



Research Article

Extent of knowledge about improved cultivation practices of cumin production technology and source of information preferred by farmers in Jalore district of Rajasthan

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Department of Agricultural Extension, Krishi Vigyan Kendra, KHEDA (GUJARAT) INDIA See end of the article for authors' affiliations **SUMMARY :** It is one of the valuable medicinal and spices crop used fresh as well as dry. In the Rajasthan state it is mostly grown in the western districts such as Jalore, Barmer, Jodhpur, Nagour, Ajmer, Pali and Sirohi. The present investigation was undertaken in Sanchore panchayat samiti of Jalore district of Rajasthan with the specific objectives of studying the knowledge level about the improved cultivation practices of cumin production technology and to identify the source of information being used by the cumin grower. The over all major findings reveal that knowledge of the farmers about improved cultivation practices of cumin production technology was found to be medium to high level. Majority of the respondents (74%) had medium level of knowledge followed by high knowledge (19%) and low knowledge level (7%). The highest knowledge gap (43.5 %) was measured in seed treatment practices. The most credible source of information for dissemination was found personal *localite*. As an individual source, neighbor was found most important source of information followed by progressive farmers and friends.

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BACKGROUND AND **O**BJECTIVES

This sector prefers to use the spices extractives essential oils and oleoresins because of certain advantages. India has been known from time immemorial as the "Home of spices" producing almost all spices and condiments known to the world. Cumin is the dried fruit of a small herbaceous plant and was quite popular even during biblical times as an efficient digestive and a food flavor for a ceremonial feast. In the developing spice growing countries like India, the spices are being almost exclusively used in house hold sector as natural food flavorings but in industrially advanced countries of the west where processed foods are consumed in large quantities, the spices are used in industrial sector. Generally there is a time lag between origin of a new ideas and its adoption. Improved agricultural cultivation practices of cumin production technology are not recognized by the farmers as an essential element. They mainly practice its traditional subsistence farming. There is a great need for the adoption of improved agricultural practices of cumin crop by the farmers so that production and income can be raised. Several programme to transfer of the new technologies in the agriculture are in operation through out the country but the new technology has not yet reached the grass root level, where it can be put into practice.

RESOURCES AND **M**ETHODS

This study was conducted in Jalore district of Rajasthan as Jalore district having large area under cumin crop production and also leading in its production. A multistage sampling design was adopted to select sample for data collection for the present study. For this purpose, four villages namely Arnay, Sarnau, Jhontra and Sinwara of Sanchore panchayat samiti of Jalore district of Rajasthan state. 25 farmers were selected randomly from each village. Thus the sample size consisted of 100 respondents. Data of the study were collected from the selected respondents with the help of a structured schedule. In case of measurement of knowledge, nine practices of cumin production technology *viz.*, use of high yielding varieties, field preparation, seed treatment, fertilizer application, irrigation, weed control, plant protection measures and harvesting and storage of cumin seed were included in the knowledge test. Each selected practice was further divided into several questions for studying the existing level of knowledge about cumin production technology. One score was assigned to each of correct answer and zero score was assigned to incorrect answer. Thus the possible maximum score obtainable was 50.

OBSERVATIONS AND ANALYSIS

The data in Table 1 depict that majority (74 per cent) of the cumin growing farmers possessed medium level of knowledge while nineteen per cent of the farmers possessed high level of knowledge. Only 7 per cent farmers found to have low level of knowledge.

Table 1 : Distribution of respondents according to their knowledge

Sr. No.	Category	No. of respondents
1.	Low	7
2.	Medium	74
3.	High	19
	Total	

Significance of difference in knowledge possessed by farmers of different village :

The data in the Table 2 reveal that calculated value of 'F' is not significant at 1 per cent level of significance, thus Null hypothesis was accepted and research hypothesis was rejected. This indicates that there was no significant difference in the knowledge possessed by the farmers of different villages regarding improved cultivation practices of cumin production technology.

Individual practice wise knowledge of the farmers pertaining to cumin production technology :

The Table 3 shows that overall mean per cent score of the respondent was 78.80 and knowledge gap was 21.20 per

cent.

The Table 3 also shows that farmers possessed highest knowledge about harvesting and storage practices with mean per cent score 92.67, having a knowledge gap of 7.33 per cent. Maximum farmers know harvesting time and also know that how they can store cumin seed in a better way. This was followed by plant protection measures with MPS 91.25, knowledge about use of high yielding variety was kept on third rank with mean per cent score 87.40 and knowledge gap 12.60 per cent.

The knowledge regarding irrigation, field preparation and weed management, the mean per cent score were 85.00, 82.71 and 73.83 which exhibiting technological gap of 15.00, 17.29 and 26.17 per cent, respectively. A good number of farmers had knowledge about adequate number of irrigation and time of irrigation. In case of fertilizer application, respondents had 70.25 mean per cent score having a technological gap of 29.75 per cent. Most of the farmers know how about the use of nitrogenous and phosphate fertilizers and their proper application in cumin cultivation. Only a few respondents had knowledge about potassic fertilizer and their advantages in successful growing of cumin crops.

Regarding knowledge about different sowing practices *viz.*, sowing time, seed rate, plant spacing, it was found that farmers had 69.33 per cent knowledge. With knowledge gap of 30.67 per cent was placed in the second last in order. Which indicate the adequate source of information needs of the farmers. In case of seed treatment the mean per cent score was 56.50 and having highest knowledge gap of 43.50 per cent. Some of the farmers were known about the name and required dose of fungicides and their treatment procedure.

Sources of information :

The data in Table 4 state that personal localite was preferred as a source of information by cumin growers and ranked first. It may be due to reason that they may be easily approached and reliable for them. After using these sources, farmers go to the personal cosmopolite (formal source of information) for seeking the improved package of practices and ranked second. Mass media play fewer roles as they said and ranked third.

A perusal of data in Table 4 reveals that seventeen available sources of information, neighbor was found to be the most credible source of information for the adoption of improved cumin production technologies. It may be due to their social interaction and creditability on the part of his

Table 2 : Significance of difference in knowledge possessed by farmers of different village

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Sı	r. No.	Source of variance	d.f.	SS	MSS	'F' value
1.		Between the villages	3	47.66	15.866	2.447 NS
2.		Within the villages (Error)	96	622.40	6.483	
,						

NS =Non-significant at (P=0.01) level

EXTENT OF KNOWLEDGE ABOUT IMPROVED CULTIVATION PRACTICES OF CUMIN PRODUCTION TECHNOLOGY & SOURCE OF INFORMATION USED BY FARMERS

Sr. No.	Improved practices	Mean score	Knowledge in MPS	Knowledge gap in percentage	Rank
1.	Use of high yielding varieties	4.37(5)	87.4	12.6	III
2.	Field preparation	5.79(7)	82.71	17.28	V
3.	Seed treatment	1.13(2)	56.5	43.5	IX
4.	Sowing practices	4.61(6)	69.33	30.67	VIII
5.	Fertilizer application	5.43(12)	70.25	29.75	VII
6.	Irrigation	2.24(5)	85.00	15.0	IV
7.	Weed control	4.43(6)	73.83	26.167	VI
8.	Plant protection measures	3.61(4)	91.25	8.75	II
9.	Harvesting and storage	2.78(3)	92.67	7.33	Ι
Total		(50)	78.80	21.20	

 Table 3 : Knowledge and knowledge gap of the respondents

Figure in parenthesis indicate maximum possible score in respective practices

Table 4: Performance of source of information used by the farmers about improved cumin production technology

Sr. No	Source of information	Total score	Mean weightage	Ranks		
SI. NO.				Individual	Over all rank	
Personal loc	calite					
1.	Neighbour	241	40.167	Ι	Ι	
2.	Friend	234	39.00	III	III	
3.	Village leader	163	27.167	IV	VII	
4.	Panchayat	143	23.83	VII	XI	
5.	Cooperative societies	150	25.00	VI	IX	
6.	Progressive farmers	238	39.66	II	II	
7.	Gossip group	153	25.50	V	VIII	
Personal co	smopolite					
1.	Agriculture supervisor	232	38.67	Ι	IV	
2.	Subject Matter Specialist	136	22.66	III	XIII	
3.	Assistant Agriculture Officer	141	23.5	II	XII	
Mass media						
1.	Radio	208	34.67	Ι	V	
2.	Demonstration	176	29.33	II	VI	
3.	Poster	91	15.17	VII	XVI	
4.	Exhibition	113	18.83	V	XV	
5.	Puppet show	63	10.5	VII	XVII	
6.	Television	119	19.83	IV	XIV	
7.	Training center	151	25.17	Ш	Х	

information regarding improved practices about cumin production technology and get the highest mean weight age score (40.16) and was ranked first. The second important source of information to the farmers was progressive farmers who help and motivate the farmers in adoption of improved practices of cumin production technology. The third source of information was found to be friends who were in his regular contact with 39.00 mean weight age score. The fourth source was found to be the agriculture supervisor and get mean weight age score of 38.67. The fifth source was found to be radio because it helps in dissemination of information to a large number of farmers in a short time with 34.67 mean

340 Agric. Update, **7**(3&4) Aug. & Nov., 2012 : 338-341 Hind Agricultural Research and Training Institute weightage score followed by demonstration, village leader and gossip group and so on. Whereas, puppet shows, poster and exhibition were among the less used source of information by the farmers.

Use of personal localite sources of information :

A majority of farmers were utilizing neighbor as the main source of information among the personal localites in adoption of improved practices of cumin production technology and get highest mean weightage score followed by progressive farmers, friends and village leader and ranked second, third and fourth, respectively. Gossip groups and cooperative societies were found less used by the farmers. Panchayat was found to have least used source of information.

Use of personal cosmopolite sources of information:

Use of personal cosmopolite as a source of information regarding personal cosmopolite or formal source of information, a majority of farmers were utilizing agriculture supervisor as a best source of information for improved practices of cumin production technology and ranked first followed by Assistant Agriculture Officer (AAO). Subject Matter Specialist (SMS) were to found to have least used source of information.

Use of Mass media as sources of information:

Among the various sources used by the farmers in addition to personal localite and personal cosmopolite source of information, mass media also helped the farmers in providing information about improved practices of cumin production technology. Among the mass media, radio was considered the most useful source of information for improved cultivation practices of cumin production technology and was ranked first followed by the demonstration, training center and television and ranked second, third and fourth, respectively. Whereas puppet shows, poster, and exhibition were found to be the least used sources of information. It may due to the reason that there was lack of arrangement of exhibition, poster and display of puppet show were having used in rare case. An investigation was carried out on farmer satisfaction adoption of cumin cultivation in five talukas of Bhavnagar district by Desai et al. (1996).

Conclusion:

It is concluded that majority of the respondents were having medium level of knowledge (74%) followed by high level and low level of knowledge about improved cultivation practices of cumin production technology, respectively. There was no significant difference in knowledge among the respondents of different villages in respect to the improved cultivation practices of cumin production technology. In all the improved cumin production practices, the knowledge gap was ranging from 7.33 to 43.50 per cent. The highest knowledge gap was found in seed treatment (43.50%). In case of source of information, it was observed that cumin growers used much information from personal localites (neighbour, friends and progressive farmers etc.) followed by personal cosmopolites (Agriculture supervisor, AAO, S.M.S. etc.) and media (Radio, demonstration etc), respectively. This gap thus indicates that there is dire need to play an active role by extension workers in transfer of latest technology of improved cultivation practices of cumin production. For this, training programmes may organized by KVK, DEE or SAU on improved cultivation practices of cumin production technology with special emphasis on seed treatment practices and use of chemical pesticides etc.

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