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Response of different levels of Gibberellic Acid on yield of gladiolus (*Gladiolus grandifloras* L.) Cv. Snow princess

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Abstract
In order to explore the possibility of improving yield of gladiolus an experiment entitled "Response of different levels of Gibberellic Acid on yield of gladiolus (*Gladiolus grandifloras* L.) Cv. Snow princess" have been conducted at the research field of AKS University Satna during rabi seasons of 2015-16. Experiment compromised of three level of Gibberellic acid such as 50ppm, 100ppm, and 150ppm Experiment was laid out in RBD (with factorial concept) with three replications. The results of the experiment showed application of Gibberellic acid had significantly. Influence on the most parameters such as number of corms per plant and weight of corms per plant at the @ 150ppm GA_3.

Keywords: Gladiolus (*Gladiolus grandifloras* L.), Gibberellic Acid and yield

Introduction
Gladiolus (*Gladiolus grandifloras* L.) is a popular flowering plant grown all over the world, from South Africa to West Asia. The name gladiolus was derived from the Latin word gladioli, because of its sword-like leaves. It is popularly known as sword lily. It was introduced for the cultivation at the end of the 16th century (Parthasarathy and Nagaraju, 1999) [4]. Normal plant growth and development are regulated by naturally produced chemically or phytohormones. Their role can often be substituted by application of synthetics growth regulating chemicals. These are becoming extremely important and valuable in the commercial control of crop's growth and flower production (Jinesh *et al*., 2011) [3]. The potential use of growth regulators in flowers production has created considerable scientific interest the recent years. Many studies have indicated that the application of growth regulators can affect the growth and development of gladiolus (Chopde *et al.*, 2011) [1].

Material and methods
The materials used and methods employed during the tenure of investigation on the topic "Influence of Plant Growth Regulators and Planting Geometry on Growth, Yield and Quality of Gladiolus (*Gladiolus grandifloras* L)". Trial was conducted during winter seasons of 2015 at the AKS university, Satna (M.P.) farm, (80^0 21' to 81^0 23' east longitude and 23^0 58' to 25^0 12' north latitude), the altitude of Satna is 317 meters above mean sea level. The experiment was laid out in Randomized Block Design using nine treatments and three replications. The plan of the experiment is given in noumber technical programme are as under variety-Snow princess, design – RBD with factorial concept, number of treatment combination 09, spacing-30 x15,30x20 & 30x25cm (RxP) and distance between replication - 0.75m etc.
Concentration of Gibberellic acid
G_1 = Gibberellic acid 1st Dose = 50ppm
G_2 = Gibberellic acid 2nd Dose = 100ppm
G_3 =Gibberellic acid 3rd Dose = 150ppm

Results

In this result embodies an elaborate account of various studies made during the period of investigation on the experimental crops of gladiolus, Cv. Snow Princess (*Gladiolus grandifloras* L.).

Number of corms per plant: Data collected on account of number of corms per plant of gladiolus as affected by different levels of gibberellic acid have been showed on the data obviously indicated that number of corms per plant in gladiolus was significantly affected by the use of gibberellic acid and higher doses of GA_3 which is maximum number of corms per plant i.e.- 1.74 (days) was recorded by the use of 150ppm gibberellic acid.

Weight of corms per plant (g): The data gathered on account of weight of corms of gladiolus as affected by different doses of GA_3, spacing's and their interaction have been tabulated in graphically represented in fig. No.1.0. An examination of data mentioned in above table clearly indicated that weight of corms per plant in gladiolus was significantly affected by the use of Gibberellic acid and maximum weight of corms per plant i.e. 225.18g weight/plant was recorded by the use of 150ppm gibberellic acid.

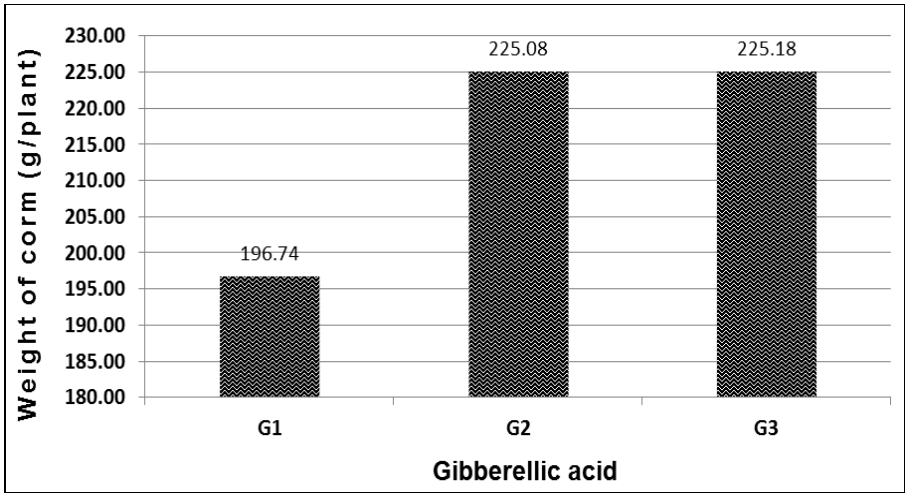

Fig 1: Weight of corm per/plant of Gladiolus as influenced by different level of gibberellic acid

Discussion

Evaluation of different biological parameters of gladiolus cultivators was made during Rabi season of 2015-2016 with the object to see the most suitable, high quality and best cultivar for cultivation in Satna region of M.P. Study of various parameters is essential for such evaluation. In addition to these various other factors like number of corms per plant, and weight of corms also considered as these are the parameters which ultimately decide the yield and quality of flower spikes. A cultivar possessing the desirable characters as mentioned above would be considered good cultivars even through it lacks one or more other characters. Hong and God (1991) [2] under vindhya region conditions and found that was corms of gladiolus produced in maximum that the improved corms. High significantly differences also existed with respect to the production of number of corms per plant was noticed i.e. 1.74 on GA3 @ 150ppm.

Summary

A field experiment was conducted to study the "Response of different levels of Gibberellic Acid on yield of gladiolus (*Gladiolus grandifloras* L.) Cv. Snow princess, during the year 2015-2016 at the Department of Horticulture, Satna (M.P.). The experiment was laid out in Factorial Randomized Block Design with three replications and treatments viz., (T_1) GA3 50ppm, (T_2) GA_3 100ppm, (T_3) GA_3 150ppm, (T_4) GA_3 50ppm (T_5) GA_3 100ppm (T_6) GA_3 150ppm, (T_7) GA_3 50ppm, (T_8) GA_3 100ppm and (T_9) GA_3 150ppm etc. The Influence of GA_3 150ppm found significant role on corms per plant, and weight of gladiolus. The treatments 150ppm GA_3 (G_2) was found significantly superior over the treatments in respects to number of corms per plant and weight of corms per plant. number of corms and weight of corms per plant.

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