

Research Article

Adoption behaviour of farmers about recommended technology of soybean

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SUMMARY : The study was conducted in Nagpur district of Maharashtra State. With the help of exploratory research design, data were collected from 150 farmers and analysed with the help of suitable statistical methods. Majority of respondents (62.67%) were found to have medium level of knowledge about the recommended technologies of soybean. Over half of respondents *i.e.* 58.00 per cent respondents noted were of medium favourable attitude towards the improved technology of soybean and most of the were respondents mediocre in adoption of recommended soybean practices. Older farmers were highly but negatively significant with the adoption behaviour. Increase in the level of education, extension contacts and cosmopolitaness of soybean growers helped them to improve their knowledge, attitude and adoption of soybean technology.

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BACKGROUND AND OBJECTIVES

Maharashtra stands second in the country in soybean production after Madhya Pradesh with the contribution of 18 per cent of total countries soybean production. In Vidarbha region cotton was the main cash crop of *Kharif* season, but from last decade farmers prefer soybean crop because of requirement of less input and high output, agronomical practices are very low and complexity is also very low as compare to cotton crop. Hence, soybean became an important leading crop among the Vidarbha farmers, but the production per unit area is comparatively low. To improve the production some appropriate technology is necessary. An appropriate technology in this context is the latest scientific technological development that have been adjusted to suit the local conditions and ultimately to the highest possible yield. Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola has developed the recommended package of practices of soybean crop for the diverse condition of Vidarbha region. But, it is observed that farmers are not yet producing the expected yield of the soybean.

Therefore, it was necessary to access knowledge, attitude and adoption of soybean growers towards the recommended technology of soybean. Hence, the study was formulated with the specific objective to study the adoption behaviour of soybean growers towards the recommended technology of soybean.

RESOURCES AND METHODS

The present study was conducted in ten villages of Nagpur district. Exploratory research design of social research was used for the study. 15 farmers from each village were selected randomly with the help of equal random sampling method and total 150 farmers were selected for the study. Data were collected personally by contacting all the respondents with the help of pre-tested interview schedule. Eight independent variables and three dependent variables were selected for the study. Adoption behaviour of soybean growers was the dependant variable under which knowledge, attitude and adoption of farmers were studied. Knowledge and adoption of recommended technologies were measured with

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three point continuum *i.e.* full, partial and no and then index were developed. Attitude was measured with the help of schedule developed for the study which includes ten statements quantifying with the help of five point continuum and then attitude index was developed. Coefficient of correlation between independent and dependant variables were also analysed.

OBSERVATIONS AND ANALYSIS

The observations of the present study as well as relevant analysis have been summarized under the following heads:

Independent variables:

Independent variable *viz.*, personal, socio-economic, situational and communicational characteristics were studied and the findings have been presented in Table 1.

Table 1 : Distribution of respondents according to personal, socio-economic, situational and communicational characteristics of respondents (n=150)

Sr. No.	Variable and category	Score range	Respondents	
			Frequency	Percentage
1.	Age			
	Young	Up to 35 years	50	33.33
	Middle	36-50 years	54	36.00
	Old	Above 50 years	46	30.67
2.	Education			
	Illiterate	0	09	6.00
	Primary school	1 - 4 std.	33	22.00
	Middle school	5 - 7 std.	28	18.67
	High school	8 - 10 std.	48	32.00
	College	Above 10 std.	32	21.33
3.	Land holding			
	Marginal	Up to 1.00 ha.	05	3.33
	Small	1.01 - 2.00 ha.	07	4.67
	Semi medium	2.01- 4.00 ha.	36	24.00
	Medium	4.01-10.00 ha.	98	65.33
	Large	Above 10.00 ha.	04	2.67
4.	Type of land			
	Light	--	17	11.33
	Medium	--	82	54.67
	Heavy	--	51	34.00
5.	Farm experience			
	Low	Up to 7 years	18	12.00
	Medium	8-13 years	94	62.00
	High	Above 13 years	38	25.33
6.	Size of family			
	Small	Up to 3 members	22	14.67
	Medium	4 to 9 members	91	60.67
	Large	Above 9 members	37	24.66
7.	Extension contact			
	Low	Up to 7	27	18.00
	Medium	8-13	76	50.67
	High	Above 13	47	31.33
8.	Cosmopolitaness			
	Low	Up to 4	10	6.67
	Medium	5-6	79	52.67
	High	Above 6	61	40.66

It is observed from Table 1 that with very little difference respondents were distributed in middle (36.00%), young (33.33%) and old (30.67%) age category. In educational status only 6.00 per cent respondents were illiterate and remaining were literate. From the literates 32.00 per cent were having high school education followed by 22.00 per cent respondents of primary education, 21.33 per cent of college level and 18.67 per cent respondents were having middle school education. Majority of respondents (65.33%) were found in medium category of land holding *i.e.* 4.1 to 10.00 ha. and only 2.67 per cent respondents were holding size large land. Majority of land was found to be medium type as reported by 54.67 per cent respondents. About 62.00 per cent respondents found to have medium farm experience (8-13 years) followed by the respondents (25.33%) of high experience. Most of respondents (60.67%) were observed in medium size of family members *i.e.* 4 to 9 members followed by 24.66 per cent respondents in the category of large size family. It clearly indicates that in the era of small family pattern still one fourth of the rural families were having more than ten members in the study area. Communicational variables like extension contacts and cosmopolitaness of the respondents were found in medium

category. Over half of the respondents (50.67% and 52.67%) had medium level of extension contact and cosmopolitaness, respectively. This was followed by 31.33 per cent and 40.66 per cent respondents of high category of extension contacts and their cosmopolitaness, respectively.

The distribution of respondents according to their overall level of knowledge about recommended cultivation practices of soybean reveal from Table 2 that majority of the soybean growers (62.67%) were found in medium level of knowledge followed by 20.66 per cent in high knowledge level, whereas meagre percentage of soybean growers (16.67%) were found in low level of knowledge. Thus, it could be inferred that over half of soybean growers had medium level of knowledge about improved cultivation practices of soybean. These findings were in line with the finding of Gawande *et al.* (2007) and Jadhav (2008). According to the attitude of respondents towards the improved cultivation practices of soybean, it was observed that majority of soybean growers (58.00%) were having medium favourable attitude followed by 21.33 per cent in highly favourable attitude and latter 20.67 per cent respondents were having low favourable attitude. It indicates that majority of soybean growers possessed the medium to

Table 2 : Distribution of respondents according to their knowledge, attitude and adoption of recommended technologies of soybean (n=150)

Sr. No.	Items	Score range	Respondents	
			Frequency	Percentage
Knowledge				
1.	Low	Up to 52	25	16.67
2.	Medium	53 - 76	94	62.67
3.	High	Above 76	31	20.66
Attitude				
1.	Low favourable	Up to 63	31	20.67
2.	Medium favourable	64 - 85	87	58.00
3.	Highly favourable	Above 85	32	21.33
Adoption				
1.	Low	Up to 51	26	17.33
2.	Medium	52 - 73	94	62.67
3.	High	Above 73	30	20.00

Table 3 : Coefficient of correlation between selected characteristics of the respondents with their knowledge, attitude and adoption

Sr. No.	Independent variables	'r' values		
		Knowledge	Attitude	Adoption
1.	Age	-0.6820**	-0.3398**	-0.6445**
2.	Education	0.4991**	0.4907**	0.4668**
3.	Land holding	0.1980*	0.2168*	0.2026*
4.	Type of land	0.0099	0.0636	0.0035
5.	Farm experience	0.4755**	0.1445	0.4306**
6.	Family size	0.1896	0.1384	0.1329
7.	Extension contact	0.7568**	0.3225**	0.6996**
8.	Cosmopolitaness	0.7505*	0.5141**	0.7024**

* and ** indicate significance of values at P=0.05 and 0.01, respectively

high favourable attitude towards the improved technology of soybean cultivation. These findings are supported by the findings of Kumar and Padmaiah (2010).

Adoption shows the status of actual use of recommended technology by the soybean growers. The distribution of the respondents according to their level of adoption of soybean as presented in Table 2 clearly reveals that majority of farmers (62.67%) were included under medium category of adoption of recommended technologies of soybean followed by the farmers (20.00%) belonging to high category of adoption, whereas only 17.33 per cent of the farmers had low level of adoption of recommended technology of soybean. It means most of the soybean growers in Nagpur district had medium to high level of adoption behaviour towards the recommended technologies of soybean. These findings are corroborating with the finding of Kadam and Suryawansi (2010)

In the relational analysis the critical examination of Table 3 reveals that among the selected variables age and education were highly significant with the knowledge, attitude, and adoption of recommended technology of soybean, but age was negatively correlated. This indicates that old age farmers were not found interested in seeking the information about recommended technology of soybean and made the attitude negative towards the improved practices that leads to lower down the adoption of recommended practices of soybean cultivation. In case of age similar findings were reported by Gawande *et al.* (2007).

Educated farmers were tried their best to get the knowledge of recommended technology and knowledge of farmer were making their attitude positive towards soybean cultivation technology that was resulted in to increase in adoption. Similar findings were revealed by Aske (2008). Land holding was found to be significantly correlated in case of knowledge, attitude and adoption that means land holding was contributed to improve the adoption behaviour of farmers. The findings were in tune with the findings of Raghuvansi *et al.* (2010). The type of land was found to be non significant with the adoption behaviour of farmers.

Farm experience was significantly correlated with knowledge and adoption at 0.01 level of probability, whereas attitude was found non significantly correlated. When experience of farming in soybean was more it gives the sufficient time to the farmer to study and analysis the practicability and

relative advantage of the recommended practices, hence adoption was also increased with increase in farm experience. The finding corroborates with the finding of Fulzele *et al.* (2003).

The educated farmers with increasing experience were enthusiastically tried to get knowledge by contact with extension functionaries of different agencies for getting higher yield of soybean, hence extension contacts of the farmers were found highly significant with knowledge attitude and adoption. These efforts of the farmer were making them eager to contacts the agencies out of local social system for seeking the information about improved cultivation of soybean. That was the reason which makes cosmopolitaness highly significant with knowledge attitude and adoption of farmers.

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