

Effect of Seed Pre - Treatment and Foliar Application of Zinc on Growth and Yield of Mungbean (*Vigna radiata* L.) under Water Stress

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ABSTRACT

A field experiment was conducted during *rabi* season of 2017-18 at Agricultural College Farm, Bapatla to investigate the effect of seed pre - treatment and foliar application of zinc on growth and yield of mungbean under water stress. The experiment was laid out in split plot design with three replications consists of two main treatments and seven sub treatments. The results revealed that, mungbean plants subjected to water stress from flowering stage decreased the plant height and number of branches 5.0 and 14.7 per cent, respectively, compared to control (i.e. irrigated) plants. Number of pods plants⁻¹, 100 - seed weight and seed yield decreased by 23.0, 6.0 and 33.6 per cent, respectively, due to water stress from flowering stage. Among zinc treatments, foliar spray of zinc @ 500 ppm at 30 DAS significantly increased the plant height, number of branches and seed yield by 21.6, 20.9 and 55.2 per cent, respectively, over untreated control. In the present study, foliar spray of zinc @ 500 ppm at 30 DAS increased the yield and yield components of mungbean both under irrigated as well as water stress conditions. Under water stress conditions, zinc spray @ 500 ppm at 30 DAS increased the number of pods plants⁻¹ and seed yield by 17.0 and 42.0 per cent, respectively, over unsprayed plants.

Key words: *Foliar application, Mungbean, water stress, seed treatment, Seed yield, Zinc.*