

Abstract

Variation in nutritional and anti-nutritional contents among six finger millet genotypes was determined. Improved finger millet genotypes Gulu-E and FMV-1 from Kenya Agricultural Research Institute, KNE-479 and KNE 1034 from International Crops Research Institute for Semi-Arid Tropics (ICRISAT) and local landraces Ateso and Nyaikuro, were compared. There was no significant ($p>0.05$) difference in calcium (Ca), iron (Fe) and zinc (Zn) contents among the genotypes. Genotypes Ateso and Gulu-E had the highest crude fat contents while KNE-479 had the lowest. Genotypes KNE-479 and Nyaikuro had the highest crude protein content. Lowest crude protein contents were observed in genotypes Gulu-E and Ateso. Genotype Ateso followed by FMV-1 and Nyaikuro had high isoleucine, leucine, methionine, threonine and cysteine amino acid contents. High levels of phenylalanine were observed in genotypes Nyaikuro and Ateso. Ateso had the highest Phydroxybenzoic, sinapic and syringic acids, while Nyaikuro had high ferulic and vanilic acids. Except for genotype KNE-479 with highest sinapic acid contents, the ICRISAT developed genotypes had the lowest antinutritional contents. Anti-nutrients tannins, vanilic acid and ferulic acid were negatively correlated to Fe and Zn contents. Therefore when selecting finger millet for Fe and Zn the levels of anti-nutritional contents need to be considered.