

EFFECTS OF GIBBERELIC ACID AND SALICYLIC ACID ON MORPHO-PHYSIOLOGY AND YIELD OF COWPEA

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Executive Summary

An experiment was conducted in the Agronomy field of Sher-e-Bangla Agricultural University to study the effects of gibberellic acid and salicylic acid on morpho-physiology and yield of cowpea during November 2022 to June 2023. The nine (9) treatments are T_1 = Control, T_2 = GA₃ 50 ppm, T_3 = GA₃ 100 ppm, T_4 = SA 50 mM, T_5 = SA 100 mM, T_6 = GA₃ 50 ppm + SA 50 mM, T_7 = GA₃ 50 ppm + SA 100 mM, T_8 = GA₃ 100 ppm + SA 50 mM, T_9 = GA₃ 100 ppm + SA 100 mM. The experiment was laid out in Randomized Complete Block Design (RCBD) with four replications. In case of morpho-physiological character the highest plant height, highest no. of branches, leaf area index, dry matter content plant⁻¹, Crop growth rate, relative growth rate and SPAD reading was (86.47 cm), (14.65), (0.19), (73.02 gm), (2.40 mg cm⁻² day⁻¹), (33.40 mg gm⁻¹ day⁻¹) and (62.36) respectively from treatment T_9 (GA₃ 100 ppm + SA 100 mM) and the lowest was observed from treatment T_1 (control). On the other hand, the highest number of pods plant⁻¹, number of seeds pods⁻¹, pod length, 1000 seed weight, seed yield plant⁻¹, grain yield, stover yield, biological yield and harvest index was (19.5), (14.50), (22.29 cm), (128.40 gm), (36.18 gm), (5.81 t ha⁻¹), (5.04 t ha⁻¹), (10.86 t ha⁻¹) and (53.45%) respectively from treatment T_9 (GA₃ 100 ppm + SA 100 mM) and lowest was observe from treatment T_1 (control). Proper use of plant growth regulator especially combined use of GA₃ and SA can play an important role to increase yield in cowpea. Application of growth regulators has good management effect on morphophysiology and yield of cowpea.

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