



### Short Communication

## STUDY OF THE PRODUCTIVITY AND ECONOMICS OF MUSTARD (*BRASSICA COMPESTRIS*) UNDER DIFFERENT FARM SIZE LEVELS

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### Abstract

The main motto behind this study was to judge the productivity and economics of mustard at different term's level among the randomly selected farmers in Ghazipur district of Uttar Pradesh during the year 2011 – 2012. The productivity of net return was varies in demo. farmers in comparison to local check groups between small, medium and large size groups. It was only due to proper application of Sulphur, FYM and organic fertilizers timely. Irrigation and inter cultural operation management was better in demo groups. Crop was taken on the field in time was main key factor. The study concluded that in future organic and inorganic fertilizer management with weed management and proper irrigation facilities application productivity and income will be increase more and more.

**Key words:** Mustard, Yield, FYM, increase

### Introduction

India, is one of the independence centers of origin of brown Sarson. Yellow Sarson is commonly grown in eastern parts of the country. Mustard yields the most important edible oil. The oil obtain is the main cooking medium in northern areas of the country. The seed and oil are used as condiment in the preparation of pickles and for flavouring curries and Vegetables. The oil cake is mostly used as a cattle feed where leaves of young plants are used as a green Vegetable. In our country it is grown in *Rabi* season. The seed from healthy and desirable plants, grown in isolation in the case of self-sterile form should be used. Whenever moisture in the field is inadequate, the seed is mixed with moist soil and kept overnight. For distributing evenly, the seed is usually mixed with sand before sowing. Whenever recommended doses of nitrogen along with farm yard manure put into the soil at the time of Rice and mustered cultivation resulted highest yield, if it application is goes down then the productivity will be affected. Therefore proper application of nitrogen and farm yard manure in Indian mustard cropping system for better productivity reported by Singh

*et al.* (2001). Use of high yielding varieties is also an important factor, resulting for higher yield within optimum sowing time.

### Materials and Methods

The present study was carried out on the field during 2011-12 in randomly selected village and block namely Belsari of Mardah Block, of Ghazipur district (U.P.) Six farmers has been selected from each farm size groups ranging small, medium and large on random basis with farmers scientist collaborations. Suggested variety Krishna, seed rate 5 Kg/ha., N.P.K. @ 120:40:40 Kg./ha. along with Sulphur 15 to 20 kg./ha. preferred 5 to 10 tones per hectare FYM for better yield and quality. The amount of Sulphur put into the soil not only for increasing the yield but oil yield also be increased with increasing level of Sulphur 10 to 15 Kg. per hectare more oil yield increased significantly by the use of Sulphur and proper irrigation needed Panda *et al.* (2000). Emphasis has been given more and more on thinning along with other inter cultural operations has been taken on the field time to time. Proper irrigation will be managed at the time of crop requirements. All information has been collected

**Table 1:** Yield Level (Qt./ha.) of Mustard under different farm sizes during 2011–12

Farm Size Groups	No. of Farms	Area of Farms	Seed Rate (Kg./ ha.)	Fertilizer Application (Kg./ha.)			Duration of Crop Days	Yield (Qt./ ha.)				Percentage increase in yield
				N	P	K		Demo		Local		
								High	Low	Average	Check	
Small	6	1	5.00	120	40	40	125-130	16.0	12.0	14.0	10.0	40.0
Medium	6	1	5.00	120	40	40	125-130	18.0	14.0	16.0	12.0	33.33
Large	6	1	5.00	120	40	40	125-130	20.0	15.0	18.0	14.0	28.57

**Table 2:** Economic Analysis of Mustard under different farm size levels during 2011 – 12

Farms Size of Groups	No. of Farms	Area of Farms (ha)	Economics of Demo. (Rs./ha.)			Economics of Local Check (Rs./ha.)			Benefit Cost Ratio	
			Gross Cost	Gross Income	Net Income	Gross Cost	Gross Income	Net Income	Demo.	Local
Small	6	1	18,800	33,795	15,175	17,750	26,120	8,370	1.81	1.47
Medium	6	1	20,745	35,380	14,635	19,900	27,340	7,740	1.71	1.37
Large	6	1	22,680	40,169	17,489	21,890	34,227	12,337	1.77	1.56

through survey method and tabular analysis is being used. Family schedule has been used to collect the data regarding family size, area of the crop, Cost and return of the crop. The study has been taken on the field along with local check to find out percent increased in yield and to fine the difference of benefit cost ratio from Demo. to local Check.

### Results and Discussion

Economics of the mustard crop was calculated on the basis of prevailing market price and minimum support price of the produce. Table 1 shows that yield Qt./ha. in small, medium and large farm size groups was formed 14 Qt., 18 Qt. and 20 Qt. in Demo. While the yield Qt./ha. in local check was 10 Qt., 12 Qt. and 14 Qt. ranging increasing trends from smaller to larger ones percentage increase in yield was 40.0, 33.33 and 28.57. Show no any specific trends. The yield Qt./ha. was increased only due to proper application of Sulphar with proper dose of FYM applied in the soil along with recommended dose of NPK put into the crop required. Yield Qt/ha. was significantly vary in all size groups only due to time application of FYM and inorganic fertilizer timely. Therefore full dose of Nitrogen along with FYM application resulted significantly higher yield confirm the study of Jain and Sharma (2000). Gross cost and gross return Rs./ha. was 18,800/-, 20,745/-, 22,680/- and 33,975/-, 35,380/-, 40,169/- formed in small medium and large size groups shows increasing trends from small to larger groups in Demo. farmers while gross cost and gross return Rs./ha. was 17,750/-, 19,900/- 21,890/- and 26,120/-,

27,340/-, 34,227/- in local check also sown increasing trends from small to large size groups sown in table – 2. Net return in Demo. farmers Rs./ha. was 15,175/-, 14,635/-, 17,489/- while in local check it was Rs. 8,370/-, Rs. 7,740/- and Rs. 12,337 shows no specific trends from smaller to larger ones. Benefit cost ratio was in Demo. was 1.81, 1.71, 1.77 and in local check it was 1.47, 1.37 and 1.56 attributing no specific trends. This was clearly soon in the table-2 that the seed yield and oil content characters of mustard were significantly influenced by sowing time. Thinning and other cultural operation time will play more an important role to increase the production. The study shows that Demo. farmers was for better in comparison to local check groups in all reasons like yield and net returns in Qt./her. The study finally, concludes that there should be a more chance to increase their production of mustard crop in future by organic and inorganic fertilizer management along with intercultural operation management.

### References

- Jain, N.K. and P.P. Sharma (2000). Integrated nutrient management in mustard. *Journal of Oil Seed Research*, **17(1)**: 127–129.
- Panda, P.K., S. Sounda and S.K. Tripathy (2000). Effect of irrigation and Sulphar on yield, nutrient uptake and quality of mustard. *Journal of Oil Seed Research*, **17(2)**: 122 – 126.
- Singh, A.P., R.S. Tripathi, B.N. Mitra and G.K. Srivastava (2001). Nourishing rice mustard cropping system with organic and Chemical Sources of Nitrogen in Chhattishgarh Plains. *Journal of Agricultural*, **6(1)**: 21 – 26. .