

ABSTRACT

East African countries do not have sufficient local supply of cane sugar. The deficit is often bridged through sugar importation which negatively affects their economies. The malting process transforms the physical structure of grains, accompanied by synthesis and activation of a series of enzymes so that the final product is more readily used in food manufacturing. One of the changes that happen during the malting process is the hydrolysis of starch into simple sugars. Therefore, this process can be used to explore other sources of sugar apart from sugar cane in products made from cereals. In this study, red grain sorghum variety BJ 28, a dual-purpose variety suitable for grain and forage with a 7months maturity period and grows in an altitude range of 750-2300 MASL, was malted to evaluate changes in sugar profile for 9 days. The malted sorghum was analyzed for sugars, which were glucose, fructose, sucrose and maltose at 1-day intervals. The germination period showed a significant effect on the sugar profile of malted sorghum at $p \leq 0.05$. There was a significant increase in the sugar profile of sorghum malts from day one to nine. By the 9th day of malting, sucrose was the dominating sugar with a concentration of 2.952%, followed by glucose (0.518%), fructose (0.127%) and maltose (0.071%). This shows that malting can be used as an alternative to sugar cane in some products made from cereals.

Keywords: Red sorghum, Malting, Sugar profile.