

## Effect of salicylic acid on yield and yield components in triticale under drought stress

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**ABSTRACT:**

The effect of drought stress and salicylic acid on yield and yield components in triticale were studied. A field experiment using a split plot design based on randomized complete block design with three replications in crop year 2013-2014 was conducted at the research farm of Eslamshahr. In this experiment Irrigation as the main factor in three levels including optimum irrigation, irrigation of the pregnancy (boating stage), disconnecting the water phase pollination (anthesis) and four levels of salicylic acid as sub plot contains not consumed (without salicylic) acid, seed coating of salicylic acid, foliar application of salicylic acid (sprayed), seed coating and foliar application were considered. In this research, traits such as number of grains per spike, number of spikes per square meter, 1000 grain weight, grain yield, biological yield and harvest index were examined. The results showed that the effect of different levels of drought stress on traits such as: number of grains per spike and number of spikes per square meter were significant at 5% and 1000-grain weight, grain yield, biological yield and harvest index were significant at 1%. Also the results showed that the effect of different levels of salicylic acid were significant on all traits at 5%. The results of the average comparison showed that the grain yield under normal irrigation, has increased, so that, the most high grain yield with on average of  $2581.88 \text{ kg}\cdot\text{ha}^{-1}$ , (normal irrigation) and the lowest grain yield was with an average of  $1691.28 \text{ kg}\cdot\text{ha}^{-1}$  related to lack of cut irrigation in the stage of gestation (boating stage) treatment, respectively. Also, the most high biological function was on seed coating and foliar application by salicylic acid, ( $8933.01 \text{ kg}\cdot\text{ha}^{-1}$ ) and the lowest yield of  $7761.20 \text{ kg}\cdot\text{ha}^{-1}$  was at control levels (non application).

**Keywords:**

Drought stress, Salicylic acid, Grain yield, Biological yield and Harvest index.