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Composition and *in-vitro* protein digestibility of provitamin A - Biofortified amahewu, a non-alcoholic maize based beverage

Temitope D Awobusuyi
University of KwaZulu-Natal, South Africa

A mahewu, a lactic acid fermented non-alcoholic maize based beverage is widely consumed in Southern Africa. It is a very popular sour gruel produced by the lactic fermentation of a cereal grain. The proximate composition, mineral profile, amino acid profile and *in vitro* protein digestibility of raw, fermented and provitamin A-biofortified amahewu produced using provitamin A-biofortified maize was studied. Provitamin A-biofortified amahewu was processed by fermenting maize porridge using malted provitamin A maize, wheat bran and *Lactobacillus* starter culture with either malted maize or wheat bran. Protein digestibility of amahewu (approx. 91%) was slightly higher

compared to unprocessed provitamin A maize (86%). The mineral profile of amahewu samples did not vary much after fermentation. The concentration of essential amino acids such as lysine, tryptophan and methionine increased in all amahewu samples after fermentation. The gross energy of amahewu products was about 20 MJ/kg. These results suggest that provitamin A-biofortified maize amahewu is much better than white maize amahewu in terms of its nutritional quality and can be used to alleviate protein energy malnutrition among vulnerable groups.

temmybusuyi@gmail.com