Knowledge of farmers about improved production technologies of cumin (*Cuminum cyminum L*)

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ABSTRACT

Cumin is a major seed spice crop of Rabi season in Ajmer district of Rajasthan. Area, production and productivity of cumin crop in Ajmer district is 7588 ha., 2335 tonnes and 295 kg ha^{-1}, respectively in the year 2010-11. The productivity of cumin is comparatively low in Ajmer district (295 kg ha^{-1}) than other cumin cultivated districts such as Dungarpur(500 kg ha^{-1}) , Nagaur(455 kg ha^{-1}), Pali(452 kg ha^{-1}) and Jodhpur (436 kg ha^{-1}). The Krishi Vigyan Kendra, Ajmer (Raj.) is playing a vital role in transfer of technologies among the farming community by way of organizing specialized skill oriented on and off-campus trainings, demonstrations, farmers scientist interaction, on-farm trials, field days and kisan-gosthies since 16 years. The Krishi Vigyan Kendra Ajmer has carried out on farm testing on cumin to exhibit latest production technologies and compared it with farmer's practice. In current study an attempt has been made to measure the knowledge of farmers about improved production technologies of cumin. Two Panchayat samities viz, Pisangan is peripheral while Kekri is distantly located from Krishi Vigyan Kendra & NRCSS were selected for study. Five villages from these two panchayat samities were randomly selected. Ten cumin growers were selected randomly from each identified village. Thus, the total 100 respondents (50 farmers from peripheral panchayat samiti and 50 farmers from distant panchayat samiti) were selected for the present investigation. The results indicated that majority of periphery farmers found in medium to high knowledge group, whereas, majority of distant farmers were having low to medium level of knowledge regarding improved cumin production technology. . The mean percent scores of periphery farmers varied from 34.00 to 96.66, while in case of distant farmers the mean percent scores varied from 22.00 to 92.00. Further the data revealed that highest difference in knowledge level of periphery and distant farmers was observed in fertilizer application followed by seed rate and spacing and seed treatment. Study revealed that level of knowledge of periphery farmers about different aspects of cumin production technologies was higher than distant farmers ranging from 4.66 MPS of time of sowing to 28.40 MPS of fertilizer application.

Keywords : Cumin, Frontline demostation, Production technology.

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INTRODUCTION

Seed spices are mainly cultivated in the state of Rajasthan and Gujarat. Among these coriander, cumin, fennel and fenugreek are cultivated on sizeable acreage as compared to other spices. Cumin is an important spice as well as cash crop of Rajasthan. There is a wide gap between average yield of cumin farmers and the potential yield of the crop. The low yield of cumin crop could be attributed with the fact that the farmers might have lack of knowledge of improved cumin production technology and its recommended practices have not been adopted by the farmers up to desired extent.

Cumin seed has a significant demand as a spice all around the globe especially in the places where spicy food is preferred. Cumin plant basically thrives on a hot, tropical climate, but can also be cultivated in the cooler regions in a green house. The cumin crop can be produced on almost all soil types but the soil, which suits the best to this crop, is a well-drained, fertile sandy soil type. Cumin plant has a good tap root system that makes it a drought resistant plant. India represents the world leader in the Cumin production. Rajasthan is the second largest cumin producing state in the country. It contributed around 1.149 lakh tons in the country's total produce in the year 2010-11 and it also have the maximum area under cumin cultivation i.e. around 3.30 lakh hectares. Rajasthan and Gujarat contribute to approximately 90 percent of the production in the country.

The Krishi Vigyan Kendra, Ajmer is playing a vital role in transfer of technologies among the farming community by way of organizing specialized skill oriented on and off campus trainings, demonstrations, farmers-scientist interaction, on farm trials and field days. Keeping this view in mind the present study entitled knowledge of farmers about improved production technologies of cumin was undertaken with the following specific objectives:-

1. To measure the knowledge level of farmers about improved production technologies of cumin.

2. To study the increase in knowledge level of periphery farmers in comparison to distant farmers.

MATERIALS AND METHODS

The present study was conducted in purposively selected Ajmer district of Rajasthan. There are eight panchayat samities in Ajmer district, out of which peripheral panchayat samiti Pisangan and distently Panchayat Samiti Kekri were purposively selected. Pisangan is peripheral to Krishi Vigyan Kendra & NRCSS while Kekri is distantly located from these centres. Five villages from these two panchayat samities were randomly selected. Further, a list of farmers who were cumin growers was prepared from each identified peripheral and distant village with the help of Patwari and Agriculture supervisor of respective village. From the list so prepared, ten cumin growers were selected randomly from each identified village. Thus, the total 100 respondents (50 farmers from peripheral panchayat samiti and 50 farmers from distant panchayat samiti) were selected for the present investigation. Data were collected by personal interview technique through suitable structured schedule. Thereafter data were tabulated, analysed and inferences were drawn in light of the objectives.

RESULTS AND DISCUSSION

On the basis of knowledge scores, the knowledge level of farmers was classified into three categories viz. low, medium and high. The farmers of both the categories i.e. peripheral and distant were then classified into three groups as presented below:-

(i) The farmers who obtained a score between 0 to 33 percent was categorised as having low knowledge level.

(ii) The farmers who obtained a score between 34 to 66 percent was categorised as having medium knowledge level.

(iii) The farmers who obtained a score between 67 to 100 percent was categorised as having high knowledge level.

It is apparent from the Table – 1 that on the whole there were 27.00 percent, 47.00 percent and 26.00 percent farmers who may be categorised under low, medium and high knowledge levels respectively. It may be said that about 73 percent of the farmers had a substantial amount of knowledge regarding improved cumin production technologies. The findings were in line with the findings of Patel et.al (3) who stated that 66.67 percent farmers possessed medium to high knowledge level regarding cumin production technology.

Farmers category wise analysis showed that there were 10.00, 54.00 and 36.00 percent peripheral farmers who fell under the knowledge categories of low, medium and high knowledge level, respectively about improved production technology of cumin. While for the other category of respondent it was noted that 44.00, 40.00 and 16.00 percent distant farmers could be categorized as having low, medium and high knowledge levels respectively. In other words it may be said that 56% distant farmers had low knowledge about improved technology of cumin. The results seemed to be quite natural due to the fact that the peripheral farmers have close contact with the scientists of Krishi Vigyan Kendras and National Research Centre on Seed Spices as compared to the distant farmers. Peripheral farmers may easily and regularly attend the training conducted by Krishi Vigyan Kendras. The low knowledge level of distant farmers may be attributed to low participation in extension activities conducted by Krishi

Vigyan Kendras as well as NRCSS.

The data in Table 2 showed that both types of respondents possesed maximum knowledge regarding time of sowing, irrigation management and filed preparation in cumin crop. Similarly, they possessed less knowledge regarding the wed management, plant protection measures, soil and seed treatment aspects of cumin production technology. Data also indicated that ranks by both the categories of respondents were in similar manner for different aspects of cumin production technology. The mean percent scores of the knowledge of periphery farmers varied from 34.00 to 96.66, while in case of distant farmers the mean percent scored varied from 22.00 to 92.00. This indicated a little gap of knowledge between the periphery and distant farmers. Similar finding was also reported by Sharma et.al.(4) who concluded that there was a little gap in knowledge between respondents of beneficiary and non-beneficiary.

The table further revealed that level of knowledge of periphery farmers about different aspects of cumin production technologies was higher than distant farmers ranging from 4.66 MPS of time of sowing to 28.40 MPS of fertilizer application. The finding is in accordance with the findings of Singh and Sharma (5), Asiwal et.al (1), Kumawat (2) and Sharma et.al (4) who also reported that the knowledge of beneficiary respondents was found to be higher than the non-beneficiary farmers. It might be due to the fact that the scientists of Krishi Vigyan Kendra and NRCSS have been working mostly in nearby villages. The farmers of nearby villages could contact with scientist of KVK and NRCSS more frequently. At the same time the farmers of nearby villages frequently attend the trainings conducted by KVK.

The data further indicated that Mean Percent Scores of periphery farmers regarding different aspects like harvesting, threshing and storage, improved varieties, seed rate and spacing, fertilizer application, seed treatment, soil treatment, plant protection measures and weed management were found to be 76.66, 72.00, 70.00, 62.40, 53.33, 46.66, 42.00 and 34.00 respectively. In case of distant farmers, mean percent scores of distant farmers regarding harvesting, threshing and storage, improved varieties, seed rate and spacing, fertilizer application, seed treatment, soil treatment, plant protection measures and weed management were found to be 66.00, 54.66, 45.33, 34.00, 28.66, 25.33, 23.20 and 22.00, respectively.

From the above findings, it is concluded that majority of periphery farmers found in medium to high knowledge group, whereas, majority of distant farmers was having low to medium level of knowledge regarding improved cumin production technology. Study also showed that the level of knowledge of periphery was higher than distant farmers. It is also concluded that difference in knowledge level of periphery and distant farmers about different aspects of cumin production technologies ranging from MPS 4.66 to MPS 28.40. The highest difference was observed in fertilizer application followed by seed rate and spacing and seed treatment. It can be said that there was a positive impact of trainings, demonstrations and farmers fair organised by KVK and NRCSS in nearby villages to improve the knowledge of farmers.

Table 1. Percentage of respondents under different knowledge level about improved cumin production technology

S. No.	Knowledge category	Peripheral farmers		Distant farmers		Overall	
		Frequency	%age	Frequency	% age	Frequency	% age
1.	Low Knowledge (0-33%)	5	10%	22	44%	27	27%
2.	Medium Knowledge (34-66%)	27	54%	20	40%	47	47%
3.	High Knowledge (67-100%)	18	36%	8	16%	26	26%

Table 2. Level of knowledge of respondents about improved cumin production technology

S. No.	Cumin production technology	Maximum score	Peripheral farmers		Distant farmers		Difference
			MPS	Rank	MPS	Rank	
1.	Improved Varieties	03	72.00	V	54.66	V	17.34
2.	Field Preparation	03	78.00	III	70.00	III	8.00
3.	Soil Treatment	03	46.66	IX	25.33	IX	21.33
4.	Seed Treatment	03	53.33	VIII	28.66	VIII	24.67
5.	Time of Sowing	03	96.66	I	92.00	I	4.66
6.	Seed Rate and Spacing	03	70.00	VI	45.33	VI	24.67
7.	Fertilizer application	05	62.40	VII	34.00	VII	28.40
8.	Irrigation Mgt.	02	84.00	II	78.00	II	6.00
9.	Weed Management	04	34.00	XI	22.00	XI	12.00
10.	Plant Protection Measures	10	42.00	X	23.20	X	18.80
11.	Harvesting/Threshing and Storage	03	76.66	IV	66.00	IV	10.66

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