

ABSTRACT

Harvesting stage of sweet sorghum (*Sorghum bicolor* L. Moench) cane is an important aspect in the content of sugar for production of industrial alcohol. Four sweet sorghum genotypes were evaluated for harvesting stage in a randomized complete block design. In order to determine sorghum harvest growth stage for bioethanol production, sorghum canes were harvested at intervals of seven days after anthesis. The genotypes were evaluated at different stages of development for maximum production of bioethanol from flowering to physiological maturity. The canes were crushed and juice fermented to produce ethanol. Measurements of chlorophyll were taken at various stages as well as panicles from the harvested canes. Dried kernels at 14% moisture content were also weighed at various stages. Chlorophyll, grain weight, absolute ethanol volume, juice volume, cane yield, and brix showed significant () differences for genotypes as well as the stages of harvesting. Results from this study showed that harvesting sweet sorghum at stages IV and V (104 to 117 days after planting) would be appropriate for production of kernels and ethanol. EUSS10 has the highest ethanol potential (1062.78 l ha⁻¹) due to excellent juice volume (22976.9 l ha⁻¹) and EUSS11 (985.26 l ha⁻¹) due to its high brix (16.21).