

YIELD AND YIELD COMPONENTS CHANGES IN RESPONSE TO DIFFERENT SALINITY LEVELS IN BREAD WHEAT GENOTYPES

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Introduction

Bread wheat is a major food crop in all over the world especially in Iran. In fact it is known as widely adapted grain. On the other hand wheat is moderately tolerant grain to salt with a threshold of 6 dS /m without yield loss (1). According to the FAO, over 6% of the world land is affected by salinity. Screening large numbers of genotypes for salinity tolerance in the saline soil is a major problem in agriculture because the genetic yield potential depends on genotype by environment interaction.

The objective of this study was to screen different genotypes of wheat for their grain yield efficiency and tolerance to salinity under different saline conditions.

Material and Methods

In order to do this study, a factorial experiment design as CRD with three replications on ten genotypes (Kouhdasht, Azadi, Moghan3, Ohadi, Arta, Bezostaya, Homa, Ghods, Star and Verinak) with three salinity levels (0,100 and 200 mM of NaCl) was carried out to determine yield response to salinity and detect saline-tolerant genotypes. Salt treatments were applied when anthesis was beyond 50% and appropriate treatment concentration was reached after two weeks.

Result and Discussion

Yield and yield component, significantly decreased with increasing of salinity. According to the results the decreasing rate in all of these ten genotypes were not uniform (2). According to mean comparisons Bezostaia ,Ghods and Kouhdasht were tolerant because the highest yield and yield component and the lowest reduction in these traits under salinity relative to control condition. Based on evaluated traits, these three genotypes can be utilized in breeding programs and be cultured in saline regions.

There was a significant positive correlation between spikelet number and tiller number, also a significant negative correlation was observed between seed number per spikelet and seed yield that is similar to (3) result.

Key words: Bread wheat, Salinity, Yield and Yield components.

References

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