EFFECTS OF SEED DENSITY AND SEED QUALITY OF WHEAT CULTIVARS ON THE GROWTH AND DEVELOPMENT OF WEEDS

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ABSTRACT

The effects of the density and quality of the seeds of wheat cultivars were studied in two field experiments at Ahwaz Agricultural Research Station (Ramin). In these experiments, the height, density and dry weight of weeds were affected by the density and quality of the wheat seeds. The growth and yield of wheat were also measured in order to evaluate the indirect influence of seed quality on the growth of weeds. The results indicated that the maximum number of weeds (105.6 weeds m^{-2}) could be observed in the treatment with low seed density (200 seeds m^{-2}). The minimum number of weeds (42.5 weeds m^{-2}) was measured when the high density of wheat seeds was increased. Moreover, the leaf area index, number of tillers, number of spikes and yield components of wheat increased with an increase in the density of wheat seeds. A similar effect to that observed for seed density also holds good for the effect of wheat seed quality.

It was concluded from the results that the growth of weeds could be controlled by the quality and density of wheat seeds and could consequently improve the efficiency of chemical control programes.

Key words: seed, seed quality, drought stress, density, seed maturity stages, weeds