Comparative Performance of Bread Wheat Cultivars under normal and Reduced Irrigations in Sudan. (A06-abdalla152040-Poster)

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Abstract:

In Sudan wheat is grown under irrigation. However, frequently the crop is exposed to intermittent moisture stress as a result of prolonged irrigation intervals caused by inadequate water delivery systems. In this study 20 genotypes selected from the breeding programs of Egypt, Sudan and Yemen were evaluated for yield under both normal and reduced irrigations to identify high-yielding moisture stress tolerant genotypes. Evaluations were carried out over two seasons (1998/99 and 1999/00) at two locations (Wad Medani and Hudieba, in Central and Northern Sudan, respectively). Split-plot design with three replications was used. Data recorded included crop phenology, biomass, grain yield and yield components. In addition, drought susceptibility index was calculated. Highly significant differences among genotypes were observed for all traits. Imposed moisture-stress significantly reduced crop phenology, plant height, biomass and yield. A range of 11% to 52% reduction in grain yield due to moisture stress was observed. Genotypes that exhibited high yield stability across normal and reduced (stress) irrigation regimes were identified. Such genotypes are of considerable interest for research on water-use efficiency and of great value to breeding programs.

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