

Ratoonability of Some Commercial Sugarcane Varieties under Irrigated and Rain-fed Conditions in Uda Walawe Sri Lanka

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Abstract

Ratoon cropping reduces the cost of sugarcane production and average cane yield. Reduction of ratoon yield is mainly due to low ratoonability (RA) of the cultivars and poor crop management conditions. A field experiment was carried out at the Sugarcane Research Institute Uda Walawe during 2002/07 using eight commercial sugarcane (*Saccharum* hybrid L.) varieties in a split-plot design with three replicates to evaluate their ratoon performance under irrigated and rain-fed conditions. Cane yields in plant and two ratoon crops were recorded and average cane yield in plant and two ratoon crops and the ratio between cane yield at the 2nd ratoon crop relative to the plant crop ($R_2:PC$) were calculated. Ratooning ability of sugarcane was determined using the yield ratio of $R_2: PC$ and the absolute cane yield at the 2nd ratoon crop. Variety SL7130 which had the highest cane yield at R_2 and the highest yield ratio of $R_2: PC$ recorded the highest RA under irrigated conditions. Under rain-fed conditions, the varieties SL7103 which gave the highest cane yield at R_2 and SL8306 which gave the highest yield ratio of $R_2: PC$ recorded the highest RA. Hence, variety SL7130 is more suitable for long-term cultivation under irrigated conditions while varieties SL8306 and SL7103 are more suitable for long-term cultivation under rain-fed conditions in Sri Lanka.

Keywords: Irrigated, Rain-fed, Ratoon, Ratoonability, Sugarcane

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