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Short communication

Impact of front line demonstration of oilseed crops in improved technology transfer

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Abstract

Krishi Vigyan Kendra, Kathua conducted 31 Front Line Demonstrations in the farmer's fields on oilseed crops Gobhi Sarson and toria during 2009-10 and 2010-11 rabi seasons. The results showed that in Rabi 2009, the toria cultivars RSPT-1, RSPT-2 and T-9 gave 70.8%, 74.1 and 63% increase in yield over local variety. In 2010, the yield increase of Toria cultivars RSPT-2 and T-9 respectively were 89% and 67.3%. In Rabi 2009 and 2010, the Gobhi Sarson cultivar DGS-1 gave 78.9% and 86.7% increase in yield over local variety.

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

Introduction

Oilseeds crops occupy a significant place in Indian agrarian economy, only next to food grains. 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 21million hectares (ha), with a total production of 25.3 million tonnes, and a very low productivity of only 1205 kg/ha (Choudhary, 2009). In Jammu and Kashmir State (J&K), the total cultivated area under oilseed crops, total production, and yield/ha, respectively are 0.063 million ha, 53.3 million tonnes, and 846 kg/ha (Directorate of Economics and Statistics, 2010). In Kathua district, oilseed crops are grown in 11285 ha with a total production of only 78995 quintals, and a very poor yield of 700 kg/ha. The main reasons of such a very poor yield/ ha in J&K state, and particularly in Kathua district are cultivation of oilseed crops in marginal areas, non-adoption of improved farming techniques, minimal adoption of improved high yielding high-yielding varieties, and an overall lack of awareness among farmers about improved packages of practices.

The Front Line Demonstration (FLD) concept, initiated by the Indian council of Agricultural Research (ICAR) during the mid-eighties, where field trials 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 into the main extension system of the State Agriculture Department. The present investigation was undertaken to conduct FLDs in farmer's field on Gobhi Sarson (*Brassica napus*) and *B. rapa* variety Toria.

Materials and Methods

Krishi Vigyan Kendra (KVK) conducted 31 Front Line Demonstrations on oilseed crops Gobhi Sarson and Toria on farmer's field in different blocks of Kathua district during 2009-10 and 2010-11. For conducting FLDs, farmers were identified/ selected following the survey suggested by Choudhary (1999). The required inputs were supplied, and regular visits to the demonstration fields 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

Table: 1 Average yield and Cost Particulars of demonstrations and local check plots of oilseed crops.

Crop	Variety	Crop Season	Farmer (Nos.)	Area (ha)	Average Yield (q/ha)		Increase in Yield (%)	Cost of Cash Input		Additional Income (Rs/ha)	Cost: Benefit Ratio
					Demo	Local Check		Demo	Local Check		
Toria	RSPT-1	*Rabi*, 2009	2	1.0	6.9	4.1	70.8	1590/-	533/-	6888/-	6.5
	RSPT-2	*Rabi*, 2009	7	3.5	7.1	4.1	74.1	1590/-	533/-	7200/-	6.8
	T-9	*Rabi*, 2009	5	0.5	6.6	4.1	63.0	1590/-	533/-	6120/-	5.8
	RSPT-2	*Rabi*, 2010	20	5.0	12.0	6.0	89.1	1700/-	600/-	8050/-	7.3
	T-9	*Rabi*, 2010	8	2.0	10.2	6.0	67.3	1700/-	600/-	6500/-	5.9
Gobhi Sarson	DGS-1	*Rabi*, 2009	11	3.0	6.3	3.5	78.9	2374/-	925/-	6624/-	4.6
	DGS-1	*Rabi*, 2010	23	5.0	7.0	3.8	86.7	2500/-	975/-	7154/-	4.7

30 cm apart by drill or kera placed at 2-3 cm depth. The data output were collected from both FLD plots as well as control 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 in 2009, the average yield of toria cultivars RSPT-1, RSPT-2 and T-9, respectively, were 6.9, 7.1 and 6.6 q/ha, compared to the local check cultivar where no improved inputs were applied; the respective percent increase in yield were 70.8, 74.1 and 63. The calculated additional income to the farmers in improved high yielding toria cultivars RSPT-1, RSTP-2 and T-9 were Rupees (Rs) 6888, Rs7200 and Rs 6120, respectively. Similarly, in 2010, toria cultivars RSTP-2 and T-9, also recorded yield increase of 89.1% and 67.3%, respectively, with an additional per hectare income of Rs 8050 and Rs 6500 compared to the local check variety.

In both 2009 and 2010 *rabi* seasons, Gobhi sarson cultivar DGS-1 also recorded substantial yield increase of 78.9% and 86.7% and an additional income of Rs 6624 and Rs 7154, respectively, compared to the local check variety. Planting improved high yielding varieties in farmer's field, regular visits by the Agricultural scientists to the FLD plots, and presenting clear evidence of substantial increase in both yield and income will certainly convince farmers in Kathua district to adapt new high yielding varieties of Gobhi sarson and toria.

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