

GENETIC VARIABILITY FOR GRAIN IRON, ZINC, OTHER NUTRIENTS AND YIELD RELATED TRAITS IN SORGHUM (*Sorghum bicolor* (L.) Moench)

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ABSTRACT

Micronutrient malnutrition resulting from dietary deficiency of iron (Fe), zinc (Zn) and other essential nutrients, is a wide spread food-related health problem globally. Diversified food and cultivars with elevated levels of nutrients provide most cost effective solution for this alarming problem. The success of an effective breeding programme and the genetic improvement of any crop species depend upon the nature of genetic variability present in the population. Knowledge on relative magnitude of variability present in the crop species is most important as it forms basis of selection and thus enables execution of any crop improvement programme. Hence, the present investigation was undertaken to determine the magnitude of genetic variability for grain iron and zinc content and other quantitative and nutritional traits in diverse range of breeding materials. A wide range of variability existed for all the traits studied indicating the presence of significant variation among the genotypes. High PCV and GCV estimates revealed the extent of variability and high heritability coupled with high genetic advance recorded for all the traits except total magnesium indicated that these traits respond to selection. The genetic variability found among the 58 sorghum genotypes for six nutritional traits can be exploited in the breeding programme for producing nutrient dense genotypes.

KEYWORDS: Malnutrition, Variability, Nutrients, Selection, Heritability, Genetic Advance