

Quadrant II – Notes

Programme: BSc. (Hons.) Agri.

Subject: Horticulture

Course Code: HORT-354

Course Title: Production Technology for Ornamental Crops, MAP and Landscaping

Module Name: Production technology of Gladiolus under open conditions

Module No: 10

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Notes :

Production technology of Gladiolus under open conditions

Introduction

- Botanical name: *Gladiolus spp.* Belonging to Family: Iridaceae
- Gladiolus called as sword lily
- Origin is South Africa
- States growing gladiolus are Karnataka, West Bengal, Maharashtra, Punjab, Haryana, Uttar Pradesh, Tamil Nadu, Jammu and Kashmir, Uttarakhand, Delhi, Sikkim and Himachal Pradesh with Area of ,500 ha
- Used for flower arrangement and bouquets

Soil and climate:

- ❖ Long day plant an requires 12 to 14 hour photoperiod
- ❖ Prefers sandy loamy soils
- ❖ Rich in organic matter
- ❖ Fertile, well drained and away from water logging

- ❖ pH is 5.5 to 6.5
- ❖ Affected by alkaline, saline and acidic soils
- ❖ Grows well on subtropical or temperate climatic conditions
- ❖ Optimum temperature 27 to 30°C
- ❖ Affected by rains during flowering

Varieties

- ❖ Tropic Sea
- ❖ White Prosperity
- ❖ Priscilla
- ❖ Summer Sunshine
- ❖ Pusa Swarnima
- ❖ Jackson Ville Gold
- ❖ Archana
- ❖ Basant Bahar
- ❖ Indrani
- ❖ Kalima
- ❖ Shree Ganesh

❖ Planting:

- ❖ Propagation: corms, cormels, seed and tissue culture
- ❖ Corms requirement: 1,50,000/ha
- ❖ Corm pretreatment with 0.2% Bavistin
- ❖ Treatment for breaking dormancy: Cold 3 to 7°C for 3 months or Ethrel (1000ppm) or GA3 (100ppm) or Thiourea (500 ppm)
- ❖ Planting: land preparation followed by ridges and furrow preparation
- ❖ Spacing: 5-25cm x 30-45 cm
- ❖ Planting density: 1 to 1.5 lakh/ha

❖ After care

- ❖ Flood irrigation: applied at critical stages of bud germination and flowering

- ❖ Weeding: manually 20-30 days interval
- ❖ Mulching helps in conservation of moisture and suppression of weeds during the crop period.
- ❖ Nutrition: Farm yard manure@ 3t and 120 kg N, 150 kg P₂O₅ and 150 kg K₂O per ha
- ❖ Earthing up: twice at 3 and 6th leaf stages
- ❖ Staking: Large flowered varieties should be staked to avoid lodging.

❖ **Harvesting**

- 75 to 90 days for flowering after planting
- Stage: 1 to 3 buds starts showing colour
- Harvested with sharp knife and immediately dipped in water bucket.
- Packing in boxes 100x25x10cm
- Pulsing with citric acid, 8-hydroxyquinoline sulphate, (8-HQS), aluminium sulphate, silver thiosulphate and sodium hypochlorite
- Spike yield: 70,000 to 75000 per acre

❖ **Pests**

1. Aphids: sucks the sap from tender parts of plants and also attracts sooty mould. Spray Malathion 0.1 % or Rogor 0.1 %
2. Thrips: feeds on the flowers and leaves. Spray dimethoate 30EC@2ml/lit
3. Cutworms: nocturnal pest attack shoots and cut the ground level portion causing plant fall. Spray Quinolphos 0.05%
4. Leaf eating caterpillar: feed on leaves. Spray Quinolphos 0.05% or Chlorpyrifos 0.05% or Carbaryl 0.1%
5. Mealybug: suck sap from plant parts. Spray Methyl Parathion 0.04% or Di Methoate 0.04% or Acephate 0.1 %
6. Borer (*Heliothis armigera*): Larvae feed on leaves and unopened buds. Spraying Methyl Parathion 0.05%

❖ Diseases

Disease	Symptoms	Management
Corm rot Fusarium, Curvularia and Penicillium	Rotting of corms with moulds during storage	Hot water treatment (38- 40° C) or Captan for 30 minutes
Leaf spot	Irregular spots on leaves	Spray Carbendazim or Mancozeb 2 g/l
Wilt (Fusarium)	Causes yellowing and death	Drenching of Bavistin (0.2%)
Blight disease	Causes yellowing and death of plant	Spraying Mancozeb @0.2 %
Curvularia blight (Curvularia trifolii and Curvularia ergrostidis)	Water soaked oval to elongated brownish spots appear on leaves	Control: Mancozeb 0.2%

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