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Poster Abstract – A.20

ASSESSMENT OF GENETIC DIVERSITY IN ETHIOPIAN DURUM WHEAT

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SSR, durum wheat, germplasm, diversity

Durum wheat [*Triticum turgidum* ssp. *durum* (2n = 4x = 28)] had an important centre of diversification in Ethiopia, whose germplasm could provide useful breeding traits, including disease resistance, environmental stability, drought and low temperature stress tolerance.

The analysis of a collection of 234 durum genotypes from nine populations of three Ethiopian regions (Tigray, Gonder and Shewa) by 28 SSRs markers, randomly chosen in each chromosome arm, was run in order to define: a) population structure, b) the assessment of genetic variation, c) the relationships between and within populations, d) the presence of rare or unique genotypes. The results indicated the presence of great variation among regions and both among and within populations, the presence of specific haplotypes and rare alleles. The number of alleles per locus ranged from 1 to 10. Genetic distance between population indicated that the material from Tigray is far apart, whereas populations from Gonder and Shewa were mixed up. The expected heterozigosity over all populations was, for most of the loci, around 0.5 indicating an equivalent distribution of the alleles in the populations; whereas the observed heterozygosity was on average 10%, indicating a significant level of outcrossing.