Wheat cultivar response to drought stress under arid land conditions.


Abstract:

Screening of drought tolerant genotypes for arid land cultivation is the best approach to avoid yield losses as breeding and selection are time taking techniques. Current experiment was planned to evaluate late sown wheat cultivars potential for drought tolerance and adaptability in Jeddah region, KSA. Four wheat cultivars (Yocoro, Rojo, Faisalabad-2008, F-10 and L-7096) were tested against drought stress applied as (75% and 50%) of total crop water requirement. A 100% water requirement was also applied as control. Data regarding crop growth stages, growth, grain yield and yield contributors were tested by using MSTAT-C. Drought stress significantly decreased all growth and yield traits except harvest index and the effect of water stress was the most severe where 50% of the total water requirement was applied. Both studied crop growth stages (days to complete tillering and days to complete 50% heading) were also affected to applied water stress and effect was more pronounced for days to complete 50% heading. Studied cultivars responded variably for different growth and yield traits. Cultivar Yoco Rojo took minimum days to complete tillering and heading while L-7096 presented the highest plant height and dry biomass accumulation. Faisalabad-2008 reported maximum values for grain yield and yield contributors except spike length that was maximum in Yocoro Rojo. Based on the field evaluation, it is concluded that Faisalabad-2008 produced significant results for growth and yield traits among studied cultivars and can be successfully grown in arid land conditions under limited water supplies.

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