

## INFORMATION NEEDS AND PROCESSING BEHAVIOUR OF RAPESEED-MUSTARD FARMERS

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### ABSTRACT

*Farmers' needs are the basis for developing meaningful agricultural programmes, therefore, the present study was conducted in 2003-04 to identify information needs and processing behaviour of the rapeseed-mustard farmers. The 350 rapeseed-mustard growers from five district of Rajasthan were interviewed. The study reported that fertilizer management, selection of suitable varieties, pest, disease and weed management are the areas where rapeseed-mustard growers of Bharatpur zone of Rajasthan had high need of information for higher production of rapeseed-mustard. The technical feasibility was the most important determinant followed by consultation with other concerned farmers and economic feasibility on which, majority of the farmers analyzed or took the decision to adopt or reject an innovation or a technology.*

### INTRODUCTION

Agriculture development depends not only on technology generation process but also on dissemination of technology as per the needs of the farmers in a particular farming system. Therefore, prior to technology dissemination, extension agencies need to explore and understand farmer's needs and the relevance of technology for that particular situation (Guerin 1994). This will, in turn, influence the kind of extension approach and technology offered to farmers for adoption. For successful technology transfer programme, the extension agents have to plan their communication strategy based on the actual information needs of the client system.

Farmers' needs are the basis for developing meaningful agricultural programmes. Farmers' need is the difference between what is and what ought to be? Information is an essential ingredient in agricultural

development programmes but farmers seldom feel the impact of agricultural innovations either because they have no access to such vital information or because it is poorly disseminated. If the approaches to agricultural development programmes are to work, government needs to new approaches to information dissemination and management that grow out from a clear understanding of what farmers information needs are. Keeping in view this important aspect of having knowledge of information needs of the farmers, the present study was undertaken with the following objectives

1. To study the background information of rapeseed-mustard farmers.
2. To identify the information needs of rapeseed-mustard farmers.
3. To study the information processing behaviour of rapeseed-mustard farmers.

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## METHODOLOGY

This investigation is based on the interview of farmers from all the five districts of Bharatpur zone of Rajasthan namely, Alwar, Bharatpur, Dholpur, Karoli and Swai Madhopur district. From each of the 5 districts, 70 rapeseed-mustard farmers, who visited NRC on Rapeseed-Mustard at Bharatpur during crop season from Sept 2003 to March 2004 to seek technical guidance, were randomly interviewed for the present investigation, thus making a total sample of 350 respondents.

The data were collected through personal interview techniques with a structured schedule prepared for the present investigation. In order to ascertain information needs of rapeseed-mustard growers in major aspects of rapeseed-mustard production activities, a specific list of items in each aspect was prepared. To identify information needs, the farmer respondents were asked to mention the area of rapeseed-mustard production in order of importance for which they wished to have technical information from the research stations, agriculture department, KVKs, ARS and other agencies. A three point continuum namely "most needed", needed and "least needed" with a score of 3, 2 and 1, respectively, was used to prioritize their information needs. After calculating the total scores and mean per cent scores of each item of the index, the rank values were assigned. Then preference of information needs in a particular area was categorized in three categories viz. high, medium and low on the basis of range of mean. To study the information processing behaviour, the respondents were asked to mention the important determinants on which they judged the innovation or technology to adopt or reject that

## RESULTS AND DISCUSSION

### 1. Background information of the respondents

The respondents were categorized into different groups on the basis of their personal characteristics i.e. age, caste, education, occupation, family and size of land holding. The same has been presented in the table no. 1.

**Age:** Table 1 shows that majority (76.57 per cent) of the respondents were in middle age group followed by young age group (13.14 %) and old age group (10.28 %)

**Caste:** A caste system is one whereby a society is divided into a number of self-contained and completely segregated units (castes), the mutual relations between which are ritually determined in a graded scale (Hutton, 1993). Caste still retains its pivotal position in the social structure of Indian villages. It was found that 38.85 per cent of the respondents belonged to general caste. The respondents belonging to OBC caste were 31.14 per cent, while 30 per cent belonged to SC / ST caste.

**Education:** Education is generally believed to have the effect of widening the mental horizon of a person and thereby predisposes him to be receptive to new ideas. The 37.71 per cent respondents were educated up to middle level and 19.42 per cent were educated up to primary level. The 17.71 per cent had high school level education. The graduate respondents were 16 per cent, while 9.14 per cent respondents had no formal education.

**Occupation:** The occupation of an individual is an important indicator to determine the economic status of that person in a society. Table 1 indicates that majority of the respondents (58.28) were dependent on farming only. There were 24.57 per cent respondents engaged in farming as well as

**Table 1: A Profile of the Rapeseed-Mustard Farmer Respondents**

Variable	Frequency	Per cent
<b>Age</b>		
Young (below 30 years)	46	13.14
Middle (30-50 years)	268	76.57
Old (more than 50 years)	36	10.28
<b>Caste</b>		
SC/ST	105	30
OBC	109	31.14
General	136	38.85
<b>Education</b>		
No Formal Education	32	9.14
Up to Primary	68	19.42
Up to Middle	132	37.71
Up to Hr. Secondary	62	17.71
Graduation	56	16.00
<b>Occupation</b>		
Farming only	204	58.28
Service + farming	60	17.14
Other business/work + farming	86	24.57
<b>Family type</b>		
Joint	132	37.71
Nuclear	218	62.28
<b>Family size</b>		
Up to 5 members	140	40.00
More than 5 members	210	60.00
<b>Land holding</b>		
Small (less than 2 ha land)	226	64.57
Medium (2-4 ha land)	88	25.14
Big (more than 4 ha land)	36	10.28

business, while 17.71 per cent were also having services besides farming.

**Family:** The respondents having nuclear family were 62.28 per cent and those having joint family 37.71 per cent. Big family size was rather predominant as 60 per cent respondents had family size with more than 5 members, while rest 40 per cent had small family.

**Land holding:** The amount of land owned by a person is an important parameter to assess the economic standing of that person. Table 1 indicates that majority of the respondents (64.57 per cent) were in small farmers category having land less than 2 hectare. The respondents having big land holding (more than 4 ha) were only 10.28 per cent, while 25.14 per cent had medium size land holding between 2 to 4 ha.

## 2. Information needs of rapeseed-mustard farmers regarding different aspects of rapeseed-mustard production:

Table 2 revealed that the information regarding different aspects of fertilizer management like proper dose of fertilizer, time and method of application, selection of appropriate fertilizer combination etc. was the most needed information for the rapeseed-mustard growers in the study area as fertilizers management was assigned top most rank with highest Mean Per cent Score (MPS 81.80) and this was followed by selection of appropriate variety for their location with MPS 80.76.

The other most important areas of rapeseed-mustard production process in which respondents needed information were disease management (MPS 79.80), pest

**Table 2 : Information Needs of Rapeseed-Mustard Farmers Regarding Different Aspects of Rapeseed-Mustard Production (N =350)**

SN	Aspects	Most needed (3)	Needed (2)	Least needed (1)	MPS	Rank
1	Field preparation	122	136	92	60.76	VII
2	Soil reclamation	87	124	139	48.47	X
3	Soil treatment	46	113	191	34.66	XII
4	Selection of variety	200	124	26	80.76	II
5	Seed treatment	73	182	95	55.52	VIII
6	Fertilizer management	171	173	06	81.80	I
7	Irrigation management	81	147	122	51.14	IX
8	Pest management	109	207	34	70.57	IV
9	Disease management	178	152	20	79.80	III
10	Weed management	118	187	45	69.33	V
11	Natural calamities	107	178	65	64.47	VI
12	Harvesting, threshing & Storage	68	151	131	48.19	XI

management (MPS 70.57) and weed management (MPS 69.33) with III, IV and V rank, respectively. The information needs regarding these aspects were identification of diseases, pests and weeds, causes and extent of damage, precautions, management, handling of plant protection equipments, etc.

The other important area of information need of respondents was pertaining to natural calamities like fog, frost, cold, high temperature, etc (MPS 64.47) followed by proper field preparation (MPS 60.76), seed treatment (MPS 55.52) and different aspects of irrigation management like proper time and method, quantity of water, number of irrigation, etc (MPS 51.14) in order of importance. The information regarding soil reclamation (MPS 48.47) and soil treatment (MPS 34.66) was also the important need of some of the farmers. Mukhopadhyay and Ramudurai (2001) in a similar kind of study, also found that farming communities were having preference /need regarding plant

protection measures followed by fertilizers and manure application, varietal aspects, marketing, land / soil related aspects and aspects related with harvesting and storage in descending order of importance. Sharma and Singh (2003) also reported that information regarding high yielding variety was the most needed one for the hill farmwomen followed by field preparation and cereal production. The other area of information need pertaining to agriculture were proper use of fertilizer, pesticide, weed control, disease control and sowing procedure.

### 3. Level of information needs of different aspects of rapeseed-mustard production

The table 3 indicates the level of information need of different aspects of rapeseed-mustard production. An observation of the table shows that the fertilizer management, selection of appropriate varieties, pest management,

**Table 3 : Level of information needs of different aspects of mustard production**

SN	Level of information needs	Aspects of mustard production
1	Low (34-50.37 MPS)	Soil treatment, soil reclamation, harvesting, threshing and storage
2	Medium (50.38-66.08)	Field preparation, seed treatment, irrigation management, and natural calamities.
3	High (more than 66.08)	fertilizer management, selection of varieties, pest management, disease management and weed-management

**Table 4: Information processing behaviour of rapeseed-mustard growers (N =350)**

SN	Modes of information processing	Perception of the farmers	Per cent	Rank
1	Judgement based on consultation with concerned farmers.	265	75.71	II
2	Judgement based on consultation with other specialists	205	58.57	IV
3	Judgement based on socio cultural feasibility	172	49.14	VI
4	Judgement based on economic feasibility	249	71.14	III
5	Judgement based on technical feasibility	288	82.28	I
6	Acceptance as such	40	11.42	VIII
7	Acceptance with modification	135	38.57	VII
8	Judgment based on past failure & success	200	57.14	V

disease management and weed management were the areas where farmers' level of information need was very high. Further, the field preparation, seed treatment, irrigation management and natural calamities were the area of medium level of information need, while, soil treatment, soil reclamation, harvesting, threshing and storage were the area, where the farmers needed least information.

#### **4. Information processing behaviour of rapeseed-mustard farmers**

Any information about the innovation is also processed under the prevailing circumstances by the adopter before adoption of the same. In the process, adopter judges about the innovation by personal, social and technological perspectives. The present investigation has studied the modes of information processing preferred by the farmers of Bharatpur zone of Rajasthan for rapeseed-mustard technology. The farmers were asked to name all the modes/ determinants they had preferred, as it is assumed that judging the information by more than one mode of processing is common. To ask the respondents about all their preferences were intended to find out all the important criteria of judging the innovative information after learning about them. The present investigation has combined the information processing behaviour for all kinds of

innovative information related with rapeseed-mustard, which indicates the kind of preferences for information processing prevalent in the Bharatpur division of Rajasthan.

The data has been presented in the table 4, which indicates that assessing technical feasibility is the most preferred mode of processing (82.28%) and should be considered first in the order of importance, while developing the technology dissemination strategy by the extension system of the zone. Quite a significant number of the respondents (75.71%) also judge the information in consultation with other rapeseed-mustard growers. The higher preference for consultation with the fellow farmers indicates the presence of peer group pressure and importance of opinion leader in the social system.

The economic feasibility of the innovative information, which is third in the order of importance among different modes, is preferred by 71.41% respondents. The mode of consultation with experts/ specialists with 58.57 % preference is fourth in the order of importance. Judging the information on past experiences of success and failure, socio-cultural feasibility, acceptance with the modification and acceptance as such received the preference of 57.14, 49.14, 38.5 and 11.42 per cent respondents, respectively and also received the importance in the similar order.

Kadian and Kumar (2002) also reported that majority of the dairy farmer respondents (87.22%) used the method of discussion with friends, relatives and progressive farmers followed by consideration over the availability of inputs and profitability of innovation (67.77%). Many respondents (56.66%) stated that they accepted the innovations only when their fellow farmers tested it. Khandekar *et al.* (1995) also reported the more or less similar findings.

## CONCLUSION

The rate of adoption of any technology happens to be faster if that meets the felt need most. Though no one can categorically claim to know all the information needs of farmers especially in an information dependent sector like agriculture where there are new and rather complex problems facing farmers every day, yet this study suggests that selection of suitable varieties, fertilizer management, pest disease and weed management are the areas where rapeseed-mustard grower of Bharatpur zone of Rajasthan have high need of information for higher production of rapeseed-mustard. Although every aspect of rapeseed-mustard production should be included in transfer of technology strategy, but keeping in view the findings of this study, it is suggested that extension agencies of the area engaged in transfer of recommended rapeseed-mustard production technologies must, on the priority basis, concentrate their strategy to educate the farmers about available technologies regarding these highly needed information aspects.

Secondly, one might think that relative profit from an innovation or a technology is the only determinant for the farmers to adopt the innovation or technology, but the present study has found that assessing the technical feasibility of the innovative

information is the most important mode of information processing and one must get assured about the same when to embark upon the rapeseed-mustard transfer of technology in the zone. However, higher preference for consultation with fellow mustard farmers indicates the importance of farmer-to-farmer consultation in the social system. There are other notable preferences of information processing also like economic feasibility, consultation with experts/specialists, past experiences and socio-cultural feasibility. Further, an investigation for getting precise information regarding information processing behaviour for each of the technological components or categories would be worthwhile in order to understand the responses for different kinds of innovations (variety, nutrient management, plant protection, etc).

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