



Effect of spacing on growth and yield of gladiolus

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ABSTRACT

An experiment was carried out during the year 2007-08 on gladiolus at Demonstration farm, Marathwada Agricultural University, Parbhani. Gladiolus (var.H.B. Pitt) having spacing 30x15 cm, 30x20 cm, 30x25 cm and 30x30 cm were taken. The result revealed that growth parameters *i.e.* height of plant (cm) and number of leaves per plant are higher in treatment S₄ (30x30 cm). However, total leaf area (cm²) and number of tillers/ corm are higher in treatment S₃ (30x25 cm). The yield parameters *i.e.* number of spike/plant, per plot and per hectare were higher in treatment S₁ (30x15 cm).

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Key words : Spacing, Growth, Yield, Gladiolus

Gladiolus has attained considerable importance as cut flower in our country. Gladiolus is having commercial importance in world market due to magnificent inflorescence with slowly blooming florets, different varieties and good keeping quality. In Maharashtra cultivation is done in rainy and winter season for obtaining good quality cut flowers and corms yield. However, the yield and quality of flower produced is low which needs to be increased by adopting improved horticultural techniques. Besides the climatic conditions, the plant spacing also plays important role in quality growth and yield of flowers. Hence, the present investigation was undertaken to study the effect of spacing on growth and yield of gladiolus.

MATERIALS AND METHODS

The experiment was conducted at Demonstration farm, Marathwada Agricultural University, Parbhani during the year 2007-08 on gladiolus. The experimental soil was medium black with uniform texture and well drained. The topography of the land was fairly leveled. The experiment was laid out in Randomised Block Design with four different treatments and five replications in *Kharif* season. The treatments consisted of four plant spacing 30x15 cm, 30x20 cm, 30x25 cm and 30x30 cm. Flat bed having gross plot size 3.75 x 2.05 m. and corm was planted at 5 cm depth. The recommended doses of FYM and fertilizer (*i.e.* 8 kg FYM/m² and 40g N, 20g

P₂O₅ and 20g K₂O/m²) were applied. Random sampling technique was adopted and five plants were selected from each treatment and mean taken. Observations for height of plants (cm), number of leaves per plant, leaf area (cm²), number of tillers per corm, production of spike per plant, per plot and per hectare were taken.

RESULTS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarised under following heads:

Growth parameters:

Height of plant (cm):

Data presented in the Table 1 show that maximum plant height (95.33 cm) was recorded in treatment S₄ (30x30cm) after 90 days of planting followed by S₃ (30x25 cm) and S₁ (30x15 cm) treatments. In wider spacing height of plant was more this may be due to less competition for nutrient, moisture and sunlight between plants. Similar results were obtained by Shiraz and Maurya (2005), Nair and Singh (2004) and Kumar *et al.* (2006).

Number of leaves per plant:

Data presented in the Table 1 show that significantly more number of leaves were recorded (19.19) in treatment S₄ (30x30 cm) at 90 days after planting which was followed by treatment S₂ (30x20 cm). In wider spacing