

Comparison of wheat cultivars using indices of tolerance and susceptibility to terminal heat stress in Ahvaz

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Abstract

Many indices have been introduced to compare of tolerance and susceptibility of field crops to environmental stresses. In order to compare spring bread wheat cultivars using indices of tolerance and susceptibility to terminal heat stress, a field experiment was conducted in Ramin University of Agricultural and Natural Resources, Ahvaz in 2007-2009. The experimental design was stripe block in randomized complete block design with three replications. The experimental factors were four sowing dates (6 Nov., 6 Dec., 5 Jan. and 4 Feb.) in horizontal plots and 20 spring wheat cultivars in vertical plots. The results showed that cultivars had a significant effect on the stress susceptibility index (SSI), tolerance index (TI), productivity mean (MP), harmonic mean (HM), yield stability index (YSI), ranking index (Rank), geometric productivity mean (GPM), stress tolerance index (STI), yield stability (YI), modified stress tolerance index for favorable conditions (MSTI1), modified stress tolerance index for unfavorable conditions (MSTI2) and yield reduction percent index (YRPI). Generally, the stress tolerance index (STI) was the best estimate of tolerance and susceptibility of spring bread wheat cultivars to terminal heat stress showing Virinak and Roshan as tolerant and susceptible cultivars, respectively.

Keywords: *Wheat, Sowing date, Stress susceptibility index, Stress tolerance index*