

Effect of application of plant growth regulators in sustainable improvement of gladiolus production in Manipur

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SUMMARY

An experiment was conducted during 2008-2009 at College of Agriculture, Central Agricultural University, Imphal to identify the effect of plant growth regulators on growth, flowering and corm production of gladiolus cv. Applause. Seven treatments with two different plant growth regulators viz., GA₃ and NAA at three concentrations of each, including one control was set up in gunny bags. It was found that number of leaves per plant was more (8.267) with T₅ while plant height was more with T₃ (90.133cm). GA₃ (500 ppm) recorded early flowering (78.53 days) followed by GA₃ 750 ppm (83.63 days) and (T₅) NAA 500 ppm (81.30 days). Number of florets per spike (14.30) was recorded with T₃. Spike length (81.233 cm), rachis length (42.067 cm) were more with T₂ while control (T₇) was found minimum in all parameters.

Key Words : Gladiolus, Plant growth regulators, Applause, Spike, Rachis

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Gladiolus is a glamorous bulbous flower of beauty and perfection. It is said to be queen of bulbous flower crops grown in many parts of the world. In international cut flower trade gladiolus occupies fifth place. The total area under the floricultural crops in India has been estimated around 94, 000 hectares. Among which bulbous

ornamentals are cultivated over 3,500 hectares with maximum under gladiolus (1,270 hectares). Gladiolus with its wide range of characteristics such as huge size, styles and patterns always interested the consumers, floriculturists, interior designers and exporters. It has a great share in cut flower industry and fetches good price. It is a potential money spinner for India's floriculture industry (Barman *et al.*, 2005). Gladiolus has almost established in India. In Manipur also growing of Gladiolus has been started at Ukhrul and Senapati districts. Even though wide spread cultivation of gladiolus in North Eastern India particularly in Manipur has not yet been taken up.

With its congenial climate, the state of Manipur offers great scope for cultivation of gladiolus. However, due to limited access to technologies, the farmers have very little idea about the scientific growing of this crop. The use of growth regulators in horticulture has brought about a revolution in the floriculture industry (Vijaykumar and Singh, 2005). Synthetic growth regulating chemicals were reported to be very effective in manipulating growth, flowering and corm production in gladiolus (Misra *et al.*, 1993). Mohanty *et al.* (1994), Pal *et al.* (1998), have reported in enabling removal of many of the barriers imposed by hereditary and environment.

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