DOI: 10.46991/JISEES.2025.SI1.050

Impact of Brassinolide on Growth Related Attributes of Garden Pea (*Pisum Sativum* Var. *Hortense*)

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ABSTRACT

Brassinosteroids (BRs) are naturally occurring plant steroid called plant hormone, that at very lower concentrations, play a vital role in regulating important physiological and developmental processes in plants. Brassinolide, an important BR, is known to influence fruit development, pollen tube growth, root inhibition, stem elongation and gene expressions. The experiment was carried out in the School of Agriculture, ITM University, Gwalior (MP) to assess the impact of brassinolide on growth related attributes of Garden Pea (*Pisum sativum* var *hortense)*. The study employed Randomised Block Design (RBD) and was replicated thrice using variety "Kashi Ageti". Brassinolide was applied as a foliar spray using concentrations - 0.2 mg/L, 0.4 mg/L, and 0.6 mg/L at three different growth stages: vegetative, flowering and flowering. The results revealed that foliar application of brassinolide at 0.4 mg/L significantly enhanced plant growth parameters, including plant height (29.60 cm at 30 DAS and 46.40 cm at 45 DAS), number of leaves (39.67 and 79.00), and number of pods per plant (17.00). Interestingly, the tendril length was highest (6.74 cm at 30 DAS) with 0.2 mg/L brassinolide, while 0.4 mg/L showed the highest length at a later stage (18.49 cm). These findings confirm that brassinolide at optimal concentrations positively affects growth and yield in garden pea, offering potential as an effective plant growth regulator for enhancing productivity.

Keywords: garden pea, brassinolide, foliar spray, growth regulators

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