

## Salicylic Acid Improves Growth, Physiological Attributes and Salt Tolerance in Bread Wheat Cultivar (*Triticum Aestivum* L.)

**Authors :** Faiza Ateeq, Huma Jawed, Kamran Azim, Nadeem Khalid

**Abstract :** Abiotic constraints such as salinity stress reduce cereal production. Salicylic acid is an elicitor of abiotic stress tolerance in plants. The aim of this study was to investigate the effects of salicylic acid on bread wheat cultivars AAI\_10 from Faisalabad, Pakistan (*Triticum aestivum* L.) grown under salt stress in the presence and absence of 0.5 mM salicylic acid. The Physiological test was performed using different concentrations of salt solutions, i.e., 0%, 1%, 2%, 4%, and 6% on leaf blades, and determined the germination of seedlings growth after 14 days. Results showed a reduction in the weights of wheat seedlings when it's dry and fresh in the consideration of salt stress. Salicylic Acid treatment has a positive effect when evaluated in the case of salt-treated control. The morphological test (Lowry method) was performed to determine the concentration of proteins in different samples. Results showed that the samples treated with SA showed the highest absorbance(720nm) as compared to the control and other treated samples absorbance was determined. Thus, Salicylic Acid treating wheat seedlings enables the growth of anti-stress effects, such as maintaining proline accumulation. The morphological and physiological parameters revealed that SA treatment not only decreased the negative effect of salinity on the development of the seedlings but also accelerated the reparation of the growth processes. These results suggested that salicylic acid application improved the salt tolerance of bread wheat cultivars.

**Keywords :** salinity, salicylic acid, biotic and abiotic stresses, proline

**Conference Title :** ICBPS 2024 : International Conference on Botany and Plant Science

**Conference Location :** London, United Kingdom

**Conference Dates :** June 27-28, 2024