

Abstract

Citation:

Available phosphorus: The first ratoon crop of sugarcane (P₂O₅) available in soil (kg/ha) was 35.9 in ISTM and 29.4 in check. The difference was 6.5 kg/ha. The available phosphorus in soil was 8.5% higher in ISTM than in check. The available phosphorus in soil was 4.0% lower in ISTM than in check.

Available potassium: The first ratoon crop of sugarcane (K₂O) available in soil (kg/ha) was 269.3 in ISTM and 235.0 in check. The difference was 34.3 kg/ha. The available potassium in soil was 11.2% higher in ISTM than in check. The available potassium in soil was 2.0% lower in ISTM than in check.

Year	Available P ₂ O ₅		% difference in Avail. P ₂ O ₅ over years		Available K ₂ O		% difference in Avail. K ₂ O over years	
	ISTM	Check	ISTM	Check	ISTM	Check	ISTM	Check
Average	35.9	29.4	8.5	-4.0	269.3	235.0	11.2	-2.0

Table 4:

Year	% S. cane germination		S. cane yield (ton/ha)		% difference in yield over years	
	ISTM	Check	ISTM	Check	ISTM	Check
Average	82	68	117.3	97.1	8.5	-4.3

*The average yield of first sugarcane ratoon crop of Mallanayakanakatte village,

Table 5:

Year	Gross cost (Rs.)		% difference in GC over years		Gross income (Rs.)		% difference in GI over years	
	ISTM	Check	ISTM	Check	ISTM	Check	ISTM	Check
Average	46931	42031	8.5	5.3	125122	102168	18.2	4.3

Impact of ISTM on sugarcane germination and yield

Sugarcane germination: The germination of sugarcane (ISTM) was 82% and 68% in check. The difference was 14%. The germination of sugarcane was 8.5% higher in ISTM than in check. The germination of sugarcane was 4.3% lower in ISTM than in check.

Sugarcane yield: The yield of sugarcane (ISTM) was 117.3 ton/ha and 97.1 ton/ha in check. The difference was 20.2 ton/ha. The yield of sugarcane was 8.5% higher in ISTM than in check. The yield of sugarcane was 4.3% lower in ISTM than in check.

Impact of ISTM on sugarcane economics: The gross cost of sugarcane (ISTM) was Rs. 46931 and Rs. 42031 in check. The difference was Rs. 4900. The gross cost of sugarcane was 8.5% higher in ISTM than in check. The gross cost of sugarcane was 5.3% lower in ISTM than in check. The gross income of sugarcane (ISTM) was Rs. 125122 and Rs. 102168 in check. The difference was Rs. 22954. The gross income of sugarcane was 18.2% higher in ISTM than in check. The gross income of sugarcane was 4.3% lower in ISTM than in check.

Rs. 200). The gross income of sugarcane (ISTM) was Rs. 125122 and Rs. 102168 in check. The difference was Rs. 22954. The gross income of sugarcane was 18.2% higher in ISTM than in check. The gross income of sugarcane was 4.3% lower in ISTM than in check.

Conclusion

The results of the study show that the use of ISTM in sugarcane cultivation leads to higher germination and yield compared to the check. The gross cost of sugarcane is higher in ISTM, but the gross income is significantly higher. The use of ISTM is economically beneficial for sugarcane cultivation.

soil organic matter and a proposed modification of the chromic acid titration

References