

## PERFORMANCE OF OSMO-PROTECTANTS AND ANTIOXIDANTS IN AMELIORATION OF TERMINAL HEAT STRESS IN WHEAT (*TRITICUM AESTIVUM* L.)

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**Abstract:** Terminal heat stress causes significant yield reduction in wheat (*Triticum aestivum* L.) due to rise in temperature. The present study on the performance of osmo-protectants and antioxidants on three wheat varieties was conducted at the experimental area of Department of Plant Breeding and Genetics, PAU, Ludhiana. Two foliar sprays of osmo-protectants (Salicylic acid, KNO<sub>3</sub> and ZnSO<sub>4</sub>·7H<sub>2</sub>O) and antioxidants (Ascorbic acid and arginine) excluding water were done at anthesis stage and ten days after anthesis stage. The data revealed that concentration of salicylic acid (75 µgml<sup>-1</sup>) had non-significant effect on wheat yield. KNO<sub>3</sub> and salicylic acid gave better yield as compared to all other treatments. Ascorbic acid and arginine proved significant in all the three varieties. It may be interpreted that osmo-protectants and antioxidants can neutralize heat stress. WH 1105 gave 7.7 percent higher yield than PBW 621 and 10.6 percent than PBW 550 in response to osmo-protectants and antioxidants application.

**Keywords:** Antioxidants, Osmo-protectants, Terminal Heat Stress, Yield, Wheat

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