

**RAMA UNIVERSITY, KANPUR, UTTAR
PRADESH**

Faculty of Agricultural Sciences & Allied Industries



Mr. Vinay Joseph Silas, Teaching Associate, (Horticulture)

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

Marigold

Introduction: Extensively used for making garlands, beautification and other purposes i.e .pigment and oil extraction, insect and nematode repellent .It belongs to family Asteraceae and is originated from Mexico and SouthAmerica.

Varieties: Alaska, Apricot, Burpee's Giant Fluffy, Burpee's Miracle, Burpee's White, Chrysanthemum Charm, Crackers Jack, Crown of Gold, Cupid Double Eagle, Doublebloom, Golden Yellow, Goldsmith, Guinea Gold, Happiness, Happy Face, Hawaii, Honeycomb, Orangemum, Pusa Narangi Gaiinda, Pusa Basanti Gaiinda, Primerose, River Side, Sovereign, Snowbird, Sugar and Spice, Sun Giants, Super Chief Double, Sutton's Giant Orange Double, Yellow Climax, Yellow Fluffy and Yellowstone.

Climate: They require mild climate for proper plant growth and profuse flowering. Its ceases growth at high temperature, thereby flower quantity and quality are adversely affected. In general, marigold need plenty sunshine and are grown in open sunny situation in India. The critical photoperiod for *T. erecta* is below 12.5 and 13 hours and failed to grow under short days at higher temperature.

Soil: Marigold can be grown in a fertile, deep, friable soil with good water holding capacity is required for luxuriant plant growth and profuse flowering. It should also be well drained and well aerated with pH5.8-6.2.

Propagation: Commonly marigold is propagated by seeds and cuttings. Seed propagation is widely adopted because plants raised from seeds are vigorous and yield more due to good establishment in the field than cuttings.

Cultural operations

Weed control: Generally 3-4 weedings are required for entire growth period. Chemical weed control has been found beneficial. For French marigold, granular formulations of simazine 2.0 kg a.i./ha, and EPTC and chloramben at 5.0 kg a.i./ha applied as post plant application was reported to be effective in controlling weeds.

Pinching: Marigold plants grow straight upwards to their final height and develop into terminal flower buds. Single pinching at 40 days after transplanting was found effective at Ludhiana. In high density planting (15 × 15 cm), double pinching i.e. at 40 and 60 days after transplanting have been recommended for higher flower and seed yield.

Manure and fertilizers: It is advisable to apply 200 kg/ha of nitrogen and 80 kg/ha each of phosphorus and potash for good flower yield. Full dose of phosphorus and potash should be incorporated in the soil during land preparation, whereas quantity of nitrogen should be applied in two split doses after 30 and 60 days of transplanting. It is better if two foliar spray of 0.20 per cent urea are done at an interval of 15 days.

Diseases

Fungal: Damping off, Collar rot, Leaf spot, Botrytis flower blight, Fusarium wilt and Septoria leaf spot

Bacterial: Bacterial leaf spot

Insect pests: Red spider mite, Leaf hopper and Hairy caterpillar
Physiological disorders

Leaf burn: Tips and margins of leaves yellow and die due to excess boron, manganese or molybdenum. Application of micronutrients should be done carefully after soil analysis. Mn, Mo and B should not be more than 55 ppm, 24 ppm and 3 ppm, respectively.

HARVESTING: Marigold flowers should be plucked when they attain full size. Plucking of flowers should be done in cool hours of the day. Irrigation of field is found beneficial to keep flower fresh, after harvesting and can be transported to long distance.

Postharvest management: After harvesting, flowers should be kept in small or big baskets.

Grading and packaging: Flowers are generally packed in gunny bags for transportation to the local market. Precaution should be taken to packing of flowers for long distance. For this purpose, medium size baskets should be taken. Bamboo baskets should be covered with gunny and moistened before transportation.

Yield: In general, a yield of 20-22 tonnes of fresh flowers can be obtained from one hectare of plantation in case of African marigold, whereas from French marigold it is 12-15 tonnes per hectare under normal cultivation practices.