Research Note :

KNOWLEDGE LEVEL OF DIFFERENT CATEGORIES OF FARMERS ABOUT IMPROVED MUSTARD PRODUCTION TECHNOLOGY

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This research study was conducted in Bharatpur District of Rajasthan. After interviewing the 300 farmers (mustard growers) of different categories (i.e. big, small & marginal) personally, it was found that on the whole majority of farmers had medium to high knowledge level about the recommended mustard production technology. In case of big farmers who have more than 2 ha. land holding have medium to high knowledge level about recommended practices of mustard cultivation. While majority of small & marginal farmers showed low to medium knowledge level about recommended mustard production technology. Second thing what we studied that there was a significant difference between the big & small and big & marginal farmers as far as their knowledge about improved production technology of mustard. Where as there was non- significant difference between the small & marginal farmers knowledge about recommended mustard production technology.

Mustard is one of the main oilseeds crop in Rabi season. Our vegetable oil requirement by the end of 2020 AD was estimated around 35 million tones of oilseeds against the present production of 22 million tones. This situation, in fact, is very alarming. Obviously, there is an urgent need for increasing the production of oilseeds in the country. To cope up with this situation, our research scientists, extension workers and farmers have great responsibility to maximize the production of oilseeds which is only possible, if farmers have a knowledge and awareness about the new technology which is recommended by the Agriculture Research Scientists specially for the rapeseed–mustard crop, then they may adopt the recommended practices. Because in the direction of adoption process of any practice, knowledge and awareness about such technology and practice must be necessary. Therefore first we go for the study of knowledge level of different categories of farmers about improved mustard production technology. For this purpose State Agriculture Department, State Agricultural Universities and National Research Centre On Rapeseed-Mustard organize various activities to create awareness and increase the knowledge of farmers about improved mustard production practices. A large numbers of yield maximization trails laid out at the research stations as well as at the farmers fields have shown the potentiality of the new technology to be highly effective in concern of knowledge improvement about new technology and by the improvement in knowledge level of farmers about mustard cultivation the gap of recommended and adopted practices may reduce by adopting the recommended practices.

METHODOLOGY

Locale of study–The Bharatpur district of Rajasthan was purposely selected for the study. The Bharatpur district is situated in the eastern part of the Rajasthan and falls in the Zone III B flood prone region with scanty and erratic rainfall. The district lies between 26°22' and 27°50' North latitudes and 76°53' and 78°17' East longitudes. It is surrounded by Gurgaon district of Haryana in the north, Mathura and Agra district of U.P. in the east, Dholpur, Dausa and Alwar districts of Rajasthan in the South West. Bharatpur district covers a total area of 507.5 thousand hectares comprises 1.48 per cent of the total area of the state. It is divided into 9 Panchayat samities and 1328 inhabited villages. The district has dry climate

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with hot summer, cold winter and short monsoon season. The average annual rainfall in the district is 645.2 mm. Major crops grown in area are mustard, wheat, barley, gram and lentil.

Selection of Panchayat samities–There were nine Panchayat Samities in Bharatpur district. Out of these three Panchayat Samities namely Kumher, Sewar and Bayana were selected by simple random sampling technique.

Selection of Gram Panchayats–The Panchayat samities Kumher, Sewar and Banaya comprises of 36, 34 and 37 Gram Panchayats respectively. Out of which 5 Gram Panchayat were selected randomly from each of the three selected Panchayat Samities making a total of 15 Gram Panchayats (Table-1).

Selection of Villages–Two villages from each of the above fifteen selected Gram Panchayats were selected randomly comprising a total of 30 villages (Table-1).

Selection of Respondents–A list of all big, small and marginal farmers, who have been cultivating mustard, was prepared for each selected village with the help of Patwari and VEW/Agriculture supervisor. Out of those 10 respondents consisting of were selected big, small and marginal farmers from each village with the help of probability proportional, to sample size. By this way the total sample for the present investigation was 300 respondents consisting big, small and marginal farmers.

Empirical measures and quantification of the knowledge level of different categories of farmers about improved technology of mustard cultivation– The present study aims at finding out the level of knowledge of the farmers with regard to recommended package of practices for mustard cultivation. This requires measurement of knowledge on all aspects of the recommended package of practices. In all 21 questions were included in the schedule to test the knowledge of farmers. Equal weight age was given to all items assuming that all the items included were equal in difficulty to understand, apply and recall. One mark was given to every right answer and zero for wrong answer. The following formula was used to work out knowledge index.

$$\text{Knowledge Index} = \frac{X_1 + X_2 + X_3 \text{———} + X_n}{N} \times 100$$

Where,

$X_1, X_2, X_3, \ldots\ldots X_n$ are correct answers for first, second, third and n^{th} questions and N is the maximum possible score to secure i.e. 21 and the minimum was zero. Then 100 to obtain knowledge index in percentage multiplied it.

RESULTS AND DISCUSSION

Knowledge level of farmers about the recommended mustard production technology–On the basis of knowledge scores, the knowledge level of respondents was classified into four categories viz. low, medium, high and extremely high. The farmers were then classified into four groups accordingly as presented below:

(i) The farmer who obtained a score between 0 to 25 per cent was categorized as having low knowledge level;

(ii) The farmer who got a score between 26 to 50 per cent was categorized as having medium knowledge level;

(iii) The farmer who secured a score between 51 to 75 per cent were classified under high knowledge level; and

(iv) The farmer who obtained a score between 76 to 100 per cent was categorized as having extremely high knowledge level.

Statistical data regarding the knowledge level of different categories of farmers about the recommended practices of mustard cultivation have been presented in Table-1

Table-1. Knowledge level of different categories of farmers about the recommended mustard production technology

N=300

S. No.	Farmers categories	Percentage of farmers under different Knowledge levels based on scores %			
		Low (0-25)	Medium (26-50)	High (51-75)	Extremely high (76-100)
1.	Big farmers (N=46)	21.74	39.13	39.13	0.00
2.	Small farmers (N=109)	40.37	34.86	20.18	4.59
3.	Marginal farmers (N=145)	44.83	31.72	22.07	1.37
Over all knowledge level		35.64	35.44	27.13	1.99

It is obvious from the data in Table-2 that 35.64 percent, 35.44 per cent, 27.13 per cent and 1.99 per cent farmers fell under the knowledge categories of low, medium, high and extremely high, respectively as far as their over all knowledge about

the recommended production technology of mustard was concerned. It may be indicated that more than half of the farmers were having medium to high knowledge level about the recommended production technology of mustard.

Further, farmers category-wise analysis revealed that there were 21.74 per cent 39.13 per cent and 39.13 per cent of big farmers who could be categorized under low, medium and high knowledge levels respectively. It was interesting to note that none of the big farmer could be categorized as having extremely high knowledge level. Whereas, 40.37 per cent, 34.86 per cent, 20.18 per cent and 4.59 per cent of the small farmers were having low, medium, high and extremely high knowledge about mustard production technology, respectively. However, there were 44.83 per cent, 31.72 per cent, 22.07 per cent and 1.37 per cent marginal farmers who could be categorized as having low, medium, high and extremely high knowledge about mustard production technology, respectively.

It may be deduced from the above description that more than 3rd/4th of the big farmers were having medium to high knowledge regarding mustard production technology. Whereas about 3rd/4th of the small as well as marginal farmers were having low to medium knowledge about improved practices of mustard cultivation.

Comparative study of the knowledge level about recommended mustard production technology between different categories of farmers–It is the general notion among the people that the knowledge about the improved production technology varies in different categories of farmers. With this view in mind a comparison has been made in the knowledge about the mustard production technology of different categories of farmers by applying standard normal deviate test 'Z'. The statistical data regarding this aspect has been presented in table-2.

An examination of data in table-3 indicated that the calculated value of 'Z' for big and small farmers was 2.32 that were statistically significant at five per cent level of probability. Thus, it may be concluded that there was a significant difference between the knowledge level of big and small farmers about recommended mustard production technology. Similarly a significant difference between big and marginal farmers has also been observed with regard to the knowledge about mustard production technology as the calculated value of 'Z' was 4.71 that was significant at one per cent level of probability.

Table 2. Discrimination in knowledge between different categories of farmers about recommended mustard production technology

S. No.	Farmers of one group	Farmers of other group	Mean score obtained by		'Z' Value
			Farmers of one group	Farmers of other group	
1.	Big farmers	Small farmers	10.70	8.77	2.32*
2.	Big farmers	Marginal farmers	10.70	7.78	4.71**
3.	Small farmers	Marginal farmers	8.77	7.78	1.54

* Significant at 0.05 level of probability
** Significant at 0.01 level of probability

However, Table-2 further elucidated that the calculated value of 'Z' was less than tabulated value of 'Z' for the knowledge level of small and marginal farmers. It means it showed non-significant difference between the two categories (i.e. small and marginal) of farmers. Which indicated that the small & marginal farmers did not differ significantly as far as the knowledge about improved mustard cultivation was concerned.

CONCLUSION

1. On the whole majority (about 62 per cent) of the farmers had medium to high knowledge level about the recommended mustard production technology.

2. Majority (about 78 per cent) of big farmers were also found to have medium to high knowledge level about recommended practices of mustard cultivation. While 75.23 per cent and 76.55 per cent of small and marginal farmers, respectively showed low to medium knowledge level about recommended mustard production technology.

3. There was a significant difference between the big & small and big & marginal farmers as far as their knowledge about improved production technology of mustard was concerned. Whereas there was non-significant difference between the small & marginal farmers knowledge about recommended mustard production technology.

RECOMMENDATIONS:

1. Majority of farmers comes under the small & marginal categories and they had low to medium

knowledge level about Rapeseed-Mustard cultivation. Thus we must concentrate on these categories.

2 Although the farmers in general possessed medium to high knowledge level about mustard production technology but there is a still scope to convert medium knowledge into high knowledge and high into extremely high knowledge level.

3. For above said purposes, practical training courses should be introduced for the farmers.

4. While preparing practical training courses farmers profile, namely knowledge, size of family, education, age, caste, occupation, social participation, farm power, farm implements, source of information utilized, irrigation potentiality, credit behaviour and cropping intensity be kept in mind.

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