

CHRYSANTHEMUM

GENERAL INFORMATION

It is an important flower crop grown all over the world. It gives more yields when grown in greenhouse. It belongs to “Compositae” family. In India, the commercial cultivation of Chrysanthemum is done because of its good demand. Flowers are mainly used for as cut flowers for party arrangements, religious offerings and garland making. It is an herbaceous perennial plant which attains the height of 50-150cm. Chrysanthemum farming is commercially done in Karnataka, Tamil Nadu, Punjab and Maharashtra.

CLIMATE

Temperature
18-40°C
Rainfall
80-100cm
Sowing Temperature
16-25°C
Harvesting Temperature
20-25°C

SOIL

Red loamy soil having well drainage system is good for Chrysanthemum farming. Soil having pH ranging from 6-7 is good for cultivation.

POPULAR VARIETIES WITH THEIR YIELD

Birbal Sahni: The variety gets mature in 121 days. The plant is 65cm tall. The plant has white color flowers which grow in bunch and having 4-8cm diameter. It gives an average yield of 13qtl/acre.

Baggi: The variety gets mature in 137 days. The plant is 64cm tall. The plant has white color flowers which grow in bunches and having 4-8cm diameter. It gives an average yield of 60qtl/acre.

Ratlaam Selection: The variety gets ready in 138 days. The plant is 51cm tall. The plant has yellowish white color flowers which are 8.1cm in diameter. It gives an average yield of 72qtl/acre.

Punjab Gold: Early maturing variety. The variety gets ready in 76 days. The plant is 23cm tall. The plant has red color flower buds which becomes attractive yellow in color when matures. The flowers are 5-30cm in diameter. The variety is suitable for growing in pots.

Anmol: Late maturing variety. The variety gets ready in 114 days. The plant is 50cm tall. The plant has yellow color flowers which grow in bunches and having 40cm diameter. It gives an average yield of 13qtl/acre. Single plant of this variety gives bears approximately 208 flowers.

Royal Purple: Late maturing variety. The variety gets ready in 141 days. The plant is 45cm tall. The plant has purple-pink color flowers which grow in bunches and having 5.3cm diameter. Single plant of this variety gives bears approximately 201 flowers. This variety is also suitable for pot planting.

Yellow delight: Early maturing variety. The variety gets ready in 88 days. The plant is 66cm tall having attractive yellow color flowers. The flowers are 5.2cm in diameter. Single plant of this variety gives bears approximately 103 flowers.

Garden Beauty: Medium maturing variety which gets mature in 132 days. The plant is 70cm tall and flowers have 10cm diameter which is uniform in color. It gives 73flowers/plant. The flowering starts within 23 days of sowing.

Winter Queen: Medium maturing variety which gets mature in 128 days. The plant is 75cm tall and flowers have 90cm diameter which is uniform in color. It gives 125flowers/plant. The flowering starts within 23 days of sowing.

Atom Joy: Early maturing variety which gets mature in 101 days. The plant is 58cm tall. The variety contains pink color flowers which are 6.6cm in diameter. It gives 283flowers/plant. The flowering starts within 36 days of sowing.

Kelvin Mandrin: Dwarf flower variety which gives approximately 102 flowers. It has copper color

flowers which are 4.5cm in diameter. The plant is 48cm tall. The variety starts flowering after 40 days.

Kelvin tattoo: Dwarf flower variety which gives approximately 101 flowers. It has cadmium yellow color flowers which are red color from medium having diameter of 3.37cm. The plant is 41cm tall. The variety starts flowering after 31 days.

Reagan White: The variety starts flowering after 103 days. The plant is 45cm tall. It has white color flowers having diameter of 8.43cm. It gives 54flowers/plant.

Reagan Emperor: Single Korean variety which mature in 103 days. The plant is 78cm tall and pink color flowers which has 8.15cm diameter. It gives 25flowers/plant. It matures in 30 days.

Yellow Charm: Belongs to Cinerarias category. The variety has 15cm plant height. It gives 485flowers/plant. It has shining yellow color flowers having 3.5cm in diameter. This variety doesn't require training and pruning and doesn't require support. It matures in 36 days.

Ajay: Medium flower size variety which gets ready in 116 days. The plant has 55cm height and 79flowers per plant. It has shining yellow color flowers having 8.18cm diameter. The variety starts flowering after 37 days.

Mother Teresa: Medium size variety of Enimon category which starts flowering in 102 days. It has 38cm plant height which gives 150 flowers per plant. It has white color flowers which are cream or yellow in color from middle. The flowers have diameter of 5.5cm. It is a late maturing variety which starts blooming in December-January month. This variety doesn't require training and pruning and doesn't require support.

Other varieties: Kirti, Arka Swarna, Shanti, Y2K, Arka Ganga, Appu, Sadbhavana, Bindiya, MDU 1 (yellow colored flowers), Combaitore varieties such as CO 1 (yellow colored varieties) and CO 2 (purple colored flowers), Indira and Red Gold, Ravi Kiran, Akash, Yellow Start, Indira, Rakhee and Chandrakand are some more varieties which are used.

LAND PREPARATION

Well prepared land is required for Chrysanthemum farming. To bring the soil to fine tilth, 2-3 ploughings are required followed by harrowing. At the time of last ploughing, add FYM @8-10tonnes/acre.

SOWING

Time of sowing:

Suckers are planted in the month of February-March and terminal cuttings are planted in the month of June-July.

Spacing:

Use row to row and plant to plant spacing of 30cm X 30cm.

Sowing depth:

In polythene bags depth should be 1-2 cm.

Method of sowing:

Propagation method is used.

PROPAGATION

Propagation of chrysanthemum is mainly done through root suckers and terminal stem cutting method. In terminal cutting method, cutting of healthy plant is done in the 4-5cm above in the month of middle-April-end-June. After cutting roots are treated with Ceresan@0.2% or Captan@0.2% and then are used for planting. In suckers, stem is cut just above the ground. This will result in the sucker development. The suckers are then separated from mother plant and then planted to prepared beds.

SEED

Seed rate:

Use planting density of 45,000plants/acre.

Seed

treatment:

Cuttings are treated with Ceresan@0.2% or Captan@0.2% to protect seedlings from soil borne or damping off disease.

FERTILIZER

Fertilizer Requirement (kg/acre):

UREA	SSP	MOP
160	500	133

Nutrient Requirement (kg/acre):

NITROGEN	PHOSPHORUS	POTASH
73	80	80

Add fertilizer dose of Urea@160kg/acre, SSP@500kg/acre and MOP@133kg/acre at the time of last ploughing.

WEED CONTROL

2-3 hand weedings are required to keep the field weed free and for the proper growth of plant. First weeding is done after 4 weeks of planting.

IRRIGATION

Frequency of irrigation will depend upon growth stage, weather and soil conditions. Chrysanthemum requires proper drainage system in soil. Mainly irrigation is given twice a week in first month and then subsequent irrigations are given at weekly intervals.

PLANT PROTECTION



- **Pest and their control:**

Aphids: Mainly it appears at the time of flowering. They suck the sap of stalk, stem, flowers, bud etc. If infestation is observed, spraying of Rogor 30 EC or Metasystox 25EC @2ml/ltr.



Plant hoppers: If infestation is observed, then spraying of Rogor 30 EC @2ml or Profenofos 25EC@2ml/ltr.



Bihar caterpillar and American caterpillar: Bihar caterpillar mainly eats leaf of the plant while American caterpillar eats buds and flowers of the plant. To control the bihar caterpillar disease, spraying of Ekalux (Quinalphos)@2ml/ltr is done. To control

the American caterpillar disease, spraying of Nuvacron(Dichlorophos)@2-3ml/ltr is done.



- **Disease and their control:**

Black leaf spot: Caused by *Septoria Chrysanthemella* and *S. obesa*. It causes greyish brown color circular spots on the leaves. The leaves ultimately turn yellow and then die. Spraying of Zineb or Dithane M-45 @400gm/acre is done to control this disease.



Wilt: The symptoms are browning and yellowing of leaves which ultimately gets die. If infestation is observed, then spraying of Dithane M-45 @400gm/acre is done at the interval of 15 days.



Powdery mildew: Caused by *Oidium chrysanthemi*. White powdery substances are seen on the leaves and stems.

To control this disease, spray of Kerathane 40 EC @0.5% is given.

HARVESTING

Flowering mainly starts after 5-6 months of planting. Mainly harvesting of flowers is done in October-November month. Harvesting is usually done of fully opened flowers in the morning time. Harvested flowers are then packed in bamboo baskets for transportation and sale purpose. It gives an average yield of 15-50qtl flowers/acre.