

## **GLADIOLUS** (*Gladiolus species*)

Gladiolus is one of the most important bulbous ornamental grown for its long lasting spikes with attractive color. Genus Gladiolus possesses 226 recorded species. In the North Eastern region Sikkim, Nagaland, Tripura, Manipur, Meghalaya and Assam are suitable for gladiolus cultivation.



### **Varieties**

Suitable varieties of gladiolus for NEH region are Peter Pears, Pusa Jyotsena, Her Majesty, Candyman, Chantiler, Jester, Jester Gold, White Prosperity, Legend, Priscilla, 'Australian Fair and Novalux

### **Growing environment**

Gladiolus requires full exposure to sunlight for better growth, otherwise blasting may occur or plant may remain blind. The long day conditions of 12 to 14 h photoperiod increase number of florets, spike length and percentage of flowering. Higher temperature (20 to 30°C) accelerate flowering.

### **Soil**

Soil should be sandy to clay loam. Deep, well drained, friable soils rich in organic matter and nutrients are most ideal. The pH of soil should be between 5.5-6.5.

### **Nursery raising**

Land preparation for planting involves ploughing 2 to 3 times to a depth of 30 cm and mixing farmyard manure to the soil. Corms should be planted from November onwards till March at spacing of 30x30 cm or 30x20 cm and 5 to 7 cm deep in the soil. Staggered planting at intervals of 10 to 15 days is beneficial to get continuous flowering. Normally corms have dormancy of 3 and 6 months. During this period they should not be used for planting. Presence of swollen root primordial in a circle at the basal plate of the corm is the indication of completion of the dormancy period. Shallow depth of planting produces more number of cormels.

### **Propagation**

It is mainly propagated through corms and cormels. Single corm produces an average of 1 to 3 flower grade daughter corms in a season depending upon its size and the variety.

### **Nutritional requirement**

In light soils, nitrogen is applied in four split application i.e. first before planting, second side dressed at 3-leaf stage, third at spike emergence, fourth after completion of flowering for

corm development. Full dose of phosphorus and potassium applied at the time of planting. Under Meghalaya conditions, 400 kg N, 200 kg P and 200 kg KI ha is recommended for gladiolus.

### **Irrigation**

The soil should have sufficient moisture at the time of planting and thereafter, light irrigation is required till sprouting.

### **Plant protection**

**Thrips:** Silver brown streaks on the leaves are typical symptoms, also attacked on spikes and florets. They suck the sap from the infested parts. Spraying of Imidacloprid (0.5 ml/l) effectively control thrips.

**Aphids:** They attack on tender leaves, emerging spikes and florets. They are also vector of certain viruses. Spraying with Dimethoate 0.05% is recommended.

**Fusarium corm rot:** It is a severe problem in gladiolus. The fungus survives in corm, cormel or in soil. Yellowing of older leaves and wilting of plants is observed. Use healthy planting material and clean cultivation. Treatment of corms and cormels with Carbendazim 1g/l or Captan 2g/l for 30 minute before planting is recommended.

**Botrytis rot:** Initially small brown or grey spots may develop only on surface of the leaf, but may infect the other parts of the plant. Spraying of Carbendazim, Dithane M-45 or Kavach 0.2% at fortnightly interval gives good control.

### **Harvesting and Yield**

Plant starts flowering 2-3 months after planting. Spikes are harvested in the morning hours with sharp knife leaving four leaves on the plant for the development of corms and cormels. Harvested spikes should immediately place in water then pulsed with 20 % sucrose solution for 16-18 hours to enhance vase life. Flower spike would be 1,80,000 per hectare when planted at 30x20 cm distance.