

## Effect of growth regulators and chemicals on growth and flowering of gladiolus

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### ABSTRACT

An experiment was conducted to study the effect of growth regulators and chemicals on growth and flowering of gladiolus during 2000 – 01 at Department of Horticulture, Dr. PDKV, Akola in R.B.D. with 12 growth regulators and chemicals treatment as a corm treatment (Soaking of corms in the solution). Results revealed that corm treatment with GA<sub>3</sub> 200 ppm (T<sub>2</sub>) attributed to superior results regarding the plant height, number of leaves, early emergence of spike, length of rachis, number of florets spike<sup>-1</sup>, number of spikes plant<sup>-1</sup>, weight of spike and vase life over all other treatments.

**Key words :** Gladiolus, Growth regulator, Corm and Cormels, Flower.

Roses, chrusanthimum, lilium, orchids, gerbera, carnation, tuberose, gladioli etc. are the various cut flower which are used on large quantity for preparation of high class bouquets, flower arrangement, decoration etc. Among the cut flowers Gladioli occupied the prime position in the flower trade because of its varied type of colours, length of spike, easy in cultivation and more vase life. Gladiolus ranks next only to tulip in the commercial trade. In India it occupies an area about 500 ha and has attained considerable important as a cut flower (Patil *et al.*, 1994)

Several workers reported that there is a dormancy in gladiolus corms and therefore, it is necessary to remove the dormancy by giving the proper pre-planting treating treatment to it (Mukhopadhyay and Bankar, 1986)

Mohanty *et al.* (1994) reported that gladiolus cv. VINK'S beauty corms were soaked for 24 hours in GA<sub>3</sub> at 250 ppm and ethrel at 250 ppm increased plant height and break the colour of basal floret.

### MATERIALS AND METHODS

A field experiment was conducted during 2000- 01 at the Botanical Garden, Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. The soil was clayey in texture and slightly alkaline (pH 7.6), it was low in available N (172kg ha<sup>-1</sup>), medium in available P (54kg ha<sup>-1</sup>) and moderately high in K (263.32kg ha<sup>-1</sup>). The experimental design was R.B.D. with 3 replications and the plot size was 2.40 x 1.20m. The experiment consist of 12 treatments pre planting growth regulators and chemicals

on corms (soaking of the corms before planting) viz. T<sub>1</sub> (GA<sub>3</sub> 100ppm), T<sub>2</sub> (GA<sub>3</sub> 200ppm), T<sub>3</sub> (Ethrel 100ppm), T<sub>4</sub> (Ethrel 200ppm), T<sub>5</sub> (Thio-urea 500ppm), T<sub>6</sub> (Thio-urea 1000ppm), T<sub>7</sub> (KNO<sub>3</sub> 1000ppm), T<sub>8</sub> (KNO<sub>3</sub> 2000ppm), T<sub>9</sub> (6BA 25 ppm), T<sub>10</sub> (6BA 50 ppm), T<sub>11</sub> (Pure water), T<sub>12</sub> (Contorl) applied before planting. The gladiolus variety Jester was planted on ridges and furrow at 40 x 20cm on 4<sup>th</sup> November, 2000 and fertilized with 400:200:0 kg N:P:K ha<sup>-1</sup> and other recommended package of practices were applied to gladiolus crop.

### RESULTS AND DISCUSSION

The data regarding the height of plant and number of leaves plant<sup>-1</sup> as influenced by different treatments is presented in the Table 1. From the data it is revealed that

**Table 1 : Effect of corm treatments with chemicals/ growth regulators on growth parameters of gladiolus (cv. JESTER)**

Tr. No.	Treatment	Plant height (cm)	No. of leaves plant <sup>-1</sup>
T <sub>1</sub>	GA <sub>3</sub> 100ppm	50.44	7.47
T <sub>2</sub>	GA <sub>3</sub> 200ppm	55.50	8.00
T <sub>3</sub>	Ethrel 100ppm	51.35	7.40
T <sub>4</sub>	Ethrel 200 ppm	49.71	6.87
T <sub>5</sub>	Thiourea 500 ppm	52.29	7.27
T <sub>6</sub>	Thiourea 1000 ppm	50.06	7.33
T <sub>7</sub>	KNO <sub>3</sub> 1000ppm	51.40	7.40
T <sub>8</sub>	KNO <sub>3</sub> 2000ppm	49.67	7.33
T <sub>9</sub>	BA 25 ppm	47.90	5.93
T <sub>10</sub>	BA 50 ppm	47.50	5.86
T <sub>11</sub>	Pure water	51.07	7.07
T <sub>12</sub>	Control	47.50	7.00
	S.E. ±	0.92	0.29
	C.D. (P=0.05)	2.60	0.85