

Table 10 List of morphological qualitative and cane juice quality traits

Morphological qualitative	
1 <sup>st</sup> germination	Number of buds germinated per 150 buds of the central row was recorded after 30 days of plantation.
2 <sup>nd</sup> germination	This attribute was recorded as number of buds germinated per 150 buds of the central row after 30 days of the 1 <sup>st</sup> germination.
1 <sup>st</sup> tillering	Count of the number of tillers in the central row in the 1 <sup>st</sup> week of April.
2 <sup>nd</sup> tillering	Count of the number of tillers in the central row one month after the 1 <sup>st</sup> tillering.
1 <sup>st</sup> plant height (cm)	Recorded July by with the help of a meter rod measurement from soil to top.
2 <sup>nd</sup> plant height (cm)	Recorded exactly 30 days after 1 <sup>st</sup> plant height in the same manners.
Leaf length(cm)	Measured from the leaf axil of the base leaf to the terminal point.
Leaf width(cm)	Measured at the widest point of the leaf.
Leaf area(cm <sup>2</sup> )	Calculated through the following formula $\text{Leaf area} = \text{Leaf length} \times \text{leaf width} \times K$ Where K (factor) = Actual leaf area/L×W
Number of nodes cane <sup>-1</sup>	At cane maturity the count of the number of buds cane <sup>-1</sup> .
Inter node length (cm)	The distance between two nodes.
Weight of five unstrapped canes (kg)	Wight of five canes was determined with the help of a scale.
Weight of five strapped canes (kg)	Weight of five stripped canes was determined with the help of a scale after removing the tops and the trash from the canes.
Yield (tons ha <sup>-1</sup> )	$X \times 10,000 / \text{Plot size} \times 1000$ Where “X” is sugarcane yield
Weight of trash and tops	Subtracting the weight of stripped cane from weight of canes with trash and tops.
Number of millable cane	This parameter was recorded by actually counting the number of millable canes (i.e. excluding the tiller which have not developed in to mature canes).
Cane juice quality parameters	
Brix	It is the total soluble solids in cane juice, expressed in percentage. Brix contains sugars as well as non-sugar substances. Brix was measured either in the field in standing cane crop using a hand refractometer or in the cane laboratory with the help of a hydrometer.
Pol percentage	The juice sucrose percent is the actual cane sugar present in the juice. It was measured by using polarimeter. Sucrose content is also referred to as pol percent.
Purity percentage	Purity percentage was determined with the help of the following formula $\text{Purity \%} = (\text{Pol\%} / \text{Corrected brix}) \times 100$
Sugar Recovery percentage	Sugar Recovery was calculated with the help of the following formula: $\text{Sugar Recovery (\%)} = [\text{Pol \%} - 0.5(\text{brix} - \text{Pol \%})] \times 0.70$