



Research Article

STUDY ON KNOWLEDGE LEVEL OF RECOMMENDED CULTIVATION PRACTICES OF SUGARCANE GROWERS IN TAMIL NADU

SUGANYA S.*, KAVASKAR M. AND JEYA R.

Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Annamalai Nagar, Chidambaram, 608002, Tamil Nadu, India

*Corresponding Author: Email - suganmanjiri@gmail.com

Received: July 21, 2018; Revised: July 26, 2018; Accepted: July 27, 2018; Published: July 30, 2018

Abstract: The present study was conducted in Cuddalore district of Tamilnadu state during the year 2015-2016 to assess the knowledge level of recommended cultivation practices of sugarcane growers. Two blocks namely Annagramam and Panruti were selected based on the maximum area under sugarcane cultivation. From these two blocks, six villages namely Poongramam, Chithirachavadi, Kanisapakkam, Kandanpalayam, Siruvathir and Eripallayam were selected. 120 respondents were selected based on the proportionate random sampling. Well structured and pre-tested interview schedule was used for the collection of relevant data. The results revealed that majority of the sugarcane growers (40.80 percent) had medium level of knowledge category followed by 25.00 percent and 34.20 percent of the respondents in low and high level knowledge categories, respectively. Regarding the relationship of characteristics with the knowledge level of farmers the results of multiple analysis indicated that educational status, experience in sugarcane cultivation, extension agency contact, innovativeness, risk orientation and scientific orientation were found to be positive and significant relationship with knowledge level.

Keywords: Knowledge, Sugarcane cultivation, Relationship of Sugarcane growers

Citation: Suganya S., et al., (2018) Impact of Andhra Pradesh Grameena Vikas Bank (APGVB) on Agriculture Development of Beneficiaries in Paderu Block of Vishakapatnam district, Andhra Pradesh. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 10, Issue 14, pp.- 6739-6741.

Copyright: Copyright©2018 Suganya S., et al., This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Academic Editor / Reviewer: Dr V Sakthivel, Dr Santha Govind

Introduction

Sugarcane is one of the most important commercial crops. It contributes nearly 75 percent of the total sugar pool at the global level. The sugarcane is the prime source of sugar in India and also holding the predominant position as the commercial crop. India is the second largest sugarcane producer in the world. In India, it is cultivated in an area of about 4.60 million hectares with an annual production of 300 million tonnes recorded in 2014-2015. The productivity of sugarcane in Tamil Nadu is 108 t/ha. In Cuddalore district sugarcane was cultivated in 30304 ha with a production of 31.90 million tonnes during the year 2013-2014. The yield of sugarcane has declined from 116 t/ha in 2001-2002 to 108 t/ha in 2013-2014. To feed the growing demand the production of sugarcane has to be increased. There is a scope to expand the sugarcane production by enhancing productivity. Keeping the above in mind, the study was attempted with the following objectives.

To find out the knowledge of recommended sugarcane cultivation practices.

To study the relationship between socio-economic and psychological characteristics of sugarcane growers with their knowledge on recommended sugarcane practices.

Materials and Methods

The study was taken in Cuddalore district of Tamil Nadu because it was one of the potential districts for sugarcane cultivation. Based on the maximum area under sugarcane six villages namely Poongramam, Chithirachavadi, Kanisapakkam from Annagramam block Kandanpalayam, Siruvathir and Eripallayam from Panruti block were selected. From the selected six villages 120 sugarcane growers were selected as a sample size by proportionate random sampling. To measure the knowledge level of sugarcane growers on recommended cultivation practices, a Teacher made test was developed and used. The procedure adopted by Ernest, (1973) [1] and followed by Manju, (2010) [2] was used for the study.

The test included seventeen areas along with sub-items on selected sugarcane cultivation practices. Each item of knowledge was dichotomized into correct and incorrect responses with the scores of 2 and 1 respectively. The possible range of score in this test was 17-34. The maximum score would reveal high knowledge, while the minimum score would indicate low knowledge. Based on the scores obtained, the respondents were categorized into low, medium and high by using cumulative frequency method. The data were collected from the respondents with the help of a well structured and pre-tested interview schedule.

Results and Discussion

Overall knowledge level on recommended sugarcane practices

Knowledge is the pre – requisite for adoption of sugarcane cultivation practices. To assess the overall knowledge level of the respondents on sugarcane cultivation practices, necessary data were collected and are furnished in [Table-1].

Table-1 Distribution of respondents according to their knowledge level on recommended sugarcane cultivation practices (n=120)

SN	Category	Number	Percent
1	Low	30	25.00
2	Medium	49	40.80
3	High	41	34.20
	Total	120	100.00

The data in [Table-1] indicated that most of the respondents (40.80 percent) had medium level of knowledge followed by high (34.20 percent) and low (25.00 percent) levels of knowledge. Hence, it could be concluded that 75.00 percent of the respondents had medium to high level of the knowledge. Majority of the respondents were found to be medium in their characteristics viz., mass media

exposure, innovativeness, scientific orientation and economic motivation. This would have motivated them to gain adequate knowledge on the sugarcane cultivation practices. This is in line with findings of Kanavi, (2000) [3].

Practice – wise knowledge level of respondents

In order to have an in depth understanding about the knowledge level of the farmers, practice – wise knowledge level was also worked out and the results are given [Table-2].

Table-2 Distribution of the respondents according to their practice-wise knowledge level (n=120)

SN	Practices	Number	Percent
1	Variety	120	100.00
2	Planting Season	120	100.00
3	Sett rate	99	82.50
4	Sett treatment	89	74.10
5	Spacing	102	85.00
6	Gap filling	95	79.10
7	Inter-cropping	90	75.00
8	Herbicide application	110	92.00
9	Trash mulching	93	78.00
10	Earthing up	99	82.20
11	Detrashing	110	91.60
12	Propping	84	70.00
13	Manuring	112	93.03
14	Irrigation	117	97.50
15	Pest management	81	68.00
16	Disease management	72	60.00
17	Bio-control	57	47.50

It could be observed from [Table-2] that cent percent of the respondents (100.00 percent) were found to have more knowledge on variety and planting season. This might be due to the knowledge gained from friends, family members, relations and neighbours. An overwhelming majority of the respondents possessed knowledge on irrigation (97.50 percent), manuring (93.03 percent), detrashing (91.60 percent) and herbicide application (92.00 percent). This might be due to adequate knowledge on these practices. Majority of the respondents had knowledge on spacing (85.00 percent), sett rate (82.50 percent), earthing up (82.20 percent), gap filling (79.10 percent), trash mulching (78.00 percent), inter cropping (75.00 percent), sett treatment (74.10 percent), propping (70.00 percent) these are considered as very important practices for getting higher yield so farmers had knowledge on these traditional practices. Around two- third of the respondents possessed knowledge on Pest management (68.00 percent) and disease management (60.00 percent). This might be due to the fact that farmers possessed knowledge on recommended quantity of pesticide and fungicide for controlling pest and diseases. Low level of knowledge was found in bio-control agent (47.50 percent). This might be due to lack of interest and unavailability of bio-control agents.

Table-3 Relationship between socio-economic and psychological characteristics of sugarcane growers and extent of knowledge, (n=120)

Var. No	Variables	Regression co-efficient	Standard error	't' value
1.	Age	-0.115	0.105	-1.095
2.	Educational status	0.260	0.103	2.522*
3.	Occupation	0.103	0.096	1.072
4.	Annual income	0.032	0.092	0.345
5.	Farm size	0.202	0.191	1.055
6.	Area under sugarcane cultivation	0.254	0.528	0.481
7.	Experience in sugarcane cultivation	0.052	0.022	2.385*
8.	Social participation	0.082	0.105	0.780
9.	Extension agency contact	0.239	0.105	2.286**
10.	Mass media exposure	0.029	0.098	0.296
11.	Innovativeness	0.176	0.103	1.716*
12.	Risk orientation	2.140	0.750	2.853**
13.	Scientific orientation	2.600	0.800	3.250**
14.	Credit orientation	0.006	-0.087	-0.069
15.	Economic motivation	0.067	-0.091	-0.739

*Significant at 5% level, ** Significant at 1% level

In order to ascertain the nature and extent of relationship existing between socio-economic and psychological characteristics and extent of knowledge, the multiple regression analysis was carried out. The results are presented in [Table-3]. Of the fifteen variables considered for the study, six variables viz., educational status, experience in sugarcane cultivation, extension agency contact, innovativeness, risk orientation and scientific orientation were found to have positive significant relationship with the knowledge level. Among the significant variables, the variables extension agency contact and risk orientation were found to be significant at one percent level of probability. The educational status, experience in sugarcane cultivation and innovativeness were found to be significant at five percent level of probability. The correlation values for rest of the nine variables showed non-significant association with the knowledge level of sugarcane growers on recommended sugarcane cultivation practices. Educational status showed a positive and highly significant relationship with knowledge level. Educated respondents have more mental ability to grasp information from various sources. This finding is in line findings of Nagaraja, (2002) [4]. Experience in sugarcane cultivation was found to have positive and significant relationship with knowledge level. It is quite natural that more experience in sugarcane farming would have enabled the farmers to learn more about the technologies there by leading to get more knowledge. Extension agency contact showed a positive and significant relationship with knowledge level of the respondents. There is every chance for the farmers with high extension agency contact to get upto date innovative information on sugarcane cultivation practices. This finding is in line with the findings of Gireesh N. Maraddi (2006) [5]. Similarly, in innovativeness the innovators are always interested to learn about new technologies earlier. Hence innovativeness results in acquisition of knowledge. Risk orientation showed a positive and significant relation with knowledge of the respondents. More risk orientation reveals their readiness to accept new ideas such a state of mind would have promoted them to seek more information from various sources and hence would have enabled them to gain more knowledge. The findings are in line with the findings of Tidke, et al., (2012) [6]. Scientific orientation was found to have positive and highly significant relations with the knowledge level. The respondents with higher scientific orientation might be curious to learn cultivation technologies resulting in higher knowledge level. This finding is in line with the findings of Singh, et al., (2012) [7].

Conclusion

Majority of the sugarcane growers had medium level of knowledge. Around 65 percentage of the respondents were found under low to medium level of knowledge. Out of seventeen practices selected more than fifty percent of the respondents having knowledge on sixteen practices except bio-control agents. Since knowledge is the pre-requisite for adoption, it is suggested that the extension functionaries may make more and frequent contacts for increasing the knowledge level of sugarcane growers. The knowledge may be imparted to the respondents by conducting campaign, regular training programmes and also group discussion with experts. Knowledge about sugarcane cultivation practices was the function of educational status, experience in sugarcane cultivation, extension agency contact, innovativeness, risk orientation, scientific orientation and economic motivation. These characteristics may be taken into account while formulating extension strategies for dissemination of sugarcane cultivation practices at farm level.

Application of Research: The present study was confined only to Cuddalore district of Tamil Nadu due to limitation of time and cost of research. Hence, findings of this study could not be generalized to other districts.

Research Category: Agricultural Extension

Abbreviations: Nil

Acknowledgement / Funding: Author thankful to Faculty of Agriculture, Annamalai University, Annamalai Nagar, Chidambaram, 608002, Tamil Nadu

***Research Guide or Chairperson of research: Dr R Jeya**

University: Annamalai University, Chidambaram, 608002, Tamil Nadu

Research project name or number: A study on yield gap and constraints of sugarcane farmers in Cuddalore district of Tamil Nadu state

Author Contributions: All author equally contributed

Author statement: All authors read, reviewed, agree and approved the final manuscript

Conflict of Interest: None declared

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

References

- [1] Ernest R.S. (1973) *Unpub. Ph.D. Thesis, Indian Agricultural Research Institute, New Delhi.*
- [2] Manju R. (2010) *Unpub. M.Sc., (Ag.) Thesis, Annamalai University, Annamalai Nagar.*
- [3] Kanavi V.P. (2000) *Unpub. M. Sc. (Agri.) Thesis, Univ. Agric. Sci., Dharwad (India).*
- [4] Nagaraja M.V. (2002) *Unpub. Ph.D. Thesis, Univ. Agric. Sci., Dharwad.*
- [5] Gireesh N. Maraddi (2006) *Unpub. Ph.D.Thesis. University of Agricultural Sciences, Dharwad.*
- [6] Tidke G. R., Rathod M. K. and Mandve R.P. (2012) *Int. J. Extn. Edu,* 8, 76,78.
- [7] Singh P., Lakhera J.P. and Subhash Chandra. (2012) *Raj. J. Extn. Edu,* 20,35,38.