

Effect of Foliar Application of Nutrients and Growth Regulators on Physiological Traits under Water stress in Finger Millet (*Eleusine coracana* L. Gaertn)

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ABSTRACT

In an attempt to study the influence of nutrients and growth regulators on physiological traits under water stress in finger millet (*Eleusine coracana* L. Gaertn), a field study was carried out at Agricultural College Farm, Bapatla in Randomized Block Design (RBD) with three replications during *rabi*, 2022-23. The experiment consisted of eight treatments *viz.*, Control (No stress: Irrigation as and when required) (T_1), stress imposed at flowering for 8 days (T_2), $T_2 + KNO_3 @ 0.2\%$ (T_3), $T_2 + 19:19:19$ NPK @2% (T_4), $T_2 +$ Brassinosteroid (Double 0.04% a.i.) (0.5 ppm) (T_5), $T_2 +$ Salicylic Acid (100 ppm) (T_6), $T_2 +$ Mepiquat chloride (Chamatkar-5% @ 200 ppm) (T_7), and Consortia ($T_2 + 19:19:19$ NPK @ 2% + Brassinosteroid (Double 0.04% a.i.) (0.5 ppm) + Salicylic Acid (100 ppm)) (T_8). The foliar sprays were applied at post flowering stage. Studies revealed that the apparent values of physiological characters in finger millet differed significantly. Physiological parameters such as Crop Growth Rate (CGR), Leaf Area Index (LAI) at 15 days interval from 45 DAS, Relative Water Content (RWC) and SPAD Chlorophyll Meter Readings (SCMR) at post flowering were recorded. Amongst the different foliar treatments given to water stressed plants, Consortia ($T_2 + 19:19:19$ NPK @ 2% + Brassinosteroid (Double 0.04% a.i.) (0.5 ppm) + Salicylic Acid (100 ppm)) (T_8) had recorded significantly highest values which was at par with Irrigated control (T_1). Hence, it was concluded that the foliar spray of 19:19:19 NPK @ 2%, Brassinosteroid (0.5 ppm) and Salicylic Acid (100 ppm) was found to be effective in improving the physiological aspects which correlated with the better yield under water stress condition in finger millet.

Keywords: *Foliar application, consortia, nutrients and growth regulators.*