

EFFECT OF LEVELS AND TIMING OF APPLICATION OF GIBBERELLIC ACID ON GROWTH AND YIELD COMPONENTS OF COMMON BEANS

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(Received 4 January, 2002; accepted 15 September, 2003)

ABSTRACT

This study was conducted to determine the effect of levels and timing of application of gibberellic acid (GA_3) on growth and yield components of common beans (*Phaseolus vulgaris* L.). Experiments were conducted at the Field Station Farm at the Faculty of Agriculture, University of Nairobi, Kenya during 1997 and 1998. "Mwezi moja" bean cultivar was used in study. Gibberellic acid (GA_3) was sprayed at 0, 2.5, 5.0 and 7.5 mg l⁻¹ to whole bean plants at 7, 14 or 28 days after emergence (DAE). The effect of GA_3 and timing of application on growth, yield and yield components was significant ($P \leq 0.05$). Applications of GA_3 led to increased plant height, leaf area index (LAI), fractional solar radiation interception, root, shoot and the total dry mass. It also increased yield per plant, pods per plant, 100-seed mass and harvest index. The highest seed yields were equivalent to 1854 kg ha⁻¹ in 1997 and 5890 kg ha⁻¹ in 1998. These yields are high as compared to average national yields of 500 kg ha⁻¹. Significant differences in the parameters measured were generally observed at 14 DAE in GA_3 treated plants.

Key Words: Growth regulators, Kenya, legumes, *Phaseolus vulgaris*