



Research Article

PRODUCTION CONSTRAINTS OF SUGARCANE CULTIVATION IN TINSUKIA DISTRICT OF ASSAM

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Abstract- There is a great potential for increasing the total sugarcane production in the North-Eastern Region due to suitable climatic, edaphic and great market prospective in the region. In Tinsukia district, sugarcane is the important commercial crop grown next to tea and khasi mandarin. The study was conducted as a part of Front Line Demonstration (FLDs) of KVK, Tinsukia with 90 numbers of farmers of three Rural Development Blocks viz., Hapjan, Margherita and Kakopthar of Tinsukia district. The study revealed that out of the technological constraints; lack of knowledge of scientific crop production ranked I (75.55%), Occurrence of insect-pests and diseases ranked II (60.00%) and Lack of regular visit by extension personnel to villages ranked III (54.44%). Again, as regards to the infrastructural constraints; Non-availability of HYV ranked I (78.88%), Use of hazardous chemicals for pest and disease management ranked II (76.66%) and Less cultivable land ranked III (64.44%). Whereas, out of the economical constraints; Low selling price ranked I (77.77%), Non-availability of labour during peak period ranked II (75.55%) and High cost of agricultural chemicals ranked III (67.77%).

Keywords- Production constraints, Sugarcane, FLD

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Introduction

Sugarcane *Saccharum officinarum* L. is an important food cum cash crop grown extensively throughout India. In Assam, sugarcane is the important commercial crop grown in all the districts next to tea and jute with an area and production of 0.30 lakh ha and 10.76 lakh metric tons, respectively [1]. The average yield of sugarcane in Assam is 41.7 tons per hectare which is very low in comparison to national average of 68.9 tons per hectare. There is, however, a great potential for increasing the total sugarcane production in the state due to suitable climatic, edaphic and great market prospective in the region. In Tinsukia district, sugarcane is the important commercial crop grown next to tea and khasi mandarin with an area and production of 205 ha and 7579 MT, respectively [2].

However, it has become a major concern due to sharp progressive decline in production and area under sugarcane during the last few years in the district. The low yield of sugarcane in the state may be attributed to the various attacks of pests and diseases, inadequate irrigation facilities, short supply of manures and fertilizers, lack of HYV, lack of knowledge about the actual time of incidence of pest and diseases are also responsible for its low yield. The number of insect pests associated with sugarcane crop in India had been listed by many workers. About 125 insect species are reported to attack sugarcane in India [3]. In India, the pest caused 8.2 to 12.6 per cent loss in cane yield and 1.25 to 7.85 per cent loss in sucrose output in endemic areas [4]. Among the different inter node borers associated with sugarcane, the plassey borer, *C. tumidicostalis* has assumed the status of a very serious endemic pest in recent years. Sugarcane is grown under varied soils and climatic conditions, but its productivity is generally limited by abiotic and biotic stresses as it has to face diverse of nature during its year long life in the field.

Keeping this in view, a study was undertaken in Margherita, Kakopthar and Hapjan block of Tinsukia district to find out the probable causes of poor popularity of sugarcane cultivation in the district.

Materials and Methods

The study was conducted as a part of front line demonstration (FLDs) of KVK, Tinsukia with 90 numbers of farmers to identify the different production constraints of sugarcane in Tinsukia district. A purposive cum random sampling technique was followed to draw the sample for the study. Three Rural Development Blocks viz., Hapjan, Margherita and Kakopthar were purposively selected for the study. Six villages with two from each block of the district were selected randomly. The present study was carried out with 90 respondents selected randomly, 15 from each village, respectively. A semi structured interview schedule was administered to individual respondents, which were followed by group discussion to collect the relevant data/ information from the respondents. As many as 18 major items in different areas were finally identified which may be considered as the important constraints/ causes for non-popularization of sugarcane in Tinsukia district of Assam. These identified constraints were grouped in three categories viz. technological, infrastructural and economical. In order to ascertain the degree of seriousness of the problems and for taking up different extension efforts, the items were ranked based on the percentage of responses against each item.

Results and Discussion

The result of the study [Table-1] indicated that out of the technological constraints; lack of knowledge of scientific crop production ranked I (75.55%) which might be due lack of scientific training and demonstration programme, farmers are unaware about newly released crop production technologies and HYV of sugarcane. Occurrence of insect-pests and diseases ranked II (60.00%) which might be due to improper pest management practices and Lack of regular visit by extension personnel to villages ranked III (54.44%). Whereas late planting (45.55%) and Crop damage due to flood (37.77%) ranked IV and V, respectively. Drought during crop cane formation period ranked VI (31.11%) due to non availability of irrigation

facilities.

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As regards to the infrastructural constraints; Non-availability of HYV ranked I (78.88%) and this might be due to lack awareness about HYV and proper link with the line department. Use of hazardous chemicals for pest and disease management ranked II (76.66%) and Less cultivable land ranked III (64.44%)

followed by Lack of irrigation facilities (57.77%), Non-availability of processing industries (sugarcane crushing machine) (56.66%), Crop damage due to free grazing (51.11%), Inability to purchase modern agricultural implements (46.66%), ranked IV, V, VI, VII, respectively.

Table-1 Production Constraints of sugarcane in Tinsukia (N= 90)

Sl. No.	Constraints	Frequency (F)	Percentage (%)	Rank
A	Technological			
i.	Lack of knowledge of scientific crop production	68	75.55	I
ii.	Lack of regular visit by extension personnel to villages	49	54.44	III
iii.	Occurrence of insect-pests and diseases	54	60.00	II
iv.	Crop damage due to flood	34	37.77	V
v.	Late planting	41	45.55	IV
vi.	Drought during crop cane formation period	28	31.11	VI
	Average	45.66	50.73	III
B	Infrastructural			
i.	Less cultivable land	58	64.44	III
ii.	Non-availability of HYV	71	78.88	I
iii.	Non-availability of processing industries (sugarcane crushing machine)	51	56.66	V
iv.	Use of hazardous chemicals for pest and disease management	69	76.66	II
v.	Inability to purchase modern agricultural implements	42	46.66	VII
vi.	Lack of irrigation facilities	52	57.77	IV
vii.	Crop damage due to free grazing	46	51.11	VI
	Average	55.57	61.74	II
C	Economical			
i.	Non-availability of labour during peak period	68	75.55	II
ii.	More emphasis on growing tea as cash crop	56	62.22	IV
iii.	High cost of agricultural chemicals	61	67.77	III
iv.	Low selling price	70	77.77	I
v.	Less profit	49	54.44	V
	Average	60.8	67.55	I

Again, out of the economical constraints; Low selling price ranked I (77.77%) due to non availability of market in nearby village area and interference of middle man. Likewise, non-availability of labour during peak period ranked II (75.55%) and High cost of agricultural chemicals ranked III (67.77%) where more emphasis on growing tea as cash crop ranked IV (62.22%) and less profit ranked V (54.44%) which might be due to high operational and labour cost.

Conclusion

It is very much evident from the study that there existed a wide gap between development of technologies and their transfer to actual farming situations. Hence, these constraints perceived by the farmers could be overcome by the following proper strategies like suitable and intensified awareness and training programme and demonstration on importance of sugarcane cultivation and their production technologies among the farmers of the district. Improved high yielding varieties recommended for the district and processing industries should be made available to the farmers. State Department of Agriculture and Zonal Research Stations may take concerted initiatives in this regard supported by financial institutions to provide credit facilities in terms of short-term loan to the farmers. Moreover, the State Government should prepare policy to provide the minimum support price in the state, which will encourage the growers for extensive cultivation in the district.

Ethical approval

Certified that this article does not contain any studies with human participants or animals performed by any of the authors.

Conflict of Interest: None declared

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