



MARIGOLD

GENERAL INFORMATION

It is a common grown flower of India. It is very important flower, as it extensively used on religious and social function. Also it is used as trap crop. As it is short duration crop with low investment, it becomes popular crop of India. Marigold flowers are attractive in shape and color. It is widely adopted because of ease of cultivation. On basis of size and color, it has two main varieties, African Marigold and French marigold. Plants of French marigold variety are short while flowers are small in size compared to African marigold. Maharashtra, Karnataka, Gujarat, AP, Tamil Nadu and MP are major marigold cultivator in India. Dashera and Diwali are two festivals when demand for this crop is highest.

CLIMATE

Temperature

25-35°C

Rainfall

100-150cm

Harvesting Temperature

28-32°C

Sowing Temperature

25-35°C

SOIL

It can be grown on wide range of soil. But it grows best on well drained fertile soil. Soil should be well drained as it cannot withstand in water logged soil. pH of soil should be in range of 6.5 to 7.5. Acidic and saline soil is not suitable for cultivation. French Marigold are grow best in light soil whereas soil with rich manure is best for African Marigold.

POPULAR VARIETIES WITH THEIR YIELD

African Marigold: Crop of these varieties are tall up to 90cm. Flower are of big size and having color like lemon, yellow, golden yellow, orange or bright yellow color. This is long duration variety. It includes variety like, Giant Double African Orange, Crown of Gold, Giant Double African Yellow, Chrysanthemum Charm, Golden Age, Cracker Jack etc.

French Marigold: These are early maturing dwarf varieties. Its flowers are small size having colors ranges from yellow, orange, golden yellow, rusty red, mahogany etc. It includes varieties like Rusty Red, Butter Scotch, Red Borcade, Star of India, Lemon drop etc.

Pusa Basanti Gaiinda: It is a long duration variety. Plant height is about 58.80cm tall with dark green leaves. Flowers are of sulphur yellow colored, double and carnation type.

Pusa Narangi Gaiinda: It required 125-136days for flowering. Its plants are tall with height of 73.30cm and leaves are of dark green color. Flowers are of orange colored and carnation type. Flowers are compact and double layered. Gives average yield of 140q/acre of fresh flower.

LAND PREPARATION

Plough land and bring field to fine tilth. To increased fertility of soil, at time of last ploughing add 250q of Farm Yard Manure or well decomposed cow dung in soil.

SOWING

Time of sowing

Sowing of marigold can be done round the year. In rainy season, do sowing in mid-June and Transplanting in mid-July. In winter, do sowing in mid of September and in mid-October, complete transplantation.

Spacing

Prepared nursery bed of 3m x 1m size. Add well decomposed cow dung on it. Irrigated bed and keep it moist. Crushed well dried flowers and broadcast them on bed or sown in line. When seedlings attained height of 10-15cm, they are ready for transplantation. Transplant seedlings at 35 x 35cm for French marigold while 45 x 45cm for African marigold.

Sowing Depth

Broadcast seeds on nursery bed.

Method of sowing

For sowing use transplanting method.

SEED

Seed Rate

600-800gm seeds are required for one acre land. When crop is 30-45days old carry out pitching operation. It means removal of terminal portion of plant. It help to make plant bushy and compact, also more number of good quality flowers with uniform size are obtain.

Seed Treatment

Treat seed with Azospirillum@200gm mixed it in 50ml of rice gruel before sowing.

FERTILIZER

Fertilizer Requirement (kg/acre)

UREA	SSP	MURIATE OF POTASH
70	100	53

Nutrient Requirement (kg/acre)

NITROGEN	PHOSPHORUS	POTASH
32	16	32

Apply basal dose of N:P:K@32:16:32kg/acre in form of Urea@70kg, Single Super Phosphate@100kg and MOP@53kg/acre for good growth. Fertilizer dose changes according to soil type. To give accurate fertilizer dose, do soil testing and apply fertilizer according to it.

WEED CONTROL

Take weeding operation depending upon intensity of weed.

IRRIGATION

After plantation in field give irrigation immediately. Bud formation to harvesting is most important stage for irrigation. Water stress should not occur at this stage. Avoid water stagnation in field. In April to June month frequent irrigation at the interval of 4-5 days is necessary.



- **Pest and their control:**

Mealy Bug: These are observed on leaves, stem and on young shoots. They secrete honey dew like substance and because of it, sooty mould developed on leaves and give black appearance.

If infestation is observed, take spray of Dimethoate @2 ml/litre of water.



Thrips: Discolouration of plant tissue is observed. Discoloration, rolling and defoliation of leaves is observed due to thrips infestation.

To know intensity of thrips, set up yellow sticky trap @20 for one acre. If infestation is seen, take spray of Fipronil @1.5 ml/litre of water or Azadirachtin @3 ml/litre of water.



- **Disease and their control:**

Powdery Mildew: Patchy, White powdery growth appears on lower side of leaves. It parasitizes the plant using it as a food source. It commonly occurs on older leaves but it can be developed at any stage of crop development. In severe infestation it causes defoliation. Avoid water logging in field. Keep field clean. If infestation is observed in field take Spray of water soluble Sulphur@ 20 gm/10Ltr of water 2 times with interval of 10 days.



Damping off: Moist and poorly drained soil causes damping off disease. It is a soil borne disease. Water soaking and shriveling of stem occurs. If it appears in nursery, the entire lot of seedling may get destroyed.

To control, Drench nearby soil with Copper oxychloride@25 gm or Carbendazim@20 gm/10 Ltr of water.

HARVESTING

Depending upon variety use, marigold will be ready to harvest in 2 to 2.5 months. French Marigold ready for harvesting in 1.5 month where as two months required for African Marigold. Plucked marigold plants when they attain full size. Harvesting should be done either in morning or evening hour. Field should be irrigated before plucking of flower, it will help to maintain quality for longer period.

POST-HARVEST

Use bamboo basket or gunny bags for packing of flowers. Then transport them to local or distant market. In rainy season fresh flower gives an average yield of about 83-93 qtl/acre where as in winter it gives 60-70 qtl/acre of yield.

REFERENCES

- 1.Punjab Agricultural University Ludhiana
- 2.Department of Agriculture
- 3.Indian Agricultural Research Institute, New Delhi
- 4.Indian Institute of Wheat and Barley Research
- 5.Ministry of Agriculture & Farmers Welfare