Assessment of Variability for Number of Buds per Spike in Gladiolus Plant Material

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Abstract- In the recent times floriculture is becoming increasingly popular not only as an essential part of good living and also commercial enterprises with considerable potential for export. Studies on the genetic variability for number of buds presented on spike carried out with different varieties of gladiolus, experiment done with different period of two years. The result so obtained revealed that number of buds presented on spike was showed range of variation from 20 in variety V37 Tropic seas to 24 in variety V33 Sapna with general mean 22 during previous year of investigation. In second year, the maximum number of buds was followed by 25, 25 and 25 in varieties V42 wild rose, V43 Tambari and V13 emperor respectively.

Indexed Terms- Floriculture, market value, commercial, enterprises, export, and variability.

I. INTRODUCTION

Gladiolus commonly called "glads," is classic, summertime flowers that grow between 4 and 6 ft tall. These lovely flowering plants are available in a multitude of colours. *Gladiolus* is most well-known for their wide range of colours and appearance in bouquets. While these spiky, graceful blooms are the perfect height for the back row of the bud, they're also a favourite for adding vertical 'pops' of colour to empty spaces in the perennial garden. Planted as annuals in the spring, you can lift and store glads over the winter for replanting the following season.

It is an important flowering plant which has a great importance in floriculture industry. It is a classic perennial known for its tall flower spikes and large, colorful blooms. A great cutting flower, gladioli look spectacular in summer bouquets. Here's how to grow gladioli in your garden. It is an important flowering plant which has a great importance in floriculture industry. Its market value is quite high in the world. *Gladiolus* has its great importance in production of large-scale exhibition quality blooms. It is limited. High density planting of bulbs increases yield of spikes in gladiolus.

Calcium deficiency is rare in nature, but may occur on soils with low base saturation and/or high levels of acidic deposition. By contrast, several costly calcium deficiency disorders occur in horticulture. These generally arise when sufficient Ca is momentarily unavailable to developing tissues (Singh, 2020). The production of ROS is strongly influenced by stress factor responses in plants, these factors that increase ROS production include drought, salinity, chilling, nutrient deficiency and metal toxicity (Singh, 2019). In more recent times floriculture is becoming increasingly popular not only as an essential part of good living and also commercial enterprises with considerable potential for export.

II. MATERIAL AND METHOD

The experimental trial was raised with forty-five varieties of gladiolus which were laid out in a randomized block design with three replications during two crop seasons at C.S.A University of Agriculture and Technology, Kanpur under natural environmental conditions with proper application of fertilizers. The data was record in the field for the character, number of buds per spike. Varieties of plant material taken for the investigations were given treatments as V1, V2, V3 … V5. The character was studied and data were recorded for different vegetative aspects and reproductive characters. Variability was calculated by ANOVA on extent of genotypic and phenotypic variability.

III. RESULT AND DISCUSSION

Significant variation in treatments was found in forty-five different genotypes of gladiolus under the test in

the present experimental trials. The range of the mean performance is depicting the maximum and the minimum. In the observation of range of variation in number of buds per spike in gladiolus plant material data were recorded for period of two years. The result so obtained revealed that number of buds presented on spike was showed range of variation from 20 in variety V37 Tropic seas to 24 in variety V33 Sapna with general mean 22 during previous year of investigation. In second year, the maximum number of buds was followed by 25, 25 and 25 in varieties V42 Wild rose, V43 Tambari and V13 Emperor respectively. The maximum number of buds per spike was found in variety Sapna in the first year of investigation and in variety Wild rose during the second year of investigation. Similar results have been found by Lal (1984) and Dadlani and Swaroop (1989).

TABLE – Number of buds per spike

Treatments	1st year	2nd year
V1	22.867	21.467
V2	22.267	22.500
V3	21.233	22.400
V4	21.733	23.333
V5	22.600	20.967
V6	24.067	24.600
V7	23.267	23.567
V8	23.567	23.400
V9	22.467	24.367
V10	21.367	23.567
V11	22.600	24.533
V12	21.300	22.300
V13	24.233	25.300
V14	23.400	24.967
V15	22.533	23.533
V16	24.200	24.000
V17	22.200	21.600
V18	22.033	22.200
V19	21.233	23.433
V20	24.200	23.267
V21	24.533	24.333
V22	22.867	23.333
V23	22.933	22.367
V24	22.100	23.267
V25	20.467	22.600
V26	21.267	22.100
V27	23.267	23.133
V28	23.800	24.967
V29	24.800	24.833
V30	24.233	23.900
V31	23.367	24.500
V32	24.367	24.900
V33	24.833	25.033
V34	21.833	23.067
V35	24.600	24.700
V36	24.600	25.667
V37	20.000	20.467
V38	22.267	23.367
V39	23.033	24.800
V40	22.733	24.400
V41	22.567	23.900
V42	24.233	25.500
V43	24.400	25.300
V44	23.133	24.133
V45	22.167	23.733

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