

National Seminar on

OMICS TECHNOLOGIES FOR BETTER FOOD AND NUTRITION

February 25th 2016

Sponsored by
UGC New Delhi



ज्ञान - विज्ञानं विमुक्तये

**OTBFN – 2016
SOUVENIR
&
ABSTRACTS**

Organized by



Accredited with 'B' Grade by NAAC
**Department of Biotechnology
Telangana University
Nizamabad 503322
Telangana State**

Gene effects for grain iron and zinc in sorghum (*sorghum bicolor* L. Moench)

Anil gaddameedi¹, Ravikiran.K.T¹, Mahesh Mahendrakar¹, Rahul Phuke.M¹, H.Lokesh¹,
A. Ashok kumar^{1*}

International Crops Research Institute For semi-Arid Tropics (ICRISAT), Patancheru
Hyderabad

*Address for correspondence: a.ashokkumar@cgiar.org

Sorghum bicolor L. Moench is a major food crop in African and Asian countries. Eradication of hidden hunger through fortification of food consumed is an easy way. Iron and Zinc deficiencies are widespread across the world. Thus the present investigation was carried out in sorghum to determine the gene action involved in the inheritance of grain iron and zinc concentrations and other related traits using generation mean analysis. Two crosses *viz.*, ICSB 52 × IS 13211, ICSB 52 × SPV 1359, were made using diverse parents with varied levels of grain iron and zinc concentrations. Six generations *viz.*, P₁, P₂, F₁, F₂, B₁ and B₂ were developed for the above crosses and were evaluated during post-rainy season, 2012-13 at ICRISAT, Patancheru. The results of generation mean analysis revealed the predominant role of additive gene action and additive × additive component of epistasis was found responsible in the crosses ICSB 52 × IS 13211 and ICSB 52 × SPV 1359 in governing grain iron and zinc concentrations and days to 50 % flowering. For remaining traits *viz.*, plant height, panicle length, panicle width, grain yield plant⁻¹, 100- grain weight had dominance component and found responsible than additive. Among the interactions, dominance × dominance component was of higher value than the remaining in governing the traits under concern. For all the traits, the magnitude of interactions was of higher value than their respective direct effects.