

Effect of Planting Date on Quantitative and Qualitative Characteristics of Different Bread Wheat and Durum Cultivars

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Abstract : In order to study the effect of planting on yield, yield components and quality traits in bread and durum wheat varieties, a field split-plot experiment based on complete randomized design with three replications was conducted in Agricultural and Natural Resources Research Center of Razavi Khorasan located in city of Mashhad during 2013-2014. Main factor were consisted of five sowing dates (first October, fifteenth December, first March, tenth March, twentieth March) and as sub-factors consisted of different bread wheat (Bahar, Pishgam, Pishtaz, Mihan, Falat and Karim) and two durum wheat (Dena and Dehdasht). According to results of analysis variance the effect of planting date was significant on all examined traits (grain yield, biological yield, harvest index, number of grain per spike, thousands kernel weight, number of spike per square meter, plant height, the number of days to heading, the number of days to maturity, during the grain filling period, percentage of wet gluten, percentage of dry gluten, gluten index, percentage of protein). By delay in planting, majority of traits significantly decreased, except quality traits (percentage of wet gluten, percentage of dry gluten and percentage of protein). Results of means comparison showed, among planting date the highest grain yield and biological yield were related to first planting date (October) with mean of production of 5/6 and 1/17 tons per hectare respectively and the highest bread quality (gluten index) with mean of 85 and percentage of protein with mean of 13% to fifth planting date also the effect of genotype was significant on all traits. The highest grain yield among of studied wheat genotypes was related to Dehdasht cultivar with an average production of 4.4 tons per hectare. The highest protein percentage and bread quality (gluten index) were related to Dehdasht cultivar with 13.4% and Falat cultivar with number of 90 respectively. The interaction between cultivar and planting date was significant on all traits and different varieties had different trend for these traits. The highest grain yield was related to first planting date (October) and Falat cultivar with an average of production of 6/7 tons per hectare while in grain yield did not show a significant different with Pishtas and Mihan cultivars also the most of gluten index (bread quality index) and protein percentage was belonged to the third planting date and Karim cultivar with 7.98 and Dena cultivar with 7.14% respectively.

Keywords : yield component, yield, planting date, cultivar, quality traits, wheat

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