

Physiological effect of brassinosteroids on growth attributes of greengram crop (*Vigna radiata* L.)

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ABSTRACT

Brassinosteroids (BRs) are now widely accepted as essential regulators of plant growth as they play a key role in a variety of developmental processes, including cell elongation, vascular differentiation and fruit ripening (Symons et al., 2006). The results obtained from the experiment showed that Brassinosteroids applied in the form of Homobrassinols (HBLs) at 0.5 ppm, 1.0 ppm, 1.5 ppm, 2.0 ppm, 2.5 ppm, 3.0 ppm and control (water spray). The hormone proved to be most effective at 1.5 ppm, 2.0 ppm and 1.0 ppm followed by 2.5 ppm. HBL improved the seed yield which was highest in treatments where greengram plants were sprayed with 1.5 ppm of Homobrassinolides yielding 1025 kg/ha. The treatment followed where the plants were sprayed with 2.0 ppm of HBL yielding 955 kg/ha. of seed followed by plants with 1.0 ppm of foliar spray of HBL yielding 947 kg/ha. of seed. The generation of such response in the plants by the hormone (HBL) was possible with cumulative expression of accelerated rate of nitrate assimilation (Ma et al., 1989), Protein synthesis (Hayat et al., 2001); preferential translocation of photosynthates to the sink (Fuji and Saka, 2001). Similarly the same experiment was repeated during *Rabi* season, 2008 to confirm the results of the *Kharif* with the same treatment structure and conditions. The results repeated the same trend as those of *Kharif* season 2008.

Key words : BRs-Brassinosteroids, EBR - 24-epibrassinolide, RWC - Relative water content HBL - Homo Brassinolides, DMP - Dry matter production