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RESEARCH ARTICLE

Impact of drought stress on leaf chlorophyll content in maize cultivars (*Zea mays* L.)

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SUMMARY

The aim of this study was to measure the effect of drought stress on leaf chlorophyll content and stress resistance in maize cultivars for this target, an experiment using 10 maize genotypes in four replications and with two conditions (moisture stress and normal irrigated) in a Randomized Complete Block Design in the 2007 to 2008 agricultural years in Coimbatore region was carried out. To calculate the amount of stress tolerance on genotypes, Fernandez stress tolerance indexes (STI). The results of analysis of variance showed that the effect of replication, conditions, genotypes and interaction between genotype and conditions were significant for yield and chlorophyll content at 0.01 percentage level. According to the results, genotypes 3 (UMI 61) and 8 (IBET IE 1256-6) have the highest chlorophyll index and the amount of yield. Genotypes 6 and 8 were the highest value of this index and as the most tolerant genotypes were selected. And also genotypes number 3 and 7 were the most critical ones. According to the results of last year at this year drought stress had a negative effect on genotypes 8 and 6 yields in both conditions, but these genotypes can maintain its yield and chlorophyll content and finally resistance to drought stress. So these genotypes can be useful in Tamil Nadu area, especially drought affected areas.

Key Words : Resistance, Leaf chlorophyll, Drought stress, Corn, maize

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