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Response of Cane Quality to Some Management Measures under Northwest Sennar Conditions, Sudan

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Abstract

Field experiment was conducted at Northwest Sennar Cane Farm, Sudan during season 2003–2004 to evaluate the effect of soil type, cane-cultivars and phosphorus fertilisation on cane quality. Dinder and Hagu soil series cultivated with CO-6806 and CO-527 cane cultivars, fertilised with 4 levels of P were the treatments applied to the experiment. The treatments were laid in split-split plot design. Pol %, brix %, purity and fiber percentages were the quality parameters tested against the 3 factors and their combinations. The effect of soil type on pol % was found to be significant ($p \leq 0.05$) at 12 and 13 months crop age where as the cane cultivar had a significant ($p \leq 0.05$) on pol % at 10, 11 and 12 months crop age. The effect of treatments on pol % was significant ($p \leq 0.05$) at 10 months crop age. The interactions of the three factors had no significant effect on pol% and brix % at the 4 tested ages. At 13 months age the highest brix % (22.32 %) was obtained by CO-6806, Hagu soil and OP interacting conditions. AS for fiber % the soil type was found to have a significant effect ($p \leq 0.05$) on fiber % of cane and the lowest fiber % was achieved by OP treatment, Hagu soil and CO-6806 cultivar interacting conditions.

From the indications of this study we can conclude that cane quality parameters are significantly affected by cane management which is not contained in our sugarcane research programme. Based on this it is recommended to include the response of cane quality together with tonnage to different cane management.

Keywords: Sudan, sugarcane fertilisation, sugarcane quality