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Research Note

Knowledge Level of Farmers on Sugarcane Production Technology in Badaun District of Uttar Pradesh

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ABSTRACT

Sugarcane is one of the major crops of Uttar Pradesh. But, sugarcane productivity of Uttar Pradesh remained very low as compared to southern states, which may be due to lack of farmers' knowledge and its practice about recommended sugarcane production technologies. Keeping this in view, present study was conducted in Asafpur block of Badaun district in Bareilly division of Uttar Pradesh. A randomly selected sample of 250 sugarcane growing farmers was interviewed with the help of an interview schedule. It was found that majority of large and medium farmers possessed good knowledge regarding soil, seed, fertilizer and irrigation technologies of sugarcane crop while it is reverse in case of small farmers.

Keywords: Knowledge level, sugarcane production technology

INTRODUCTION

Uttar Pradesh alone has 47.6 per cent share in terms of area under sugarcane cultivation and 36.6 per cent of total share in sugarcane production of India. But per unit sugarcane yield of Uttar Pradesh has an average 56.3 tonnes/ha yield while Tamil Nadu has highest average yield (106.6 tonnes/ha). This wide yield gap could possibly exist in Uttar Pradesh because of farmers' low level of awareness about improved production technology of sugarcane. The awareness and accessibility of fast changing agricultural technologies can significantly help the farmers to improve their production and productivity. Keeping this scenario in mind, a research study was conducted to assess the knowledge level of sugarcane growers regarding recommended sugarcane production technology.

METHODOLOGY

Selection of respondents

The present study was conducted in Badaun district of Bareilly division of Uttar Pradesh. The multistage sampling technique was used to select the respondents for the study. Asafpur block was randomly selected to conduct the investigation. In next stage of sampling, ten villages from selected block were chosen randomly. For selection of respondents, the complete list of farmers was prepared for each selected village separately with the help of *Lekhpal* (Revenue Record Officer) and Village Development Officer of the respective villages. This exercise has helped in getting village wise sampling frame. The random sampling technique was followed to select representative sample of respondents from prepared list of farmers from ten villages. With the help of a committee consisting of

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social scientists and statistician, it was decided to select 25 farmers as respondents from each selected village. Thus, a total of 250 constituted the sample size for the study.

Variables and their Measurement

Level of Knowledge

A technical knowledge test of sugarcane production technology was developed by preparing a question sheet of 25 items covering different practices of sugarcane cultivation which was later validated with extension scientists.

Respondents were grouped into three categories of knowledge level on the basis of total score obtained. The categorized groups of respondents and their scores are as follows;

Category	Score
Good knowledge	35-50
Fair knowledge	19-34
Poor knowledge	Below 18

Sugarcane Production Technology

For proper classification and tabulation of data, the sugarcane technology was grouped into eight broad categories comprising soil, seed, fertilizer, irrigation, inter-culture, weed control, plant protection and harvesting & post-harvesting.

Land Holding

The respondents of the study were categorized / grouped into three categories on the basis of their land holding as small farmers (up to 2 ha), medium farmers (> 2 to 4 ha) and large farmers (> 4 ha).

Data collection and analysis: The data were collected with the help of a pretested interview schedule and analysed using appropriate statistical tools.

RESULTS & DISCUSSION

Knowledge level of sugarcane growers regarding sugarcane production technology

The knowledge level of respondents (sugarcane growers) has been divided into three categories *i.e.* 'good', 'fair' and 'poor' on the basis of their responses regarding the knowledge about same aspect. The analysis of respondents' response has been done in light of different categories of landholding *i.e.* small, medium and large.

a. Soil Technology

Table 1 clearly reveals that 51.11 per cent large farmers, 33.68 per cent medium farmers and 20.11 per cent small farmers have possessed good knowledge, whereas 41.06 per cent medium farmers, 32.72 per cent small farmers and 31.12 per cent large farmers have possessed fair knowledge.

It may be concluded that large and medium farmers are better in terms of knowledge of soil technology of sugarcane as compared to small farmers.

b. Seed Technology

Table 2 indicates that poor knowledge regarding seed technology of sugarcane is observed with 41.82

Table 1: Knowledge level of respondents regarding soil related technology of sugarcane

Categories of respondents	Knowledge Level							
	Good		Fair		Poor		Total	
	frequency	%	frequency	%	frequency	%	frequency	%
Small	22	20.00	36	32.72	52	47.28	110	44.00
Medium	32	33.68	39	41.06	24	25.26	95	38.00
Large	23	51.11	14	31.12	08	17.77	45	18.00
Overall	**77**	**30.80**	**89**	**35.60**	**84**	**33.60**	**250**	**100.00**

Table 2: Knowledge level of respondents regarding seed technology of sugarcane

Categories of respondents	Knowledge Level							
	Good		Fair		Poor		Total	
	frequency	%	frequency	%	frequency	%	frequency	%
Small	22	20.00	42	38.18	46	41.82	110	44.00
Medium	48	50.52	27	28.42	20	21.06	95	38.00
Large	24	53.34	12	26.66	9	20.00	45	18.00
Overall	**94**	**37.60**	**81**	**32.40**	**75**	**30.00**	**250**	**100.00**

per cent of small farmers, 21.06 per cent of medium farmers and 20.00 per cent of large farmers, respectively indicating the better knowledge level of medium and large farmers.

c. Fertilizer technology

The data given in Table 3 clearly reveals that majority (89 %) per cent respondents of large farming size groups have possessed good and fair knowledge regarding fertilizer technology.

d. Irrigation Technology

Those respondents who possessed poor knowledge regarding irrigation technology of sugarcane are 50.91 per cent small farmers, 29.48 per cent medium farmers and 15.55 per cent large farmers, respectively (Table 4). Majority of large farmers possessed good knowledge regarding irrigation technology of sugarcane cultivation.

e. Intercultural Technology

It is evident from the Table 5 that 48.89 per cent large farmers, 42.12 per cent medium farmers and 23.64 per cent small farmers have possessed good knowledge, whereas 33.34 per cent large farmers, 30.52 per cent medium farmers and 29.09 per cent small farmers have possessed fair knowledge.

Table 3: Knowledge level of respondents regarding fertilizer technology of sugarcane

Categories of respondents	Knowledge Level							
	Good		Fair		Poor		Total	
	frequency	%	frequency	%	frequency	%	frequency	%
Small	20	18.18	34	30.91	56	50.91	110	44.00
Medium	42	44.21	30	31.58	23	24.24	95	38.00
Large	25	55.55	15	33.33	05	11.12	45	18.00
Overall	**87**	**34.80**	**79**	**31.60**	**84**	**33.60**	**250**	**100.00**

Table 4: Knowledge level of respondents regarding irrigation technology of sugarcane

Categories of respondents	Knowledge Level							
	Good		Fair		Poor		Total	
	frequency	%	frequency	%	frequency	%	frequency	%
Small	20	18.18	34	30.91	56	50.91	110	44.00
Medium	32	33.68	35	36.84	28	29.48	95	38.00
Large	27	60.00	11	24.45	07	15.55	45	18.00
Overall	**79**	**31.60**	**80**	**32.00**	**91**	**36.40**	**250**	**100.00**

Table 5: Knowledge level of respondents regarding inter-culture technology of sugarcane

Categories of respondents	Knowledge Level							
	Good		Fair		Poor		Total	
	frequency	%	frequency	%	frequency	%	frequency	%
Small	26	23.64	32	29.09	52	47.27	110	44.00
Medium	40	42.12	29	30.52	26	27.36	95	38.00
Large	22	48.86	15	33.34	8	17.77	45	18.00
Overall	**88**	**35.20**	**76**	**30.40**	**86**	**34.40**	**250**	**100.00**

f. Weed control technology

It can be observed in Table 6 that maximum number of large farmers possessed good knowledge regarding weed control technology while it is reverse in case of small farmers.

g. Plant Protection Technology

The data enumerated in Table 7 clearly indicates that large farmers are still in better position in comparison to medium and small farmers in terms of possession of knowledge regarding plant protection technology of sugarcane.

h. Harvesting and Post-harvesting technology

Table 8 shows that 60.00 per cent of large farmers, 44.21 per cent of medium farmers and 14.54 per cent of small farmers possessed good knowledge, whereas 35.78 per cent medium farmers, 29.09 per cent small farmers and 26.66 per cent large farmers have possessed fair knowledge about harvesting and post-harvesting technology of sugarcane production.

The above findings confirming the findings of earlier researchers *i.e.* Karim and Hossain (1993), Rao *et al*. (1997), Malik and Malik (1998), Barman *et al.*

Table 6: Knowledge level of respondents regarding weed control technology of sugarcane

Categories of respondents	Knowledge Level							
	Good		Fair		Poor		Total	
	frequency	%	frequency	%	frequency	%	frequency	%
Small	32	29.09	28	25.45	50	45.46	110	44.00
Medium	36	37.89	30	31.57	29	30.54	95	38.00
Large	20	44.44	13	28.88	12	26.68	45	18.00
Overall	**88**	**35.20**	**35.20**	**28.40**	**91**	**36.40**	**250**	**100**

Table 7: Knowledge level of respondents regarding Plant Protection technology

Categories of respondents	Knowledge Level							
	Good		Fair		Poor		Total	
	frequency	%	frequency	%	frequency	%	frequency	%
Small	18	16.36	32	29.10	60	54.54	110	44.00
Medium	45	47.36	30	31.57	20	21.07	95	38.00
Large	25	55.56	13	28.88	07	15.56	45	18.00
Overall	**88**	**35.20**	**75**	**30.00**	**87**	**34.80**	**250**	**100.00**

Table 8: Knowledge level of respondents regarding harvesting and post-harvesting technology

Categories of respondents	Knowledge Level							
	Good		Fair		Poor		Total	
	frequency	%	frequency	%	frequency	%	frequency	%
Small	16	14.54	32	29.09	62	56.37	110	44.00
Medium	42	44.21	34	35.78	19	20.01	95	38.00
Large	27	60.00	12	26.66	6	13.34	45	18.00
Overall	**85**	**34.00**	**78**	**31.20**	**87**	**34.80**	**250**	**100.00**

(1999), Channalet *et al*. (2002), Lakshminarayan *et al*. (2003) and Ponnusamy and Karthikeyan (2006).

CONCLUSION

The findings of the study indicate the better knowledge position of large farmers in soil, seed, fertilizer and irrigation technologies of sugarcane crop whereas medium farmers had fair knowledge of seed and fertilizer technologies. However, small farmers lacked scientific knowledge on most of the sugarcane technologies. Need based training and demonstrations along with mass media and extension literature can considerably improve the knowledge level of small and medium farmers in the study area.

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