DOI: 10.15740/HAS/AU/11.4/359-364
Agriculture Update
Volume **11** | Issue 4 | November, 2016 | 359-364
Visit us : *www.researchjournal.co.in*
e ISSN-0976-6847

RESEARCH ARTICLE :

Correlates of training needs and constraints faced by the sugarcane growers

G. K. WAMAN, B. A. MANIKDURGE AND P. B. KHARDE

ARTICLE CHRONICLE :
Received :
11.02.2016;
Revised :
17.09.2016;
Accepted :
03.10.2016

SUMMARY : The present investigation was carried out in Rahuri and Karjat tahsils of Ahmednagar districts (M.S.). The results of study revealed that majority of the sugarcane growers had medium to high level of knowledge about sugarcane production technology. A majority of them had partial knowledge about pest and disease management followed by the intercultural operation, recommended varieties, fertilizer management, irrigation management and soil testing. The respondents' characteristics *viz.*, age, education, annual income and social participation had negative and significant relationship with their training needs at 5 per cent level of significance. Size of land holding and knowledge of the sugarcane growers showed positive and significant relationship with the training needs. Training on biological pest control, availability of fertilizers and crop loan in cheaper rate were some of suggestions made by the sugarcane growers.

How to cite this article : Waman, G. K., Manikdurge, B. A. and Kharde, P. B. (2016). Correlates of training needs and constraints faced by the sugarcane growers. *Agric. Update*, **11**(4): 359-364; **DOI : 10.15740/HAS/AU/11.4/359-364.**

KEY WORDS :
Sugarcane production technology, Knowledge, Training needs, Constraints, Suggestions

Author for correspondence :

G.K. WAMAN
Directorate of Extension Education, Mahatma Phule Krishi Vidyapeeth, Rahuri, AHMEDNAGAR (M.S.) INDIA

See end of the article for authors' affiliations

BACKGROUND AND OBJECTIVES

Sugarcane (*Saccharum officinarum* L.) is one of the important crops fulfilling 60 per cent of the sucrose requirement. It is considered as a cash crop and plays the main role in the rural economy of the Maharashtra. Sugarcane is very economically, socially and politically sensitive crop. India rank second in both area and production next to Brazil. In India, sugarcane crop occupies about 4.86 million ha area with production of 324.91 millions tones and 66922 kg ha yield of sugarcane during 2011-2012. In Maharashtra, it is important commercial crop occupying 0.896 millions hectare of area with production of 54,046 lakhs tonne. Maharashtra is second to Uttar Pradesh in area with productivity (Anonymous, 2012).Sugarcane also supports two important rural and cottage industries *viz.*, Gur (Jaggary) and Khandsari industry. Sugarcane green tops are used as cattle feed. Byproducts of sugar industry such as molasses, bagasse and press mud play an important role in the national economy. Training is a method which help to change the knowledge, skill and attitude of an individual. To increase the production of sugarcane crop, it is essential to train the sugarcane growers in some specific areas. Deokate (1998); Kalmakar

(2013) ; Khaire (2005) ; Manikdurge (2014) ; Menaria *et al.* (2002) and Waman and Kalmakar (2013) In view of this, the present study was conducted with major objectives to study the knowledge level and correlation between personal socio- economic characteristics of sugarcane growers and their training needs.

RESOURCES AND METHODS

The present study was conducted in Rahuri and Karjat tahsils of Ahmednagar district. These two tahsils were selected purposefully for the study because both these tahasils are having low productivity as compared to other tahsils of Ahmednagar district. The list of villages having maximum area under sugarcane crop from sample tahsils was prepared with the help of State Agriculture Department of Ahmednagar district and ten villages with minimum production and productivity of sugarcane were selected for the study purpose. In all total 120 sugarcane growers were selected by proportionate random sampling method from these two tahsils. Knowledge was quantified by assigning scores 0, 1 and 2 for no knowledge, partial knowledge and full knowledge, respectively. Scoring was done by developing the schedule. Maximum score was 27, whereas, minimum score was 10. According to score obtained, sugarcane growers where categorized into five categories.

Training need index of sugarcane growers was calculated in the form of most needed, needed and not needed by assigning score 2, 1, 0, respectively. Training need index of the sugarcane growers was calculated by using formula.

OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

Knowledge level of the sugarcane growers about sugarcane cultivation :

The information pertaining to the level of knowledge regarding sugarcane cultivation practices possessed by the sugarcane growers was collected, tabulated and analyzed. Results are presented in Table 1.

Table 1 revealed that, more than fifty per cent (53.33%) of sugarcane growers had medium level of knowledge; whereas 16.67 per cent respondent had high level of knowledge followed by 13.33 per cent of the respondent had low level of knowledge. About 10.00 per cent of the sugarcane growers had very high level of knowledge about sugarcane cultivation, while, 6.67 per cent of the respondents possessed very low level of knowledge.

Thus, it indicated that majority of the sugarcane growers had medium to high level of knowledge. Observation of the present investigation are in line with findings of Chikkana (2005) and Lahoti *et al.* (2012) .

The data from Table 2 indicated that almost cent per cent of the sugarcane growers had complete knowledge on time of planting followed by marketing (90.00%), transportation (87.50%), while ,88.33 per cent of the sugarcane growers had partial knowledge on pest management followed by intercultural operation (80.33%), disease management (76.67) varieties and fertilizer management of sugarcane (74.17%), irrigation management (71.67%), soil selection (70.00%) and plant population (65.00%). The data in Table 2 further indicated that 41.67 per cent of the sugarcane growers had no knowledge about set treatment in sugarcane, while, 10.00 per cent of the sugarcane growers had no knowledge about fertilizer management of sugarcane.

The information regarding relationship between selected personal and socio-economic characteristics and training needs of sugarcane growers is presented in Table 3.

In the present study, efforts were made to find out

Table 1: Level of knowledge of the sugarcane growers **(n=120)**

Sr. No.	Level of knowledge (Score)	Frequency	Per cent
1.	Very low (upto 15 score)	08	06.67
2.	Low (16 to 18 score)	16	13.33
3.	Medium (19 to 21 score)	64	53.33
4.	High (22 to 24 score)	20	16.67
5.	Very high (25 and above)	12	10.00
	Total	120	100.00

Table 2 : Practice wise knowledge of the sugarcane growers **(n=120)**

Sr. No.	Recommended practices	Level of knowledge		
		Complete knowledge	Partial knowledge	No knowledge
1.	**Soil type/testing** (Medium and well drained. Ph: 6 to 8.5)	36 (30.00)	84 (70.00)	0
2.	**Improved varieties** Co-8014 Co-86032 Phule-265 94012(Savitri)	31 (25.83)	89 (74.17)	0
3.	**Time of planting** Suru- 15 Dec. to 15 Feb. Pre-seasonal - 15 Oct to 15 Nov. Adsali- 15 Jul .to 15 Aug.	120 (100.00)	0	0
4.	**Spacing** Low to medium soil- 100/120 x 20/40 cm One eye bud -30cm	91 (75.83)	29 (15.17)	0
5.	**Plant population** (10,000 to 12,000 setts/ha)	42 (35.00)	78 (65.00)	0
6.	**Sets treatment** Before sowing setts treated with 100 lit. water +300 ml malathion +100g bavistin *Azatobacter* and PSB, respectively 10 kg and 1.25 kg in100 lit. water for 30 min.	08 (06.66)	62 (51.67)	50(41.67)
7.	**Fertilizer management** FYM-20-30tones NPK Suru-250:115:115 Pre-seasonal-340:170:170 Adsali-400:170:170	19 (15.83)	89 (74.17)	12(10.00)
8.	**Irrigation management** Ridge and furrow method Micro irrigation	34(28.33)	86(71.67)	0
9.	**Pest management** (Aphid, Jassid, bugs, White fly) Control- Di-mithoate26ml/10lit NSKE 4%	07 (05.84)	106 (88.33)	07(5.83)
10.	**Disease management** (Red rot, Smut) Control- 0.1% spraying of bavistine Sets treatment with 50^0C hot water for 2 hrs.	18 (15.00)	92 (76.67)	10(8.33)
11.	**Intercultural operation**	23 (19.17)	97 (80.33)	0
12.	**Transportation** Bullock carts Tractor Truck	105 (87.50)	15 (12.50)	0
13.	**Marketing** Sugar factory For making jaggary For cattle feed	108 (90.00)	12 (10.00)	0

(Figures in parenthesis indicates percentage)

Table 3: Correlation between selected dependent and independent variables

Sr. No.	Independent variable	Correlation co-efficient
1.	Age	-0.185*
2.	Education	-0.237*
3.	Annual income	-0.188*
4.	Family size	$+0.07^{NS}$
5.	Size of land holding	+0.179*
6.	Social participation	-0.325*
7.	Experience	-0.149^{NS}
8.	Source of information	-0.036^{NS}
9.	Knowledge	+0.183*

* indicates significance of values at P=0.05 N.S. = Non -significant

Table 4 : Constraints faced by the sugarcane growers (n=120)

Sr. No.	Constraints	Frequency	Per cent
Input supply constraints			
1.	Less supply of F.Y.M./organic manure /fertilizers	78	65.00
2.	Less supply of plant protection measures	69	57.50
3.	Unavailability of labour	61	50.83
Economic constraints			
1.	High cost of labour	98	81.67
2.	High cost of pesticides/fungicides	86	71.67
3.	High cost of sugarcane sets	74	61.67
4.	Insufficient capital	35	29.16
Technological constraints			
1.	Less availability of knowledge about innovative technologies	103	85.83
2.	Less availability of knowledge about germination percentage of sugarcane sets	90	75.00
3.	Insufficient self capital	63	52.50
4.	Less availability of knowledge about use of chemical fertilizers	45	37.50
Extension related constraints			
1.	Lack of training programmes	88	73.33
2.	Lack of visits of extension personnel in proper time	77	64.17

Table 5 : Suggestions of the sugarcane growers to overcome the constraints (n=120)

Sr. No.	Suggestions	Frequency	Per cent
1.	To provide training on biological pest control	103	85.83
2.	To provide fertilizer at cheap rate	98	81.67
3.	To make crop loan available at cheaper rate	97	80.83
4.	Organizing the training programmes by extension personnel	89	74.16
5.	Timely supply of plant protection appliances at cheaper rate	83	69.17
6.	To make sugarcane sets available at cheap rate	82	68.33
7.	To reduce tedious process of sanctioning subsidies on drip irrigation appliances	72	59.17
8.	To provide all innovative information on time	68	56.67
9.	To make available information on package of practices by extension officer	66	55.00

the nature and magnitude of the relationship between selected characteristics of respondents and their training needs. Among the selected characteristics of the respondent's only family size, experience in sugarcane cultivation and source of information exhibited a non-significant relationship with their training needs. Whereas age, education, annual income and social participation exhibited negative and significant relationship with their training needs at 5 per cent level of significance. Size of land holding and knowledge of the sugarcane growers exhibited positive and significant relationship with the training needs.

Constraints faced by the sugarcane growers :

The information pertaining to the constraints faced by respondents is presented in Table 4.

Table 4 revealed that majority of the sugarcane growers *i.e.* 65.00 per cent had constraints of supply of fertilizers, while, 57.50 per cent of the sugarcane growers had the constraints about availability of plant protection measures and 50.83 per cent had constraints in supply of farm labour .

About economic constraints, a majority *i.e.* 81.67 per cent of the sugarcane growers had constraints about high wages of labours followed by 71.67 per cent respondent's had constraints about high cost of plant protection measures. More than half (61.67%) had constraints in high cost of sets and 29.17 per cent had constraints of insufficient capital.

In case of technological constraints, about three fourth proportion of the sugarcane growers had less knowledge of innovative technologies (85.83%) and germination percentage (75.00%).

Lack of training programmes (73.33%) and lack of visits of extension personnel within time (64.17%) were the extension related constraints faced by the sugarcane growers.

The information in Table 5 indicated that 85.83 per cent of sugarcane growers had suggested to provide training on biological pest control and fertilizer should be provided at subsidized rates (81.67%) followed making crop loan available at cheaper rate (80.83%) and training and demonstrations should be organized for sugarcane growers (74.16%). Majority of them suggested that timely supply of plant protection appliances (69.17%), availability of sugarcane sets of new varieties at cheaper rate (68.33 %), reduce the tedious process of sanctioning the subsidies on micro irrigation appliances (59.17%), Gurav *et al*. (2003) provide all innovative information on time (56.67%) and guidance about detail package of practices of sugarcane cultivation (55.00%). Similar work related to the present investigation was also carried out by Hanumanaikar *et al.* (2009) ; Patel and Supe (2011) and Rai *et al*.(2012).

Conclusion :

The findings of the study indicated that a majority of the sugarcane growers had faced the constraints *viz.*, high cost of initial inputs, lack of knowledge about innovative technologies, germination percentage of sets and unavailability of organic and chemical fertilizers in time. Nearly eighty six per per cent of the sugarcane growers suggested that training programmes should be organized on biological pest control, supply of fertilizers and other inputs at cheaper rate and to provide loan with minimum interest.

In this context, it is concluded that one/two days training programmes should be organized by Krishi Vigyan Kendra through State Agriculture Universities at village level for sugarcane cultivators on integrated pest management, recommended innovative technologies in sugarcane and different Government schemes before commencement of every season.

Authors' affiliations :

B.A. MANIKDURGE AND P.B. KHARDE, Department of Extension Education, P.G.I., Mahatma Phule Krishi Vidyapeeth, Rahuri, AHMEDNAGAR (M.S.) INDIA

REFERENCES

Anonymous (2012a). Research Review Committee Report. Department of Extension Education, Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar (M.S.) INDIA.

Anonymous (2012b). *Statistical data*. Published by Krishi Ayuktalaya, Pune 2011-12.

Chikkana, D.M. (2005). Study on adoption of behaviour of sericulturists and their characteristics in Kolar district of Karnataka. *Indian J. Sericulture,* **34** (1): 10-13.

Deokate, M.R. (1998). Training needs of pomegranate growers. *Maharashtra J. Extn. Edu.,* **8** : 72-73.

Gurav, B.S., Sadaphal, S.S., Chavai, A.M. and Khot, B.B. (2003). Constraints experienced by the sugarcane growing farmers in adoption of drip irrigation system and their suggestions for enhancing the rate of adoption of drip irrigation system. *Co-operative Sugarcane,* **34**(8): 647-649.

Hanumanaikar, R.H., Jadhav, S.N. and Ashalatha, K.V. (2009).

Correlation of socio-economic profile and adoption pattern of sugarcane practices by sugarcane growers of Karnataka state. *Agric.Update*, **4** (1&2): 51-55.

Kadam, S.S., Thombre, B.M. and Mande, J.V. (2010). Technologocal gap in sugarcane production technology. *J. Maharashtra Agric. Univ.*, **35** (3) : 424-427.

Kalmakar, R. B. (2013). Training needs of potato growers. M.Sc. (Ag.) Thesis, Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar (M.S.) INDIA.

Khaire, P.R. (2005). Training needs of fig growers in Pune districts. M.Sc. (Ag.) Thesis, Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar (M.S.) INDIA.

Lahoti, S.R.,Chole, R.R. and Rathi, N.S. (2012).Adoption of sugarcane production technologies by farmers. *J.Agric. Res. Techonol.*, **37** (3) : 425-428.

Manikdurge, B.A. (2014). Training needs of sugarcane growers from low productivity area. M.Sc. (Ag.) Thesis, Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar (M.S.) INDIA.

Menaria, P.L., Panwar, J. S. and Sharma, F.L. (2002). Training needs of farmers about soybean production technology. *Rajasthan J. Extn. Edu.*, **10** : 122-125.

Patel, P.L. and Supe, S.V. (2011). Adoption behaviour of sugarcane growers regarding integrated pest and disease management practices in Nandurbar district. *Agric.Update*, **6**(3&4): 201-205.

Rai, D.P., Singh, Santosh Kumar and Pandey, Sachindra Kumar (2012). Socio-personal analysis and constraints encountered by the sugarcane growers of Burhanpur district(M.P.). *Agric. Update*, **7**(3&4): 401-404.

Waman, G.K. and Kalmakar, R. B. (2013). Training needs of potato growers. *Asian J. Extn. Edu.*, **31** : 75-77.

Wankhede, R.P. (2008). Technological gap in banana cultivation from western Maharashtra. Ph.D. Thesis, Mahatma Phule Krishi Vidyapeeth, Rahuri, Ahmednagar (M.S.) INDIA.