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PaperTitle **Sorghum Fortification in Botswana**

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ABSTRACT

Introduction; Micronutrient deficiencies have led to development of the
> current micronutrient deficiencies alleviation programs opening door to
> food
> fortification. This strategy has been adopted by several countries
> world-wide. NFTRC proposes adopting the same strategy in Botswana by
> fortifying sorghum flour with several micronutrients to alleviate macro
> and
> micronutrient deficiency. Method; Technical feasibility of fortifying
> sorghum meal was evaluated by measuring efficiency of mixing
> vitamin-mineral
> premix with sorghum meal, in which iron was analysed as a reference level
> in
> the final product and indicator in determining the efficiency of the
> mixing
> since iron is easier to analyse quantitatively. Statistical Analysis; The
> iron concentration data was entered into SPSS Version 11, and means and
> standard deviations calculated. Analysis of variance was conducted to
> determine the effect of fortification, mixing time and area of sampling on
> iron concentration; means were compared using least significant difference
> to determine which ones differed significantly from each other.
>
> Results revealed a significant difference ($p < 0.0001$) in iron content of
> the
> fortified versus unfortified sorghum meal and when comparing fortified
> sorghum iron content, a non-significant difference ($p = 0.602$) in iron
> content
> was observed for 10 and 15 minutes mixing time. Multiple comparisons
> between
> sampling area at 95% confidence interval
> Showed that the ribbon mixer was the most suitable. In conclusion, the
> iron
> results clearly indicated that it is possible to fortify sorghum meal
> using
> the ribbon mixer to achieve uniform mixing.
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