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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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