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Impact of frontline demonstration on knowledge and adoption of mustard growers

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Abstract

Frontline demonstration (FLD) is one of the most powerful tools for transfer of technology. Keeping in view of an effective extension approach of FLDs for dissemination of mustard technology, an impact assessment of FLDs conducted by Krishi Vigyan Kendra, located in Maulasar, Nagaur district of Rajasthan was assessed. The impact assessment was based on the comparison of beneficiary and non-beneficiary respondents with reference to distribution of respondents according to their knowledge, adoption and constraints faced by the respondents with regards to adoption of mustard production technologies. It was found that 88.34% of beneficiary respondents had medium to high level of knowledge and 85% non-beneficiary respondents had low to medium level of knowledge towards recommended mustard production technology. The analysis of data showed that 85% non-beneficiary had low to medium and 76.67% beneficiary mustard growers were adopted medium to high level of recommended mustard production technology. Some of the important constraints faced by the beneficiary and non-beneficiaries respondents were high cost of fertilizer, high labor wages, ruminative price for the produce and high cost of seed in adoption of mustard production technologies in the study area.

Keywords: Frontline demonstration, impact, knowledge, adoption

Introduction

Front Line Demonstration (FLDs) is an appropriate tool to demonstrate recommended technologies among the farmers. This new concept of field demonstration evolved by the Indian Council of Agricultural Research with the inception of the Technology Mission on Oilseed Crops during mid-eighties. The technologies developed through All India Coordinated Research Project on Rapeseed-Mustard through research activities are demonstrated under actual field conditions of the farmers through FLDs. The demonstrations conducted under the close supervision of scientists is called front-line demonstrations because the technologies are demonstrated for the first time by the scientists themselves before being fed into the main extension system of the State Department of Agriculture. FLD is one of the most powerful tools of extension because farmers in general are driven by the perception that 'seeing is believes'. The main objective of FLDs is to demonstrate newly released crop production and protection technologies and its management practices in the farmers' field under different agro-climatic regions and farming situations. While demonstrating the technologies in the farmers' field, the scientists are required to study the factors that are contributing to higher crop production and constraints faced by the respondents while adopting the new mustard production technologies.

The major oilseed crops in India are ground nut, sunflower and mustard. Among them mustard is the one of the most important oilseed crop. Its oil is the important component of human diet and it has diversified domestic and industrial uses. These days rapeseed-mustard production in India had achieved three fold increases in the last two decades. Mustard has emerged as an important crop from the states like Gujarat, MP, and Rajasthan. It is mainly because the technology development with regard to improved varieties and other inputs have played important role in raising productivity (Singh 2003).

Realizing the importance of frontline demonstrations in transfer of mustard production technologies, Krishi Vigyan Kendra, Maulasar has regularly been conducted FLDs at adopted farmers' field from past four years on mustard field in different talukas of Nagaur district with the objective of convincing farmers and extension functionaries together about the production potentialities of the mustard technologies for further wide scale diffusion. Keeping in view of an effective extension approach of FLDs for dissemination of mustard technology, it was thought that impact of FLDs conducted by KVK Maulasar was to be assessed. Therefore the present study was conducted in 2017-18 was undertaken with the following specific objectives:

Objectives

- To know the knowledge of mustard growers
- To know the adoption about mustard production technology
- To know the constraints face by the mustard growers in adoption of mustard production technology

Methodology

The present investigation was carried in 10 villages of Maulasar, Kuchaman and Nawa Block of Nagaur district during 2016-2017. Purposely KVK Maulasar was selected for the study because maximum number of FLDs was conducted on mustard crop. A sample of 120 respondents was taken comprising 60 beneficiary and 60 non-beneficiary farmers. For selection of beneficiary farmers a list of farmers where FLDs were conducted during preceding four years was prepared and for taking the equal representation, six

beneficiary farmers from each one of the selected 10 villages making 60 beneficiary respondents were selected randomly. For the other half of the sample (60 non-beneficiary farmers), 60 farmers were selected randomly from the locality adjacent to KVK Maulasar, where FLDs were not conducted by any organizations.

Results and Discussion

Level of knowledge of mustard growers

The data were collected through personal interview with the help of pre-tested schedule. Jha and Singh (1970) and Sengupta (1967) [4] scales were used respectively with appropriate modifications to measure knowledge and adoption levels of mustard growers. The collected data were processed, tabulated, classified and analysed in terms of mean, percent scores, ranks, etc. in the light of objectives of the study.

Table 1: Distribution of respondents according to their knowledge regarding recommended mustard production technology (n=120)

Sr. No.	Level of Knowledge	Category of mustard growers			
		Beneficiaries (n=60)		Non-beneficiaries (n=60)	
		No.	Percent	No.	Percent
1	Low (Below 18.40 score)	07	11.67	21	35.00
2	Medium (Between 18.40 to 25.34 score)	37	61.67	33	55.00
3	High (Above 25.34 score)	16	26.66	06	10.00

Table 1 shows that majority (61.67 per cent) of beneficiary mustard growers had medium level of knowledge about recommended mustard production technology, followed by 26.66 per cent and 11.67 per cent of them had high and low level of knowledge about recommended mustard production technology, respectively. In case of non-beneficiary mustard growers, majority (55.00 per cent) of them had medium level of knowledge about recommended mustard production technology, followed by 35.00 per cent and 10.00 per cent of them had low and high level of knowledge about recommended mustard production technology, respectively.

The analysis of data showed that great majority of beneficiary (88.33 per cent) of mustard growers had medium to high and non-beneficiary (90.00 per cent) of mustard growers had low to medium level of knowledge about recommended mustard production technology.

It indicates that beneficiary mustard growers had significantly higher knowledge than non-beneficiary mustard growers. From the above finding an inference can be drawn that FLD had influenced in increasing the knowledge of the beneficiary mustard growers regarding mustard production technology.

Level of adoption of mustard

Table 2: Distribution of respondents according to their adoption regarding mustard production technology (n=120)

Sr. No.	Level of adoption	Category of mustard growers			
		Beneficiaries (n=60)		Non-beneficiaries (n=60)	
		No.	Percent	No.	Percent
1	Low (Below 9.70 score)	13	21.67	27	45.00
2	Medium (Between 9.70 to 12.34 score)	30	50.00	25	41.67
3	High (Above 12.34 score)	17	28.33	08	13.33

Data presented in Table 2 shows that half (50.00 per cent) of beneficiary mustard growers had medium level of adoption about recommended mustard production technology, followed by 28.33 per cent and 21.67 per cent of them had high and low level of adoption about recommended mustard production technology, respectively. In case of non-beneficiary mustard growers, majority (45.00 per cent) of them had low level of adoption about recommended mustard production technology, followed by 41.67 per cent and 13.33 per cent of them had medium and high level of adoption about recommended mustard production technology, respectively.

The analysis of data showed that great majority of non-beneficiary (86.67 per cent) of mustard growers had low to

medium and beneficiary (78.33 per cent) mustard growers had medium to high level of adoption about recommended mustard production technology.

The study reveals that there was significant difference in the adoption about recommended mustard production technology between the beneficiary and non-beneficiary mustard growers. It means that the beneficiary mustard growers had better adoption than non-beneficiary mustard growers in recommended mustard production technology.

From the above findings an inference could be drawn that FLD conducted by KVK, Maulasar had played an important role in increasing the rate of adoption of the recommended crop production technology of mustard crop.

Constraints faced by the mustard growers**Table 3:** Constraints faced by the mustard growers in adoption of mustard production technology

Sr. No.	Constraints	Category of mustard growers			
		Beneficiaries (n=60)		Non-beneficiaries (n=60)	
		Mean	Rank	Mean	Rank
1	Inadequate finance	1.800	V	1.717	VI
2	Lack of technical guidance	1.700	VII	1.783	IV
3	Unavailability of certified seed	1.067	XIII	1.383	X
4	High cost of fertilizer	2.000	I	1.933	I
5	Lack of irrigation water (Irregular rainfall)	1.733	VI	1.733	V
6	Irregular supply of electricity	0.917	XIV	1.183	XII
7	High rate of electricity	1.217	XI	1.267	XI
8	Shortage and high wages of labor	1.983	II	1.833	III
9	Attack of pests and diseases	1.617	VIII	1.633	VII
10	Crop is susceptible to wilt	1.167	XII	1.483	IX
11	Don't get remunerative price of production	1.917	III	1.567	VIII
12	High cost of seed	1.850	IV	1.900	II
13	Lack of local market facility	1.300	X	0.867	XIV
14	High production cost	1.417	IX	1.050	XIII

A glance of the Table 3 shows that high cost of fertilizers, shortage and high wages of labor, remunerative price of production, high cost of seed, inadequate finance, lack of irrigation water (irregular rainfall), lack of technical guidance, attack of pests and diseases, high production cost, lack of local market facility, high rate of electricity, crop is susceptible to wilt, unavailability of certified seed and irregular supply of electricity were main problems faced by beneficiary mustard growers in adoption of mustard production technology.

In case of non-beneficiary mustard growers, high cost of fertilizers, high cost of seed, shortage and high wages of labor, lack of technical guidance, lack of irrigation water (irregular rainfall), inadequate financial, attack of pests and diseases, do not get remunerative price of production, crop is susceptible to wilt, unavailability of certified seed, high rate of electricity, irregular supply of electricity, high production cost and lack of local market facility were major problems faced by them in adoption of mustard production technology.

Conclusion

The above study showed that majority of beneficiary (88.33 per cent) mustard growers had medium to high and non-beneficiary (90.00 per cent) mustard growers had low to medium level of knowledge about recommended mustard production technology. In case of adoption non-beneficiary (86.67 per cent) mustard growers had low to medium and beneficiary (78.33 per cent) mustard growers had medium to high level of adoption about recommended mustard production technology. It was found that significant difference in knowledge and adoption level between beneficiary and non-beneficiary mustered growing farmers. It can be interpreted that there was positive impact of FLDs conducted by KVK Maulasar on knowledge and adoption of the mustard production technologies. Therefore, it can be concluded that frontline demonstration conducted under the close supervision of scientists is one of the most important tool of extension to demonstrate newly released crop production and protection technologies and its management practices in the farmers' field under different agro-climatic regions and farming situations. FLDs are playing important role in motivating the farmers for adoption of improved agriculture technology resulting in increasing their yield and profits. Keeping in view of importance in transfer of technology, FLDs should be designed and conducted carefully

and effectively and provisions should be made for other supportive extension activities such as field days, interaction meeting, etc. for speedy dissemination of demonstrated technology among farming community.

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