

## Chrysanthemums - Culture Description

**PREFACE:** Chrysanthemums are herbaceous perennial plants and consist of about 30 species that are found in nature. The flowers come in various forms, and can be daisy-like, decorative, pompon or anemone. The chrysanthemum industry is enormous and is found among the 10 biggest crops commercially used worldwide. Chrysanthemums flower naturally during autumn when days grow shorter. It is possible for Chrysanthemums to flower year-round by using natural or artificial short or long day conditions in their various growing stages.

**FAMILY:** Asteraceae / Compositae

**ORIGIN:** Asia and North East Europe.

**USAGE:** As filler in the bouquet industry and can also be arranged in a vase alone without additional flowers.

**GROWING ENVIRONMENT:** Greenhouses, tunnels, open fields.

**SOIL:** All types of drained soils or on detached medias such as volcanic ash.

**RECOMMENDED TEMPERATURE:** 25<sup>0</sup>C during day and 16<sup>0</sup>C during night (night temperatures of 16<sup>0</sup>C -18<sup>0</sup>C are required for proper development of the flowers).

### **ADDITIONAL REQUIREMENTS**

**LIGHTING SYSTEM:** Lighting system of 100 lux.

**HEATING SYSTEM:** Applied in areas where temperatures are lower than 16<sup>0</sup>C -18<sup>0</sup>C.

**DARKENING SYSTEM:** When daylight exceeds 10.5 hours use either a black plastic or a black and white plastic cover.

**IRRIGATION:** Both overhead and drip systems

**SUPPORTING NETS:** An iron netting 12.5X12.5 cm. that can be lifted as branches elongate. **PLANTING**

**DENSITY:** Singles – 64 plants per square meter bed (net) and about 40,000 per dunam, and 400,000 per hectare, (= 10 dunams).

Pinched Chrysanthemums - 32 plants per square meter bed (net), about 20,000 per dunam and 200,000 plants per hectare, (= 10 dunams).

**EXPECTED YIELD:** Approx. 40,000 branches per dunam, and 400,000 per hectare (it is customary to plant smaller units in accordance to the grower's marketing plan).

**FLOWERING FLUSH DURATION:** Singles - from planting until flowering – about 80-90 days during the warm season and about 100-110 days during the cold season. If pinched, the growing period is prolonged by about 2 weeks.

**NUMBER OF FLUSHES PER YEAR:** About 3 flushes.

**REQUIRED ACTIONS:** Planting in long day conditions. In the event lighting is required, periodical lighting of 4-6 hours should be applied depending on day length and season. Plants should **not** be exposed to darkness for over 4-5 hours; hence lighting should be applied not longer than 4 hours after sunset and should end not more than 4 hours before sunrise.

If pinching is necessary, it should be done either 10-12 days after planting or alternatively to 8 pairs of leaves above ground level. Lighting is terminated once plants elongate to 35-40 cm. in winter and 25 cm. in summer. When days grow longer - above 11 hours of daylight, the darkening system is employed on plants from the evening hours and until dawn for duration of 13 hours. In order for the plants to start flowering, plants must be maintained under short day conditions until color begins to appear in the buds.

**SENSITIVITY TO DISEASES & PESTS:** Powdery mildew, leaf miners, white rust, thrips and mites

**HARVESTED FLOWER TREATMENT:** The harvested flowers should be put in water + anti bacterial solution.

The cultural instructions presented here should be regarded as general guidelines. It is advised to make necessary adjustments when growing in different climatic conditions and agricultural practices. Danziger – "Dan" Flower Farm is not responsible for any damage caused by implementation of the recommendations.