Antioxidant and Type2 Diabetes Related Functional Properties of Phytic Acid Extract from Kenyan Local Food Ingredients: Effects of Traditional Processing Methods

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Abstract

Emerging scientific evidences reveal that phytic acid has several positive effects on human health. The antioxidant and type 2 diabetes related enzyme inhibition properties of phytic acid extract prepared from raw and traditionally processed local grains and vegetables collected from Kenya were evaluated. Phytic acid content of raw grains and vegetables ranged between 2.81–3.01 and 0.29–3.23 g/100 g DM, respectively. The phytic acid extract from raw samples revealed 59%–89% of DPPH radical scavenging capacity, 27–3,526 mmol Fe(II)/g extract of reducing power, 20%–72% ofα-amylase inhibition activity and 8%–91% of α-glucosidase inhibition activity. Cooking and roasting improved the antioxidant and health relevant functionality of phytic acid extracts obtained from Kenyan local vegetables and grains, respectively.