PHYSIOLOGICAL GENETIC STUDIES IN SOME SPECIES OF SORGHUM

BY

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B. Sc. Agric Sci. (Genetics), Ain Shams Univ., 1982
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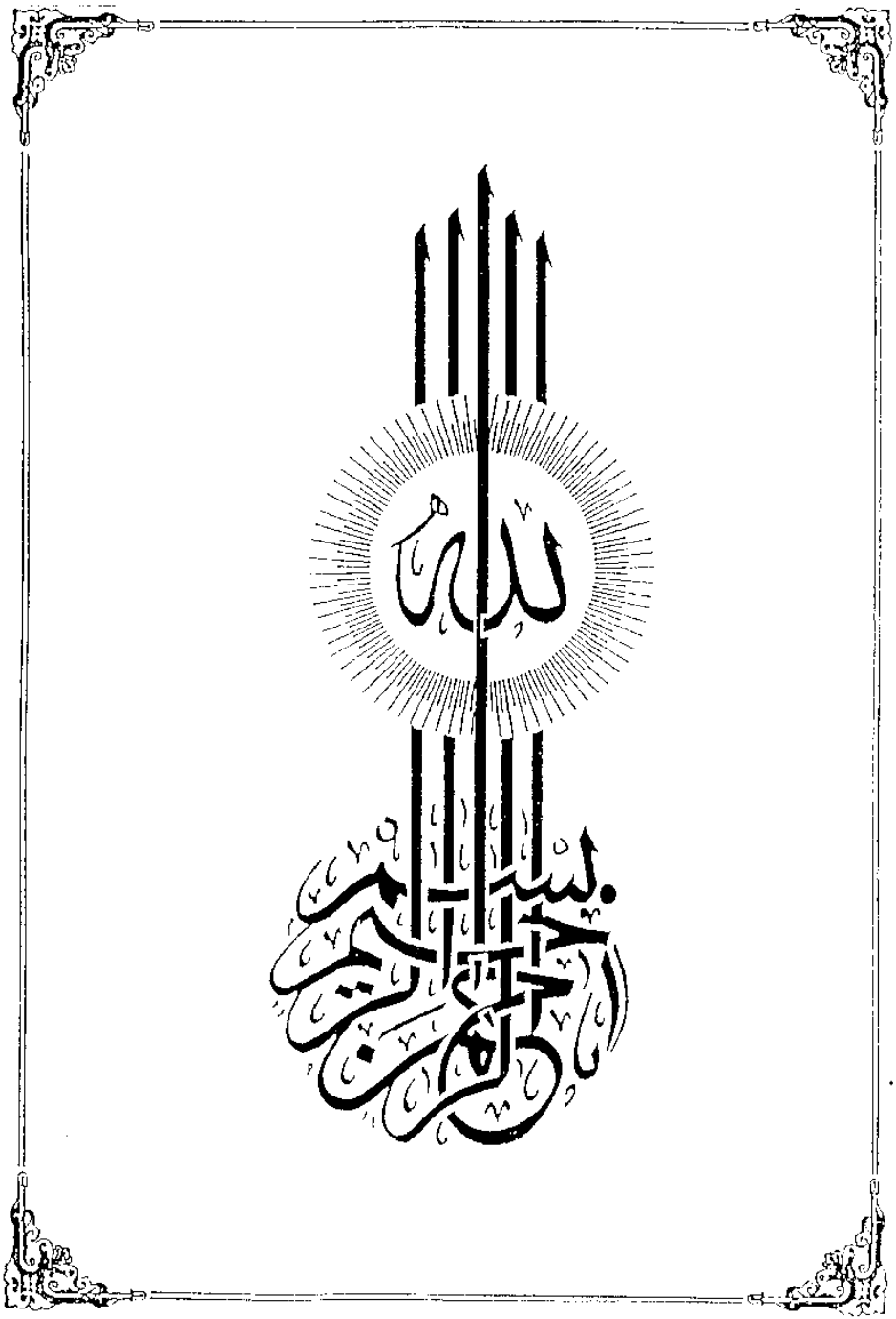

APPROVAL SHEET

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ABSTRACT

Ahmed Fahmy Houssien Abo-Doma, Physiological Genetic Studies in Some Species of Sorghum, **Unpublished Doctor of Philosophy, Genetics, Fac. of Agric, Ain Shams Univ., 1996**

Evaluation of 14 *Sorghum bicolor* cultivars for their relative salt tolerance based on some yield components in sand culture. determination of proline and ABA levels in response to salt stress and development of molecular markers associated with salt stress tolerance. The results indicated that the two cultivars G. 123 and Local 129 were the most tolerant cultivars. They exhibited relatively higher proline and ABA contents, occurrence of unique SDS protein bands, western blot of osmotin antisera characteristic bands and SDS-PAGE intensive patterns for PEPc. In addition, cDNA differential display for CDPKs gene indicated characteristics bands associated with salt tolerance. Furthermore, PCR-RAPD markers were uniquely present in the two salt tolerant cultivars G. 123 and Local 129.

Key words: *Sorghum bicolor*, salt tolerance, yield components, proline, ABA, Osmotin, immunoblot, PEPc, CDPKs-cDNA, differential display.

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