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STUDY THE EFFECT OF PHOSPHORUS AND ECONOMICS OF LENTIL (*LENS CULINARIS*) UNDER DIFFERENT SIZE OF HOLDINGS

Ajit Verma[1], S.P. Singh[2], Sarita Srivastava[3], Vinod Singh[4] and Avinash Kumar[5]

[1]Department of Farm Management, Krishi Gyan Kendra, Baribag, Ghazipur (U.P.), India.
[2]Director Extension, Narendra Deva University of Agril. & Tech., Kumarganj, Faizabad (U.P.), India.
[3]Department of Home Science, Krishi Gyan Kendra, Deoria (U.P.), India.
[4]Department of Farm Management, Crop Research Station, Baribag, Ghazipur (U.P.), India.
[5]Ph.D. Narendra Deva University of Agril. & Tech., Kumarganj, Faizabad (U.P.), India.

Abstract

The main object of the present study, which was conducted in Ghazipur district of Uttar Pradesh during the year 2010-11 with farmers scientist collaboration to analyze the effect phosphorus and economics of the lentil crop under different size of holdings. It was found that large size of the farmers has been got better yield with better returns by managing proper and timely application of Phosphorus, Kaolinspray, Sulpher and Irrigations etc. The study concludes that the small and medium size gropes in future to will also get better responses when they go through proper and better farm plans.

Key words : Crop, yield, increasing trends, size of holdings.

Introduction

This crop is grown throughout Northern India. Unripe pods are used as a green vegetable and dry leaves, stalks, husk and broken grain as cattle feed. The crop is raised on light loams and alluvial soils and on well-drained, moderately deep, light black soils in most parts. It is also grown on low-lying, poorer types of soil. This is grown as a cold weather unirrigated crop. The sowing season extents from October to December. It is generally cultivated alone after rice or millets. It resembles gram a great deal in plant habit and cultivation requirements. The preparation of land is not very through, one or two ploughings being given when the crop is sown alone; a finer seed bed than for gram is, however, preferable. The crop normally receives no manure, weeding or inter culture. However, it responds to the weed control practice in the early stages, 60 Kg. of Phosphorus per hectare and one or two irrigations, especially when winter rains are merge. The application of phosphorus significantly increased the grain and straw yields. The improvement in the yield attributes with phosphorus responses for better yield and profits reported by Venkateswarlu *et al*. (1993). Proper application of phosphorus along with irrigations and Kaolin Spray increases higher grain yield with straw yields also said by Watt and Singh (1992). Combine use of farmyard manure and fertilizers provide higher grain yield by which forms maximum profit with low costs.

Materials and Methods

This study has been concluded in randomly selected village Sokani of Karanda Block in Ghazipur district of Uttar Pradesh during the year 2010-11 with farmers-scientist collaborations among the randomly selected three farmers from each groups *i.e.* small, medium and large size of holdings. All information's has been collected through survey methods and tabular analysis was used. Family schedule has been used to collect the data from the selected farmers to their size of holdings, size of family, area of the crop of lentil production and net return of the crop etc. The Narendra Masor-2 variety has been suggested and seed rate was 50 Kg per hectare along with NPK @ 20:60:40 kg per hectare and also recommended Sulpher @ 20 kg per hectare for better responses Irrigation and Kaolin Spray has been recommended at the time of their requirements when they needed. The crop was taken on the field during first fort night of November. All other agro economic packages of practice have been provided at the time of their requirements.

Table 1 : Productivity of lentil (Qt./ha.) under different size of holdings during 2010 – 11.

Size of farm	No. of farms	Seed rate (Qt./ha.)	Fertilizer (Kg./ha.)				Duration of crop (Days)	Grain yield (Qt./ha.)	Straw yield (Qt./ha.)
			N	P	K	S			
Small	3	50	20	60	40	20	120-125	18.50	25.30
Medium	3	50	20	60	40	20	120-125	20.60	35.50
Large	3	50	20	60	40	20	120-125	22.95	41.65

Table 2 : Economics of lentil under different size of holdings during 2010 – 11.

Farm size groups	No. of farms	Gross cost (Rs./ha)	Gross return (Rs./ha)	Net return (Rs./ha)	Benefit : Cost ratio
Small	3	10,570	28,988	18,418	2.74
Medium	3	11,365	32,371	21,006	2.85
Large	3	14,647	40,849	26,202	2.79

Results and Discussion

Table 1 shows that grain yield has been ranges from 18.50 Qtl. per hectare to 22.95 Qtl. per hectare from small to large size of holdings along with straw yield has been increases from 25.30 Qt/ha to 41.65 Qt/ha resulted increasing trends from smaller to larger ones. It is clear that farmers was very much aware to apply all improved package of practices time to time and also take care about proper management of phosphorus, Sculpture, Kaolin Spray and irrigations timely which provide higher grain and straw yield of lentil. Integrated use of farm yard manure with inorganic fertilizers before this crop on the same field reduced the bulk density significantly, also reported lower bulk density with organic manures application by Bellakki *et al*. (1998).

The gross cost in table 2 was Rs. 10,570 to Rs. 14,647 from small to larger size of holdings and the net return was form in small, medium and large size was Rs. 18,418, Rs. 21,006 and Rs. 26,202 per hectare reveals increasing trends from lower to upper ones. Benefit cost ratio has been formed 2.74, 2.85 & 2.79 under small, medium and large size groups. From both the tables, it has been reveals the large size of farmers has been got more yield and more net return in composition to other ones. This lentil crop provides more net returns with low cost in comparison to other crops. It is only due to proper and timely management of phosphorus, Sulphur, Kaolin Spray and irrigations in the crop formed better yield and better returns. The study concludes that till now there should be a chance of increasing the yield with better net returns in small and medium size of the farmers when they paid more attraction regarding go through this crop with proper and better farm plans in future.

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