

BOOSTING MOONG PRODUCTIVITY THROUGH FRONTLINE DEMONSTRATIONS

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ABSTRACT

The present study was conducted across 19 villages in Muktsar district of Punjab. Thirty five front line demonstrations were conducted by KVK Muktsar between 2006 to 2010 during the Kharif seasons. The results of the study revealed that the average yield of moong under FLD plots varied between 9.62 q/ha to 13.11 q/ha, whereas, under the farmers' practice, it varied between 8.33 q/ha to 11.28 q/ha. The FLD plots recorded a per cent increase in yield to the tune of 13.71 to 25.5. The decline in overall yield of moong in district Muktsar from the year 2008-10 was due to the problem of high water table at different locations across Muktsar district. Still, the yield of moong was much better under FLD plots as compared to under farmers' practice. The increment in yield of moong crop under front line demonstrations was due to dissemination of improved and latest technology viz. HYV, recommended seed rate, fertilization and plant protection measure. The data further revealed that the performance of moong variety SML 668 was better than ML 818 in the year 2007 when both the varieties were demonstrated at farmers' fields. The variety SML 668 was withdrawn from frontline demonstrations in the year 2008 onwards due to greater incidence of mosaic.

INTRODUCTION

India has been a major importer of pulses. The domestic production of pulses was around 14.8 million tonnes over the last three years while the demand hovered around 17-18 million tonnes (Economic survey). According to Roy (2006), in the past five decades, pulses production has not kept up with growth in demand calling for import to the tune of 0.5 to 1.5 million tonnes.

The Government of India had established a "Technology Mission on Pulses" in the year 1991-92 with the objective to enhance the pulse production and productivity. The concept of first line demonstrations was put forth under this mission. These demonstrations are conducted under the close supervision of scientists of Krishi Vigyan Kendras, SAUs and their Regional Research Stations. The FLD is an important tool for transfer of latest package of practices in totality to farmers and the main objective of this programme is to

demonstrate newly released crop production and protection technologies and management practices at the farmers' field under real farming situation. Through this practice, the newly improved innovative technology having higher production potential under the specific cropping system can be popularized and simultaneously feedback from the farmers may be generated on the demonstrated technology. The present study has been undertaken to study the difference between demonstrated package of practices vis-a-vis practices followed by the local farmers in moong crop.

RESEARCH METHODOLOGY

The study was carried out in operational area of Krishi Vigyan Kendra Muktsar located in south western Punjab. Thirty five front line demonstrations were conducted on moong crop in 19 villages over the last five years. The primary data

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were collected from the selected farmers with the help of interview schedule and interpreted and presented in terms of percentage, the qualitative data were converted into quantitative form and expressed in terms of percent increased yield. Thus, a total sample size comprised of 35 respondents from 19 villages across Muktsar district wherein, FLDs were conducted by KVK Muktsar.

RESULTS AND DISCUSSION

Major differences between demonstration package and farmers' practices being followed in moong crop:

The differences in adoption of moong production technologies under demonstrations and local farmers' practices were measured. The major differences were observed regarding recommended varieties, seed rate, seed treatment, time of sowing, fertilizer dose, method of fertilizer application and plant protection measures. Table 1 shows that under the demonstrated plot only recommended varieties

and insecticide for plant protection measures were given to farmer by the KVK and all the other package and practices were timely performed by the farmer itself under the supervision of KVK scientist. Under farmers' practice, they generally sow seed of moong var. SML-668 at low seed rate without treatment. It is stated that the variety SML-668 was taken out of recommendation by PAU in the year 2008 due to greater incidence of mosaic virus during Kharif season. As a result, the farmers selected under FLD program on moong were provided with the seed of moong var. ML 818 from the year 2006-07 onwards. It is also observed that under farmer situation, normally sowing of moong is late, leading to reduction in yield. Regarding the method of fertilization, under demonstration, all fertilizers were drilled at the time of sowing, whereas, under farmers' practice, broadcast method of fertilization was adopted. Similar findings have also been observed by Khan & Chohan (2005), Kirar et al (2006), Yadav et al (2007) and Asiwal and Hussain (2008).

Table 1. Differences between technological intervention & farmers' practices for moong crop

Sr. No.	Particular practice	Demonstration package	Farmers' Practice
1	Variety	SML 668 and ML 818	SML 668
2	Seed Rate	SML 668 : 20 kg/ha ML 818: 20 kg/ha	15 kg/ha
3	Seed Treatment	Captan/Thiram @ 3g/kg seed + Rhizobium culture	Not applied
4	Time of sowing	July 1 to July 15	First week of August
5	Fertilizer dose	Urea : 27.5 kg/ha and S.S.P : 250 kg/ha (On soil test basis)	Irrational use of nitrogenous fertilizers and non application of SSP
6	Method of fertilizer application	Fertilizers drilled at the time of sowing	Broadcasting
7	Plant protection measures	Need based spray of insecticides and fungicides	Over dose/ unrecommended brands of insecticides and fungicides

The effect of FLD programme on production performance of moong:

The results obtained during last five years are presented in Table 2. The results revealed that the average yield of moong under FLD plots varied between 9.62 to 13.11 q/ha, whereas, under the farmers' practice, it varied between 8.33 to 11.28 q/

ha. The FLD plots recorded 13.71 to 25.5 per cent increase in yield over the farmer practice. The decline in overall yield of moong in district Muktsar from the year 2008-10 was due to the problem of high water table at different locations across Muktsar district. Further, the yield of moong variety SML 668 was better than ML 818 in the year 2007 when both the varieties were demonstrated.

Table 2. Performance of Moong under Front Line Demonstration and farmers' Practice.

Year	Variety	Under FLD programme		Avg. yield (Qt/ha)		% Increase in the yield over farmers practice
		No. of Demonstrations	Total Area (ha)	Demonstration	Farmers practice	
2006	SML 668	5	2.0	13.0	11.02	17.9
2007	SML 668	7	2.8	13.11	11.28	16.22
	ML 818	3	1.2	13.0	11.25	15.59
2008	ML 818	5	2.0	9.62	8.46	13.71
2009	ML 818	10	4.0	9.73	8.33	16.81
2010	ML 818	5	4.0	10.73	8.55	25.5

CONCLUSION

It is concluded that the FLD programme is an effective tool for increasing the production and productivity of moong crop and changing the knowledge, attitude and skill of farmers. The per cent increment in yield of moong to the extent of 13.71 to 25.5 in FLDs over the farmers practice created greater awareness and motivated the other farmers to adopt the improved package of practices of moong. These demonstrations also built the relationship and confidence between farmers and scientists. The beneficiary farmers of FLDs also play an important role as source of information and quality seeds for wider dissemination of the high yielding varieties of moong for other nearby farmers.

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