

Abstract:

Magadi soda and bean debris-ash have been used as condiments for a long time by various ethnic groups in East and Central Africa in cooking traditional dishes. The aim of the study was to investigate whether magadi soda and bean debris-ash had similar effects and functional attributes when added to traditional dishes during cooking. Reason for the addition of the two condiments has not been revealed by researchers. Mineral content, in-vitro bioavailability studies and pH of non-ashed and ashed magadi soda and bean debris were evaluated. The results indicated that high concentrations of sodium ions (30.2%) and potassium ions (64.2%) were observed in magadi soda and bean debris-ash, respectively. In-vitro iron and zinc bioavailability decreased significantly with the addition of magadi soda and bean debris-ash in maize, beans and sorghum. Equally, the cooking time was significantly reduced. The mean pH for both magadi soda (9.66) and bean debris-ash (9.75) were not significantly different indicating that both aqueous solutions had alkaline properties. The similarity in properties especially in mineral profile, alkalinity, decreased cooking time and lowered mineral uptake by magadi soda and bean debris-ash explain similar functionality in foods they are added to during cooking. Despite the similarities observed, communities should be informed of the negative nutritional effects of these condiments so as to diversify their meal patterns accordingly