ABSTRACT

An experiment was conducted at the research farm of Sugarcane Research Institute, Uda Walawe to examine the effect of pre-harvest burning on sugarcane quality and on nutrient removal. Twelve months old cane field of variety co 775 was subjected to three harvesting treatments ; i) green cut, ii) burnt, cut and then left lying on the ground and, iii) burnt, and then left standing. Treatments, were replicated five times and were randomized completely. Sugarcane juice were analyzed for total soluble solids(Brix), sucrose content(POL),reducing sugars, dextran, gums and pH for a period of seven days. Weight of cane samples were also recorded. The cane tops and trash left behind after harvesting of green cane and burnt cane as well were weighed separately in each harvesting treatment and analyzed for nutrient contents(Nitrogen,Phosphorus and Potassium).

Cane weight was declined continuously irrespective of the harvesting treatments. Weight loss in burnt cut cane was always greater than the green cut cane. The decrease in POL and purity with time was much higher in burnt standing cane followed by burnt cut cane compared to green cut cane. The decrease of POL and purity were accelerated after two days of burning or harvesting. Reducing sugars,dextran and gums contents were much higher in burnt cane compared with green cut cane. Among the treatments the burnt standing cane had the highest amounts of reducing sugars, dextran and gums. The concentration of dextran and gums, the best indicators of deterioration in sugarcane, were also accelerated after two days of harvesting in burnt cane.

Pre harvest burning of cane also reduced the amount of dry matter and nutrients returned to the field through cane residues.