
Abstract No. 6

PaperTitle **The Potential Impact of Biofortification of Sorghum on the Nutritional Status of Rural Children in the Limpopo Province**

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ABSTRACT

The 1999 South African National Food Consumption Survey (NFCS) determined the nutritional status of children in the Limpopo Province. A deficiency in energy and micronutrients in the children's diet was revealed. The energy deficiency was most likely due to a deficient intake of staple food, in this case sorghum. Biofortification of staple foods is one way of improving the nutritional status of vulnerable communities, especially for those who grow, rather than purchase, their food. A study was conducted to determine the amount (percentage) of biofortification required to improve the nutrient content in sorghum consumed by rural children aged 4-9 years in the Limpopo Province. For the purpose of the study it was assumed that sorghum products are the sole cereal source of energy. The nutrients focused on were energy, protein, vitamin A, vitamin E, iron and zinc. The NFCS data were used to calculate the levels of biofortification required for sorghum so that the children's diet meets the RDAs for these nutrients. Calculations were performed on nutrient values collected by both the Food Frequency and 24 Hour Dietary Recall methodologies.

For the micronutrients, the levels of sorghum biofortification required were as follows for the 4-6 and 7-9 year age groups, respectively; energy 35-84%; 95-138%, vitamin A 0-49%; 33-71%, vitamin E 0-99%; 0-142%, iron 0-13.5%; 0-2.5% and zinc 221-261%; 163-175%. The dietary methodology employed significantly influenced the biofortification values calculated. Refinement of these calculations, including dietary methodology used, should aid in guiding food staple biofortification levels to relieve malnutrition.