

Effect of corm treatment by growth regulators and chemicals on corms and cormels production of gladiolus cv. JESTER

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ABSTRACT

An experiment was conducted to study the effect of growth regulators and chemicals on corms and cormels production of gladiolus during the year 2000–01 at the Department of Horticulture, Dr. P.D.K.V., Akola. The experiment was laid out in Randomized Block Design with three replications and 12 corm treatments of growth regulators and chemicals on gladiolus crop. The results revealed that BA 50 ppm (T_{10}) recorded maximum number of corms plant⁻¹, plot⁻¹, ha⁻¹, weight of corms, and weight of cormels plant⁻¹.

Key words : Gladiolus, Growth regulator, Corm and cormels.

Flowers are one of god's most beautiful boon to mankind that bring joy and happiness to one and all, flowers are symbol of beauty, love and tranquility. They form the soul of garden and convey the message of nature to man. In Maharashtra the gladiolus crop had more popularity among the flower growers because of its easy cultivation and higher value for cut flowers. Several references indicate that spraying of growth regulator in gladiolus helps to increase the number of corms and cormels and weight of corms and cormels.

MATERIALS AND METHODS

A field experiment was conducted during 2000- 2001 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⁻¹), medium in available P (54kg ha⁻¹) and moderately high in K (263.32kg ha⁻¹). The experimental design was R.B.D. with 3 replications and the plot size was 2.40 x 1.20m. The experiment consists of 12 treatments pre planting growth regulators and chemicals on corms (soaking of the corms before planting) viz. T_1 (GA_3 100ppm), T_2 (GA_3 200ppm), T_3 (Ethereal 100ppm), T_4 (Ethereal 200ppm), T_5 (Thio-urea 500ppm), T_6 (Thio- urea 1000ppm), T_7 (KNO_3 1000ppm), T_8 (KNO_3 2000ppm), T_9 (6BA 25 ppm), T_{10} (6BA 50 ppm), T_{11} (Pure water), T_{12} (Control) applied before planting. The gladiolus variety Jester was planted on ridges and

furrow at 40 x 20cm on 4th November, 2000 and fertilized with 400:200:0 kg N:P:K ha⁻¹ and other recommended package of practices were applied to gladiolus crop.

RESULTS AND DISCUSSION

Corm yield :

The data regarding number of corms plant⁻¹, plot⁻¹ and ha⁻¹ as influenced by different treatments is presented in the Table 1. The data indicates that the various concentrations of GA_3 , Ethrel, thioura, KNO_3 , BA and water soaking had non significant effect on number of corms plant⁻¹, plot⁻¹ and ha⁻¹. The highest yield of corms plant⁻¹ (1.13), plot⁻¹ (26.13) and ha⁻¹ (130666) was observed under the treatment BA 50 ppm (T_{10}), while the lowest yield of corms plant⁻¹ (1.00), plot⁻¹ (20.33) and ha⁻¹ (101666) was observed under the control treatment (T_{12}). BA 50 ppm (T_{10}) treatment increased the number of corms plant⁻¹, plot⁻¹ and ha⁻¹ due to diversion of plant energy towards development of corm by suppressing the growth. However, in control treatment less photosynthates were manufactured resulting in lower number of corms plant⁻¹, plot⁻¹ and ha⁻¹. Similar results were observed by Kumaran (1993), Misra *et al.* (1999) and Karaguzel *et al.* (2000)

Cormels yield :

The data regarding number of cormels plant⁻¹ as influenced by different treatments is depicted in the Table 1. The data indicates that the maximum number of cormels plant⁻¹ (6.53) were recorded under the treatment T_{10} (BA 50ppm), while the minimum number of cormels plant⁻¹ (3.00) was observed under the control treatment (T_{12}).