

RESEARCH ARTICLE

Training need of Tribal farmers in Rapeseed production technology of Upper Brahmaputra Valley Zone of Assam

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Abstract

The study was conducted in two districts of Upper Brahmaputra Valley Zone of Assam to assess the socio-economic profile of rapeseed growing tribal farmers and their training need on rapeseed cultivation. A total of 120 farmers were selected from four villages of two districts namely Jorhat and Golaghat by proportionate cum random sampling techniques and analyzed statistically. Majority of the respondents were above 25 years of age with high school level education, small family size, agriculture and agriculture labour as main occupation, marginal land holding, participation in local social organization, medium to high level of exposure to mass media and experience in farming (>5 years) were the characteristics for most of the tribal farmers growing rapeseed. But majority of respondents had low level of innovative proneness. Out of 12 aspects of rapeseed cultivation practices, majority of respondents had high level of training need in 6 aspects of cultivation. Fertilizer management (2.33), seed treatment (2.56), pest management (2.69), disease management (2.53), water management (2.6) and marketing (2.4) were the important training need area where majority farmers had high level of training need. Necessary awareness programme for attracting tribal youth is an important step for boosting oilseed production. Government and non-government organizations should put sincere efforts to meet the training needs of tribal farmers by organizing training on rapeseed cultivation in groups. Strategic efforts should be required to cover more areas particularly in riverside tract as well as to popularize this crop as second crop in traditionally *Sali* growing area.

Keywords: Rapeseed, training need, tribal farmers, agriculture labour, oilseed, second crop.

Introduction

Oilseed crops, rapeseed and mustards account for 14.1 and 3% of the gross cropped area in India. Rapeseed-mustard is the major source of income especially even to the marginal and small farmers in rain fed areas. Because of its low water requirement (80-240 mm), rapeseed-mustard crops fit well in the rain fed cropping system. Among the oilseed crops, rapeseed-mustard ranked next to groundnut (*Arachis hypogaea* L.) and soybean (*Glycine max* L.) in contribution to the oilseed production and ranked seven by contributing 3.6% area to the total oilseed area in India. During 2009-10, rapeseed-mustard contributed 25.9 and 22% to the total oilseeds production and acreage. Nearly 34% area is rain fed under these crops (Kumar and Chauhan, 2005). Oilseed is one of the major crops just after cereals in Assam. The state produced 1.55 lakh MT oilseed from 2.64 lakh ha area during 2010-11 (Economic survey of Assam, 2011-12). The average productivity of oilseed crop in the state is 546 kg per ha, but that is too low as compare to the national average productivity (969 kg/ha). Rapeseed and mustard is the major group of oilseed crop grown in the state that occupied first in terms of area cultivating in 2.43 lakh ha and produced 1.42 lakh tone with an average productivity 585 kg/ha.

Most of the area under the crop is distributed in Char area (riverside islands) and alluvial flood prone area of the state. Despite number of constraints faced by farmers specifically lack of irrigation facilities and lack of scientific knowledge, lack of quality seed and proper marketing facilities, the tribal farmers have been cultivating the crop in subsistence to commercial manner. In this context, an attempt has been made to assess the socio-economic profile and their training need of tribal farmers in rapeseed and mustard cultivation.

Materials and methods

Study area: The study was conducted in Jorhat and Golaghat districts of upper Brahmaputra valley zone of Assam.

Sample population: Farmers ($n=120$) were selected from four villages by proportionate cum random sampling technique. Two villages from each two districts namely Golaghat and Jorhat districts were selected purposively by considering the schedule tribe majority.

Experimental design and statistical analysis: Selected respondents were interviewed personally with the help of specially structured schedule.

Table 1. Socio-economic profile of the respondents (n=120).

Variables	Frequency	Percentage
<u>Age</u>		
Young (up to 25 years)	21	17.50
Middle (25-45 years)	47	39.17
Old (above 45 years)	52	43.33
<u>Educational status</u>		
Illiterate	3	2.50
Primary level	43	35.83
Middle school level	35	29.17
High school level	26	21.67
Higher secondary level	7	5.83
Graduate level	4	3.33
Post-graduate level	2	1.67
<u>Family size</u>		
Small (up to 4)	37	30.83
Medium (4-6)	53	44.17
Large (above 6)	30	25.00
<u>Family type</u>		
Nuclear	51	42.50
Joint	67	55.83
Extended	2	1.67
<u>Main occupation</u>		
Agriculture	70	58.33
Business	2	1.67
Service	3	2.50
Agriculture labourer	45	37.50
<u>Operational land holding</u>		
Marginal	85	70.83
Small	18	15.00
Medium	17	14.17
<u>Social participation</u>		
Members of social organization	78	65.00
No members of any social organization	42	35.00
<u>Mass media exposure</u>		
Low	23	19.17
Medium	56	46.67
High	41	34.17
<u>Experience in farming</u>		
<5 years	16	13.33
5-10 years	50	41.67
>10 years	54	45.00
<u>Innovative proneness</u>		
Low	81	67.50
Medium	27	22.50
High	12	10.00

Socio-economic and communication characteristics of the respondents were studied as independent variables. The different area of rapeseed cultivation practices were identified and categorized into four broad areas namely crop husbandry, soil and water management, plant protection and post harvest management. Responses regarding training need of tribal farmers were collected in three point continuum, namely 'mostly needed', 'somewhat needed' and 'least needed' with a score of 3, 2 and 1 respectively. The aggregate score for each item and most preferred field of training were identified. A pretested research schedule was used for collection of data. Appropriate statistical tools such as frequency, percentage, weighted mean and rank were used for analysis of data.

Results and discussion

Socio-economic profile of respondents: It was observed that most farmers belong to old and middle age categories (Table 1). The age of more than 80% respondents were >25 years. The education level of most of the farmers was ranging from primary to high school level and only 5% farmers had education of graduate and post graduate level. Family size of 4-6 members was found for around 45% farmers and only 25% farmers had more than 6 members in their family. Family type of most of respondents was joint family (55.83%) followed by nuclear family. Agriculture and agricultural labour was the main occupation for most of the respondents. Experience in farming for most of the respondents was between 5 to 10 years.

Table 2. Training need of tribal farmers on rapeseed cultivation.

Practices	Mostly needed		Somewhat needed		Least needed		WS	WMS	Rank
	F	%	F	%	F	%			
Land preparation	21	17.50	33	27.50	66	55.00	195	1.63(L)	XII
Fertilizer management	56	46.67	48	40.00	16	13.33	280	2.33(H)	VI
Seed treatment	79	65.83	29	24.17	12	10.00	307	2.56(H)	III
Seed sowing	37	30.83	56	46.67	27	22.50	250	2.08(M)	VIII
Thinning and weeding	26	21.67	57	47.50	37	30.83	229	1.91(M)	XI
Pest management	87	72.50	29	24.17	4	3.33	323	2.69(H)	I
Disease management	75	62.50	34	28.33	11	9.17	304	2.53(H)	IV
Water management	91	75.83	10	8.33	19	15.83	312	2.60(H)	II
Harvesting	11	9.17	31	25.83	78	65.00	173	1.44(L)	XIII
Threshing	34	28.33	67	55.83	19	15.83	255	2.13(M)	VII
Cleaning and drying	29	24.17	54	45.00	37	30.83	232	1.93(M)	X
Oil extraction	43	35.83	37	30.83	40	33.33	243	2.03(M)	IX
Marketing	67	55.83	34	28.33	19	15.83	288	2.40(H)	V

Maximum score is 3; Least needed (Low) =1-1.66; somewhat needed (Medium) =1.67-2.32; Mostly needed (High) =2.32-3.00.

WS=Weighted Score, WMS= Weighted Mean Score, H=High, M=Medium, L=Low.

More than 70% respondents belonged to marginal farmers and the rest belonged to small and medium farmers. Respondents about 65% participated in local social organizations particularly SHG and FMC. More than 90% respondents had medium and high level exposure to mass media specifically TV, radio and newspapers. In case of innovative proneness of the tribal farmers, it was observed that only a few had high level and majority had low level of innovative proneness.

Training need of tribal farmers on rapeseed cultivation:

Out of 12 aspects, 6 aspects of rapeseed cultivation practices were considered as strong training need area. The high training need areas reported by tribal farmers are fertilizer management (2.33), seed treatment (2.56), pest management (2.69), disease management (2.53), water management (2.6) and marketing (2.4) (Table 2). Training need area of rapeseed cultivation was ranked based on the weighted mean scores. Pest management was ranked first followed by water management, seed treatment, disease management, marketing and fertilizer management. Although tribal farmers were cultivating rapeseed since long time but still they are practicing some traditional methods for controlling pests. They are not using balance dose of fertilizer and the quantity of fertilizer used per ha is also very negligible. Water management and pest management were mostly needed training area for more than 70% of the respondents (Chauhan and Kshirsagar, 2012). Majority of the tribal farmers cultivated rapeseed as rain fed crop and more pest incidence particularly in flood affected area is experienced. Seed treatment and disease management are mostly training need area for more than 60% respondents. Marketing of produce attained as most priority in assessing the training need (55.83%) of rapeseed crop (Chauhan and Kshirsagar, 2012). This might only to get remunerative price of their product. Lack of organized market and role of middle man in exiting marketing channel create hindrance to get remunerative price of rapeseed.

Conclusion

The study reveals that rapeseed cultivation was popular among the people of middle and old age groups. Necessary awareness programme for youth is an important step for boosting oilseed production. Government and non-government organizations should put sincere efforts to meet the training needs of tribal farmers by organizing training on rapeseed cultivation. Special attention should be given on pest management, seed treatment, disease management etc. by training institutes. More state level or district level processing units have to be established for creating assured domestic market. Massive training and demonstration programmes in tribal areas will reduce the training need and adoption gap of the crop.

Acknowledgements

Authors are grateful to Directorate of Research (Agri.), Assam Agricultural University, Jorhat and farmers of the study area for providing necessary cooperation and support to conduct the study.

References

1. Chauhan, N.M. and Kshirsagar, S.M. 2012. Assessment of training needs of members of tribal women SHGs for agriculture development. *Ind. Res. J. Ext. Edu.* Special issue (Vol. II): 193-198.
2. Kumar, A. and Chauhan, J.S. 2005. Status and future thrust areas of rapeseed-mustard research in India. *Ind. J. Agri. Sci.* 75(10): 621-635.
3. Singh, S.N., Singh, V.K., Singh, R.K. and Singh, R.K. 2007. Evaluation of on-farm front line demonstrations on the yield of mustard in central plains zone of Uttar Pradesh. *Ind. Res. J. Ext. Edu.* 7(2&3): 79-81.
4. Meena, B.L., Meena, R.P. and Meena, R.H. 2012. Yield gap analysis of rapeseed-mustard through front line demonstrations in agro climatic zone IVa of Rajasthan. *J. Oilseed Brassica.* 3(1): 51-55.
5. Economic survey of Assam. 2011-12. Directorate of Economics and Statistics, Assam, Guwahati.