



IMPACT OF FRONT LINE DEMONSTRATION OF MUSTARD IN IMPROVED TECHNOLOGY TRANSFER

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Abstract: *This study investigates an impact of Front Line Demonstrations (FLDs) conducted by Indian Council for Agricultural Research (ICAR) on mustard through Krishi Vigyan Kendra's (Farm Science Center's). The study was carried out during rabi season in two villages of Sidhi, Madhya Pradesh during 2008 to 2010 in area of 11 ha by the active participation of farmers with the objective to demonstrate the improved technology of mustard production potential. The improved technologies consisting use of modern variety, seed treatment with PSB culture, balanced fertilizer application on the basis of soil test value and pest management. The result showed that in Rabi 2008 and 2009 mustard cultivar JM-3 gave 40.20 and 58.16 per cent increase in yield over local variety and agronomic practices. In 2010, the yield increase of mustard cultivar Pusa Tarak was 66.19 and 43.55 per cent respectively in two demonstrations. The improved technology gave higher gross return, net return with higher benefit cost ratio over farmer's practice.*

Key words: *Impact, Oilseed crops, front line demonstration, technology*

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INTRODUCTION

Oilseed crops occupy a significant place in Indian agriculture economy, only next to food grain. India is endowed with a wide variety of agro- climatic zones and soil types that enable cultivation of various kinds of oilseed crops. In India, oilseed crops are cultivated in about 15.07 % of the total cropped area, and account for about 5 % of Growth Domestic Product (GDP) and 10 % value of all agricultural products. Globally, India accounts for about 12-13 % of oilseed area, 6-7 % of oilseed production, and 10 % of edible oil consumption. In India, oilseed crops are grown in 21 million hectares, with a total production of 25.3 million tones and a very low productivity of only 1205 kg/ha (Choudhary, 2009). In Madhya Pradesh, the total cultivated area under rapeseed and mustard, total production, and yield/ha, respectively are 0.75 million ha, 0.86 million tones, and 1147 kg/ha (Directorate of Economics and Statistics, 2012). In Sidhi district, rapeseed and mustard crops are grown in 3800 ha with a total production of only 2700 tones, and a very poor productivity of 706 kg/ha. The main reasons of such a very poor productivity in Sidhi district of Madhya Pradesh are cultivation of rapeseed and mustard in marginal areas, not grown as sole crops, non adoption of improved cultivation techniques, minimal adoption of improved high yielding varieties, and overall lack of awareness among farmers about improved package of practices.

The Front Line Demonstration (FLDs) concept, initiated by the Indian Council of Agricultural Research (ICAR) during the mid eighties, where field trails are conducted in the farmers fields under the close supervision of the National Agriculture Research Scientists has been a very successful strategy for introducing new technologies and improved packages of practices specific for the region before the practices are fed in to the main extension system of the state Agriculture Department. The present investigation was undertaken to conduct FLDs in farmer's field on mustard.

MATERIALS AND METHODS

Krishi Vigyan Kendra, Sidhi conducted 30 Front Line Demonstration on mustard on farmer's field in two villages of Sidhi district during 2007-08, 2008-09 and 2009-10. For conducting FLDs, farmers were identified/ selected following the survey suggested by Chaudhary (1999). The required inputs were supplied, and regular visit to the demonstration field by the KVK scientists ensured proper guidance to the farmers. Field days and group meetings



were also organized to provide the opportunities for other farmers to witness the benefits of demonstrated technologies. The sowing was done during mid October under assured irrigated conditions and harvested during first fortnight of March. Seeds were sown in rows 30 cm apart and depth 2-3 cm. The data output were collected from both FLDs plots as well as farmers practice plots, and cost of cultivation, net income and benefit cost ratio were worked out (Samui *et. al.*, 2000).

RESULTS AND DISCUSSION

Results in Table 1 showed the average yield 8.23,7.94, 9.34 and 7.35 q/ha during 2007-08, 2008-09, 2009-10 and 2009-10 respectively in cultivar JM-3 compared to the local check cultivar 5.87, 5.02, 5.62 and 5.12 q/ha during 2007-08, 2008-09, 2009-10 and 2009-10 where no improved inputs were applied; the respective per cent increase in yield were 40.20, 58.16, 66.19 and 43.55. The calculated net income to the farmers in improved high yielding variety JM-3 were Rupees 2576, Rs. 7810, Rs. 10150 and Rs. 4826 respectively compare to local farmer's practices. Planting improved high yielding varieties in farmers field, regular visits by the Agricultural Scientists to the DLDs plots, and presenting clear evidence of substantial increase in both yield and income will certainly convince farmers in Sidhi district to adopt new high yielding varieties and packages of practices.

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Table 1. Average yield and Cost particulars of demonstrations and local check plots of
mustard.

Year	Variety	Trial No.	Area (ha)	Average yield (q/ha)		Per cent increase	Cost of Cultivation		Additional Income (Rs./ha)	Cost : Benefit Ratio
				Trial	Farmers practice		Demo	Farmer's Practices		
2007-08	JM-3	05	2.0	8.23	5.87	40.20	5862	4898	2576	2.11
2008-09	JM-3	07	3.0	7.94	5.02	58.16	5800	4850	7810	4.10
2009-10	JM-3	13	5.0	9.34	5.62	66.19	5980	4970	10150	4.68
2009-10	Pusa Tarak	05	2.0	7.35	5.12	43.55	7312	6048	4826	3.01