm. Used Azotobacter as bio fertilizers according to their

Table 1 : Potato yield (qt./ha.) of different farm levels during 2010 – 11.

Size of holdings	No. of farms	Seed rate (Qt./ha.)	Organic manure (Tone/ha)	Fertilizer (kg./ha.)			Duration of crop (days)	Yield (Qt./ha.)	%age increase in yield
				N	P	K			
Small	6	25.0	15	120	80	100	100-120	190	25
Medium	6	26.0	18	120	80	100	100-120	215	30
Large	6	28.0	20	120	80	100	100-120	238	34

Table 2 : Expenditure and net income (Rs./ha.) of potato at different farm levels during 2010 – 11.

Size of holdings	No. of farms	Total cost of cultivation	Gross income	Net income	Benefit : Cost ratio
Small	6	55,275	1,25,370	70,095	2.27
Medium	6	60,890	1,36,923	76,033	2.25
Large	6	65,320	1,45,860	80,540	2.23

requirements resulted synergistic effect and provided more tuber yield and higher recovery of applied nutrients. Increase in nitrogen levels also increased tuber yield and their qualities during the cropping time significantly (Saxena and Tilak, 1994). 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 the selected formers according to their size of holdings, family size, area of the production and incomes of the crop etc. The economics of the crop was work out at current price rate.

Results and Discussion

Table 1 shows that yield of potato has been increased 25% in small, 30% in medium and 34% in large size groups of the farmers, which shows increasing trends. This was only due to timely and properly management of organic and in organic fertilizers along with bio fertilizer used and frequent and sufficient irrigation has been given to the crop timely with proper weed, insect and pest management has been performed when it needed. The shape and size of the tubers was formed great with seeing

of better qualities, due to this their market value was better. Table 2 shows benefit cost ratio was 2.27, 2.25 and 2.23 in small, medium and large size groups range no specific trends. Total cost of production Rs. per hectare Rs. 55,275/-, Rs. 60,890/- and Rs. 65,320/- alongwith net income Rs. per hect. was Rs. 70095, Rs. 76033 and Rs. 80540 in small, medium and large size of groups of the farmers ranges increasing trends. Finally, the study concludes that in future all size groups of the farmers have to pay more attention about this crop regarding improved and advance package of practices with a good farm plans applications casting better yield and better income with reducing cost.

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