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Evaluating the Effects of Chemical Ripening with Fluazifop-p-butyl on Sugarcane (*Saccharum officinarum*) Yield and Sugar Content

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Authors' contributions

This work was carried out in collaboration between all authors. Authors MM and WM designed the study, wrote the protocol and wrote the first draft of the manuscript. Authors BTM and TM managed the literature searches and analyses of the study. Author WM managed the experimental process. All authors read and approved the final manuscript.

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ABSTRACT

Ripening in sugarcane refers to an increase in sugar content on a fresh weight basis prior to commercial harvesting. Ripening is often prompted by use of chemicals and environmental cues such as moisture stress. The aim of this research was to determine the effects of Fluazifop- p-butyl, a chemical ripener on sugarcane yield and sugar content. The experiment was laid out as a Random Complete Block Design (RCBD) with five replications. Treatments were: Fluazifop- p- butyl (0.45 lha^{-1}), drying off, Fluazifop- p- butyl (0.45 lha^{-1}) + drying off and the control (no Dry off, no Fluazifop- p- butyl). The experiment was carried out at Triangle Estate which is located in the South East Lowveld of Zimbabwe from March 2012 to May 2012. Data on sugarcane yield, sugar quality (Pol % and ERC %) and sugar yield was collected 56 days after establishment of the experiment. Analysis of variance was done on yield and quality data using Genstat 14th edition. Results showed that there were significant differences (P = 0.05) among treatments on sugarcane yield, sugar yield, Pol% and ERC%. The sugarcane yield was highest for the control where no ripener was used.

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