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## Screening Wheat Landrace Varieties for Grain Yield under Water Deficit Conditions Using Drought Tolerance Indices

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### Authors' contributions

Author ZK performed the experimental works and the statistical analysis and wrote the first draft of the manuscript. Author BH designed and managed the study, wrote the protocol and revised draft of the manuscript. Author ND managed tables and graphs and contributed to manuscript revision. All authors read and approved the final manuscript.

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### ABSTRACT

In order to evaluate the performance of wheat (*Triticum aestivum* L.) genotypes under drought stress at heading stage, 100 Iranian landraces and two commercial cultivars were grown under well-watered irrigation and a drought stress treatment as 50% field capacity (FC) irrigation that started at heading stage in 2010-2011 growing season. Results showed that spike length (SL), grain number/spike (GN), thousand kernel weight (TKW) and grain yield (GY) were reduced by 8.2%, 14.6%, 17.5% and 52.5% due to drought stress at heading stage. GN had highest heritability (88%) compared to other grain yield related traits. The range for SL varied from 4.6 to 15.0 cm and some of landraces had higher SL than commercial varieties. KC4880 had the highest GN (40.6) in drought stress condition and it was in the second rank (42.3) after KC3885 (44.6) under well-watered treatment. The mean values for grain yield per square meter in well-watered plots varied from 586.1 to 811.1 g, while under drought stress conditions the range was from 217.0 to 546.3 g. The highest TKW (44.33 g) was observed in KC4502 in well-watered treatment while the lowest (23.08 g) belonged to the genotype KC4700. There were significantly positive correlations between grain yield under well-watered conditions

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