Effect of hormones and nutrients on yield and yield attributes of blackgram (*Vigna mungo* L.) affected by urdbean leaf crinkle disease

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ABSTRACT

A field experiment was conducted to evaluate the influence of selected hormones and micronutrients on yield and yield attributes of blackgram affected by Urdbean Leaf Crinkle Disease (ULCD) at the Agricultural College Farm, Bapatla, Andhra Pradesh, during *rabi* 2025–26. The experiment was laid out in a Randomized Block Design with eleven treatments and three replications. Treatments consisted of seed treatment and foliar application of salicylic acid, jasmonic acid, naphthalene acetic acid (NAA), zinc sulphate and borax at different schedules. Yield parameters such as number of pod clusters per plant, number of pods per plant, pod weight, test weight, seed yield and haulm yield were recorded at harvest. The results revealed significant differences among the treatments for most of the yield attributes. Seed treatment with 100 ppm salicylic acid followed by foliar spray at 150 ppm applied at 20 and 40 DAS recorded the highest number of pod clusters, number of pods, pod weight, seed yield and haulm yield and was statistically on par with seed treatment with 50 µM jasmonic acid followed by foliar spray at 100 µM applied at 20 and 40 DAS. Although test weight showed numerical variation among treatments, the differences were not significant. The untreated control recorded the lowest values for all yield parameters. Improved yield under salicylic acid and jasmonic acid treatments could be attributed to reduced disease severity, maintenance of photosynthetic efficiency and enhanced assimilate partitioning towards reproductive sinks. The study demonstrated that application of salicylic acid or jasmonic acid as seed treatment followed by two foliar sprays effectively minimized yield losses due to ULCD and improved productivity of blackgram.

Key Words: *Blackgram, Jasmonic acid, Salicylic acid and Urdbean leaf crinkle disease*