

Evaluation of advanced stage maize hybrids for kernel zinc and kernel iron

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ABSTRACT

The present study evaluated 20 advanced stage maize hybrids to assess genetic variability, heritability and the association of kernel iron (Fe) and zinc (Zn) with grain yield. Significant variability was observed for agronomic traits, grain yield and kernel micronutrient concentrations. Cob length showed high heritability (0.84), while days to 50% anthesis, days to 50% silking, grain yield and kernel Fe exhibited moderate heritability, indicating scope for genetic improvement. Kernel Zn showed very low heritability (0.03), suggesting a strong environmental influence. Mean kernel Fe and Zn concentrations were 19.47 and 20.40 ppm, respectively. A significant positive correlation ($r = 0.68^{**}$) was observed between kernel Fe and Zn, indicating the feasibility of simultaneous improvement. Grain yield averaged 4.96 t/ha and showed a negative association with kernel Fe and Zn.

Keywords: *Advanced stage maize hybrids, Biofortification, grain yield, Heritability, kernel zinc
and kernel iron*