IMPACT OF FERMENTATION PROCESS ON THE AMINO ACID PROFILE OF BLENDS OF TWO CULTIVARS OF MAIZE (*Zea mays*)

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ABSTRACT

This work determined the Impact of fermentation process on the amino acid profile of blends of two cultivars of maize (*Zea mays*). The two maize cultivars (yellow maize and popcorn) were cleaned, milled, dampened with sterile water in a sterile conical flask. It was fermented for 48 hrs, dried, milled and packaged. Different proportion of the maize flours were blend together and amino acid profiles were determined. Sample CC (25 % yellow maize and 15 popcorn flour) had higher asparagine content (8.31 %), alanine (5.14 %), isoleucine (4.86 %), lysine (4.87 %), methionine (4.27 %), threonine (3.24 %), essential amino acid (35.81 %), Non-essential amino acid (57.03 %) and total amino acid (92.84 %). The limiting essential amino acids in the maize blends were lysine, aromatic amino acids and threonine. The amino acid scores revealed that fermented maize blends could not support growth of school age children but could repair the worn out tissues in adult. Fermentation process increased the amino acid composition of the fermented maize blends.

Keywords: Amino acids, Cultivar, Fermentation, Maize, Popcorn.