

Research Note

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Constraints Experienced by Sugarcane Farmers in Adopting Drip Irrigation Technology

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ABSTRACT

The present study was conducted in Pappireddipatti taluk of Dharmapuri District in Tamil Nadu to ascertain the constraints faced by the sugarcane growers in adopting drip (micro) irrigation technology. Altogether, 120 sugarcane growers using drip irrigation system constituted the sample of the study. The major constraints in adoption of drip irrigation technology were frequent clogging in laterals and drippers followed by system damage due to rats and other animals and lack of technical knowledge about maintenance of the drip system.

Keywords: Drip irrigation; Constraints; Sugarcane; Water; Tamil Nadu

One of the most useful technologies recently implemented in Indian agriculture is drip (micro) irrigation technology. Drip irrigation system is a popular method of irrigation among the sugarcane farmers. Sugarcane is the second most important industrial crop in Tamil Nadu and sole raw material for the sugar industry. It is mainly grown as irrigated crop. During 2019-2020, sugarcane was cultivated in 2.14 lakh ha in Tamil Nadu with a production of 211 lakh metric tonnes. The average productivity of the state is 99 metric tonnes per ha. (Source: TN policy note 2019-2020).

Drip irrigation system plays a crucial role in fulfilling the water needs of the crop and this technology needs to be

disseminated among the farming community for effective adoption. Without analyzing the constraints, it is impossible to diffuse the technologies among the farming community. Hence, an attempt was made to assess the constraints experienced by the sugarcane farmers in adoption of drip irrigation technology.

METHODOLOGY

The present study was conducted in Pappireddipatti taluk of Dharmapuri District, a drought-prone district in Tamil Nadu. Dharmapuri district has been administratively divided into 7 taluks, 10 blocks and 251 villages. Out of these taluks, blocks and villages, higher production of

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sugarcane crop was noticed in Pappireddipatti taluk. Hence, this was selected for the study. Out of the 20 revenue villages in the taluk, six villages were selected based on the maximum area under sugarcane cultivation with drip irrigation. A list of sugarcane farmers from each of the selected villages was obtained from the respective Agricultural offices. Altogether, 120 sugarcane growers using drip irrigation technology constituted the sample of the study. The respondents were identified and selected by proportionate random sampling method. A well-structured interview schedule was used for collection of data. An *Ex-post-facto* research design was adopted for the study. The collected data were arranged,

classified and tabulated for suitable statistical analysis.

FINDINGS AND DISCUSSION

Constraints in the Adoption of Drip Irrigation Technology

An innovation to become popular among farmers, has to face a lot of difficulties initially in terms of the farmer's understanding the concepts, developing a favorable attitude, getting the required inputs and ensuring a good extension service. Unless the constraints are identified and appropriate actions taken, the adoption level will be less. The results of constraint analysis are given in Table-1.

Table-1. Constraints experienced by the Sugarcane Farmers in Adoption of Drip Irrigation Technology

Sl.No.	Constraints	Frequency (n=120)	Percentage	Rank
1.	Frequent clogging of drippers and micro tubes	110	91.66	I
2.	Damage to system due to rats and other animals	105	87.50	II
3.	Lack of technical know -how about maintenance and repairing of drip irrigation technology	97	80.83	III
4.	Difficulty to maintain proper pressure in the pipes/emitters for getting the required discharge	86	71.67	IV
5.	Proper follow - up service is not available from installing agencies after installation	81	67.50	V

Sl.No.	Constraints	Frequency (n=120)	Percentage	Rank
6.	'Lateral' damage during harvest	74	61.67	VI
7.	High initial cost for installing drip technology	66	55.00	VII
8.	Problems of water leakages in the drip system	61	50.83	VIII
9.	Spare parts of drip irrigation technology are costly	57	47.50	XI
10.	Problems in Uninterrupted power supply	52	43.33	X

"Frequent clogging of drippers and micro tubes" was considered to be the first major constraint reported by the respondents. Majority of the respondents (91.66 per cent) expressed that frequent clogging in laterals and drippers was the important constraint. Though maximum number of farmers were using good quality irrigation water, clogging still occurs. Presence of some non-soluble salts causes complete or partial blockage of drip irrigation system. Lack of knowledge about the maintenance and repairing is the reason. The findings are in accordance with the findings of Prajapati et al. (2016).

"Damage to system due to rats and other animals" was the second major constraint reported by the respondents. Nearly one-third of the respondents (87.5 per cent) felt rat damage as a serious problem in drip irrigation system. Sugarcane land is an important habitat for breeding

rats, as it provides a comfortable environment. Rats migrate from the paddy field after harvest and take shelter in the sugarcane field. It cuts the laterals that arrest the flow of irrigation water, causing cane drying. "Lack of technical knowledge about maintenance and repairing of drip irrigation system" (80.83 per cent) was the third major technical constraint. Most of the dealers had provided advice only at the time of installation of drip irrigation system. These findings were supported by the findings of Parmar and Thorat (2016).

"Spare parts of drip irrigation system are costly" and "Problems in ensuring uninterrupted power supply for irrigation fields" were the minor constraints reported by the respondents. Based on the findings of this study carried out in Pappireddipatti taluk of Dharmapuri District in Tamil Nadu, the extension agencies need to organize campaigns on the ways and means to avoid

frequent clogging in laterals and drippers and to prevent rat damage to the drip system.

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