

RESPONSE OF SOME BARLEY CULTIVARS TO SEEDING AND FERTILIZATION RATES UNDER DESERT CONDITIONS

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ABSTRACT

A factorial field experiment in split-split-plot design was conducted in the experimental farm at the faculty of agriculture, Sebha university, to investigate the response of four barley cultivars (Al-Arial, Barjoj, Tesa, and Anaser) to three N fertilization rates; 100, 130 and 160 kg/ha and three seeding rates i.e., 100, 125 and 150 kg/ha under desert conditions of Sebha/south of Jamaherya.

Results indicated significant differences among studied cultivars in number of tillers/m² , flag leaf area and grain yield/ha . Teesa cultivar gave highest number of tillers/m² and highest grains yield/ha. Increasing level of added nitrogen were significantly affect number of tillers/m² , number of spikes/m² , number of grains/spike , weight of 1000 grains and grains yield/ha . Highest grain yield were obtained with applying 160 kg N/ha. Number of tillers/m² , plant height and number of spikes/m² were significantly increased with increasing seeding rates.

The second type of interaction (cultivars x N rates x seeding rates) show significant effect on number of grains/spike and weight of 1000 grains. Teesa cultivar with seeding rate of 150 kg/ha and 160 kg N/ha level produced highest grain yield. Grain yield were positively correlated with number of spike/m² and weight of 1000 grain.