

# ROSE

(*Rosa species*)

Rose, acclaimed as the 'Queen of Flowers', is undoubtedly one of the most beautiful of nature's creation. Rose belongs to family Rosaceae ranked top in the cut flower trade. It is commercially cultivated under protected conditions to get the quality blooms. Meghalaya has been identified for rose production under naturally ventilated polyhouses. Other potential areas are Manipur, Nagaland and Tripura.



## Varieties

First Red, Noblesse, Golden Gate, Cherry Red, Iceberg, Raktima, Raktagandha, Arjun, G.S. Randhawa, Vivaldi, Sonia, Happiness, Super Star, Grand Gala.

## Growing environment

Best quality roses can be produced when temperature hovers around 28 °C during day and 18 °C at night. Low temperature especially during night is more detrimental to rose. The concentration of CO<sub>2</sub> at 1000-1500 ppm inside the polyhouse results in reduced number of blind shoots, higher yield, longer and stronger stems.

## Propagation

Roses are mainly propagated by cutting for multiplication of rootstocks and budding (T or Shield) for getting desirable type of cultivars. Tissue culture technique is used for getting virus free planting material by shoot tip culture. Suitable rootstocks for north eastern region are *Rosa multiflora*, *Rosa indica* var. *odorata* for budding.

## Soil

An ideal soil should be rich, loose and structurally stable down to a depth of around 50cm. Loamy soils with soil pH between 5.5-6.0 is good.

## Nursery raising

An optimum bed width of 1 m and a path width of 80 cm are ideal and the length can be a continuous one without any break depending upon the length of the polyhouse, the beds can be 20-30 m long. The two-row system of planting is most ideal. Plants can be planted at a distance of 18-30 cm depending upon the nature of the variety.

## Irrigation

In general, rose beds should be kept moist at all times without allowing water to flood the soil. The water requirement for roses is often 500 - 1000 ml of water for each gram of dry weight of plant.

## Nutritional requirements

A dose of 5kg well rotten cow dung manure, 50g N, 100g P<sub>2</sub>O<sub>5</sub> and 75g K<sub>2</sub>O is required per plant per year.

**Plant protection**

**Aphids:** The aphids attack on the tender portion tips and the young flower of the stem. Spraying of Malathion (0.03%) at 10-15 days interval effectively controls aphids.

**Thrips:** The leaves exhibit typical brown patches. The flower buds fail to open. Spraying of Dimethoate 0.05% controls thrips.

**Die back:** The infection enters from wounds cause especially during pruning. Drying of stem from top to bottom and finally death of complete plant. Slant cut during pruning to prevent water retention and application of Bordeaux mixture (4:4:50) on the cut ends.

**Powdery mildew:** White powder growth appears on the lower surface of leaves. The infected leaves curl and are malformed. Preventive dusting of plants with sulfur dust at 10 days interval during favourable weather conditions is very important. Application of Carbendazim 0.5% is also effective.

**Harvesting and yield**

Roses are generally harvested at tight bud stage for transportation and loose bud stage for local market early in the morning with sharp knife. After cutting, basal portion of flower stems immediately dip in a bucket containing preservative solution. In general, polyhouse grown rose yields 150-300 flowers/m<sup>2</sup> is considered to be ideal.