RAMA UNIVERSITY, KANPUR, UTTAR PRADESH

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Course: Production Technology of Ornamental Crops, MAPs, & Landscaping (HOR-221)

Lecture 7

Lilium

INTRODUCTION: Lilies are very useful cut flower as well as bed or border plant for giving mass effect. Shorter varieties are planted in containers. In China, bulbs of tiger lily are preferred as food due to its specific taste. Lilaline, an alkaloid is diuretic, emmenagogue, emollient and expectorant. The flowers are carminative. They are used to strengthen the eye lid muscles and are recommended in the treatment of myoptic astigmia.

VARIETIES

Asiatic cultivars

Alaska, Lucyda, Marbelle, Pulsar, Sancerre, Ventoux, Apledoorn, Bangalope, Elite, Loreto, Menton, Prato

Oriental cultivars: Casa Blanca, Dream, Mont Blanc, Montreal, Primeur, White Sheen, Corina, Jazz, Red Carpet, Strangazer

CLIMATE: To obtain the best quality of lily flowers the day temperature range should be 15-20^{o}C, whereas night temperature of around 8-10^{o}C is suitable. Lilies require some shading. For cut flower production, a 30-40% shade cloth is common. Under Indian conditions during summer months use of net to cut of 75% light and 50% during winter isbeneficial. Shading.

SOIL: Soil used for cultivation of Lilium should be good in structure particularly top layer. Sandy loam soil is found suitable for its cultivation. The growing medium must be porous for good aeration and water drainage. A soil pH of 6.0 to 6.5 is recommended.

PROPAGATION: Lilies can be multiplied by seeds ,scales, bulblets and bulbils. Micro propagation has also been a successful method for large scale multiplication.

CULTURAL OPERATIONS

Weed control: Chloropham at 3.5 l/ha and propyzamide at 2.25 kg/ha are found beneficial to control the wild population except leguminous weeds. Application ofsimazineat3-4weeks of emergencies found effective to control the weeds.

Staking: Staking or netting of lily plants is required when they become 50 cm tall. Netting is to be done at 50-60 cm intervals. It reduces breakage of stems.

MANURE AND FERTILIZERS: Application of nutrients is essential for proper growth and flowering of Lilium. Lilies responded well with the application of nitrogenous fertilizer.

Nitrogen should be applied at 1 kg of calcium ammonium nitrate/100 m^2 after three weeks of plantingofbulbs.IfplantsareweakandshowingdeficiencyofNthentopdressingoffast release nitrogen (Urea) @ 1 Kg/100 m^2 may be done before three weeks of flower harvesting.

DISEASES

Fungal: Foot rot, Fusarium scale rot and Botrytis blight Bacterial:

Soft rot

Viral: Tulip breaking virus and Cucumber mosaic virus.

INSECTPESTS: Aphid, Fullerrosebeetle, Stalkborer, Thrips, Bulbmite and Nematodes

HARVESTING: Flowers of lily are harvested when the first lowermost bud shows full colour but has not yet opened. The spike of flowers is generally cut 15 cm above the ground level so that the development to bulb may continue in the soil.

GRADING AND PACKAGING: After harvesting, flowers are graded as per the number of flower buds per stem, length and firmness of stem. In the Netherlands they are graded by the lowest number of calyx per stem and the highest number of calyx per

stem. Removal of anthers from open bloom is important operation to prevent the spoiling the flower or any surfaces on which it might fall. The foliage must be removed at 10 cm above from the bottom, which helps in packaging. The lilies are bunched in a bundle of six stems.

YIELD: The yield of flowers greatly varies according to cultivar, package of practices adopted during cultivation and climatic conditions. The average production of marketable spike is 1,00,000 to 1,12,500/ha, whereas bulb yield is 1,25,000 to 1,50,000/ha.