



Gerbera - Seed

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Cut Flower varieties 2009

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Highsun Express

Gerbera jamesonii x F1 hybrid.

Melody Mix

The species has a composite flower head with ray petals and short disc flowers. The name 'Transvaal Daisy' is an obvious description. As with several other crops, gerbera's have been grown for many years, mainly as a garden and home decoration, but seldom until recently for commercial cutflower growing.

Although gerbera's grow well in warmer areas and are floriferous from late spring until late autumn two aspects restricted their use as commercial cut flowers. Single flowers were considered just daisies of low

value, and flowers of many strains have a poor vase life. They develop a weak pedicel, bent neck, and wilt in the vase. These responses are caused, firstly, by cutting when the flower is too immature - maturity is difficult to judge in double flowers and, secondly, it is a clonal feature.

Interest has recently been heightened by the breeding of good cutflower cultivars, so that gerbera's are now a major crop in America, Holland, both parts of Germany and Israel. Consequently they have been well promoted by these countries.

Melody Mix is an exciting new strain of Gerbera with quality that rivals many of the vegetatively propagated varieties. Long thick stems carry flowers in an attractive range of colours, single, semi double and double, black centred and clear.

not shown: 3593 mix

Cultural Information

Common Name:

Gerbera, Transvaal Daisy.

Family Name:

Asteraceae.

Genus:

Gerbera.

Species:

jamesonii x F1 hybrid.

Country of Origin:

South Africa.

Plant Type:

Perennial.

Promotional Name:

Melody Mix.

Transplant Date:

All year.

Flower Date:

Warm Areas: approximately 10 - 11 weeks after transplant.

Cool Areas: approximately 12-15 weeks after transplant.

Harvest:

Singles being at the correct stage when the stamens of the second ring of disc flowers are clearly visible. This may not be so obvious with *double* flowers, but here also the disc flowers must be almost fully developed.

Use:

Cutflowers for fresh arrangements.

Growing Temp:

Grow at 16°C. A heating system should be capable of providing a minimum of 13°C during the winter, to maintain production. Gerbera's can withstand fairly high summer temperatures.

Crop Time:

First bloom is 10 or 11 weeks after transplanting from 72 or 128 cell trays, somewhat more for southern locations.

Height/Support:

50-60cm stems. No support required.

Planting Out:

As they are grown for at least two years, gerbera plants need adequate room to develop. It is important that the soil is clean and soil conditions are good. With two year culture it is necessary to remove leaves about 9 months after planting, and then regularly, to maintain flower quality. Ground beds are usually between 6.35cm to 9cm (2½' to 3 ½') wide. Either two or three rows are common. A spacing of 400mm between rows, and 250-300mm (10" or 12") between plants or 5 plants per square metre is suitable. They can be grown on raised beds, with sideboards or in rows with trickle or seep-hose irrigation beside the plants.

Beds are replanted bi-annually and should be amended with peat or other organic matter to improve fertiliser retention and

water-holding capacity. Soil testing is done and if calcium, magnesium or phosphorus are needed then dolomite or superphosphate is incorporated. The soil must be free draining and preferably disinfected before planting, as these plants are subject to soil-borne diseases and pests. Planting is preferably carried out in spring when the soil is becoming warmer, rather than in autumn and winter when new root development is inhibited by cold soil temperatures.

Raised benches are sometimes used, and some growers plant in 9 or 14 litre (2 or 3-gallon) nursery containers instead of beds. The yield is slightly less, but containers help isolate soil-borne fungus that can be very damaging. Unthrifty plants may be immediately replaced, and at the end of the season the plants are sold for landscape use.

Growth Habit:

Gerbera's are herbaceous perennials, evergreen at temperatures above approximately 12 °C, but dying down and becoming dormant in cold weather. Hence they grow continuously in a heated greenhouse in any area. The basic plant structure is a compressed rhizome on which flowers and leaves develop. Starting with a seedling, an initial shoot is formed which terminates in a flower, with a second flower

Cultural Information cont...

immediately behind it. A new vegetative shoot grows out just beneath the second flower and this repeats the process. Each vegetative bud is horticulturally called a crown. Between two and eight leaves are formed before the flower develops on these shoots. With good growing conditions the plants become very leafy as lateral shoots develop on the original and secondary rhizomes. The roots are thick and slightly fleshy. Like carnations, the plants have a high light requirement; as their growth and flowering is related to temperature, they can be grown outdoors in warmer areas but will produce few winter flowers and those only of poor quality. They come from an area with a Mediterranean climate so they need a relatively frost free position in a sunny location. In colder and southern areas they can be a continuous greenhouse crop with heating between the plants in winter.

Watering:

Trickle irrigation is the most common means of applying water and fertiliser.

Temperature:

Most gerberas for cut flowers are grown undercover. Structures in Queensland are usually unheated, but in-bench or bottom heat appears to be a trend. As long as the soil remains warm, air temperature at night may be set 10 degrees lower than day temperature. Southern growers, who seem to require higher night temperatures to keep plants active, set thermostats near 15 °C (60 °F).

Fertilisation:

Fertilisation can be done in either one of two ways:-

1. Incorporating slow release fertiliser at .9kg - 1.4kg (2 or 3 lbs) of slow release 18-6-12/100 sq. ft., along with an additional 100 to 200 ppm N and K at each watering. If supplemental soluble fertiliser cannot be applied, 1.8kg - 2.3kg (4 or 5 lbs) may be mixed into the first 15cm (6") of soil before transplanting.

2. A high potash formula fertiliser in the ratio 1N, 2P, 4K. This could be supplied from two parts of blood and bone plus one part sulphate of potash, and is applied at

planting time at a rate of 120 grams per square metre. Subsequently, liquid feeding with potassium nitrate only at a dilution rate of 1 in 300 would provide nitrogen and potash in a ratio approximately of 1 to 3. Feed rather heavily with a balanced fertiliser that contains micro elements. Nutrient requirements are a slightly acid soil pH 5.5-6.3 (Gerbera's native soil is slightly acidic).

Maintenance:

In most areas, outdoors during winter, the leaves die down and flowering decreases but seldom stops completely. At about the end of February all the old foliage and flower stems are cut off and burnt, allowing new leaves to grow away freely with the least risk of infection from the old plant material.

Pest & Pathogen Control:

Pest and pathogen control is essential, so routine pesticide applications are required, especially during the growing season. Regrettably gerbera's are subject to a range of pests and pathogens, almost as much as chrysanthemums.

Diseases:

On the disease side, a major problem is a crown rot 'wilt' caused by *Phytophthora cryptogea*. Water should be withheld or used sparingly as seedlings damp off very easily. Keep the crown as dry as possible to avoid rotting. The most serious disease is root rot. Botrytis can also be a problem. Plants tend to wilt and collapse; materials such as iprodione should assist control with improved drainage to restrict waterlogging.

Pythium, fusarium, verticillium, phytophthora and rhizoctonia are soil-borne diseases that cause serious losses. Beds and benches should be steamed or treated with methyl bromide or methane prior to planting. Soil must be allowed to dry somewhat between irrigations. Along with strict sanitation and clean stock, drainage is an absolute requirement. Some beds are mounded as much as a foot above walks. Field soils and ground beds are often ditched or tiled so that excess water can be moved away rapidly.

Leaves may also be affected by the disease *Albugo tragopogonis*, which shows as white lesions on the underside, it is commonly but incorrectly called white rust. It is a downy mildew, not a true rust. The application of maneb and metalaxyl should give some protection.

Leaf yellowing similar in appearance to a mineral deficiency is sometimes evident. This is more often an indication of unsuitable physical conditions in the root area, waterlogging, impeded drainage or root affecting pests or diseases. These aspects need considering before nutrient elements are applied.

Foliar diseases are pseudomonas, alternaria, botrytis and powdery mildew. Presence of these organisms suggests improper watering practices or inadequate ventilation.

As a bacteria, pseudomonas is difficult to manage. Conditions favourable to most other leaf spots also promote its spread. Pseudomonas seems to be more of a problem where leaf miner populations are high.

Pests:

In addition to being attacked by polyphagous insects, such as leaf roller, looper caterpillars, thrips and mites, gerbera's are also affected by more specific pests such as root mealy bug, and root knot eelworm (*Meloidogyne* species). The later greatly restrict growth, producing galls on the roots; organophosphate drenches can give some control. The foliage is sometimes chewed by the green vegetable bug (*Nezara viridula*), juvenile stages living among the leaf bases. Tunnels in leaves are often formed by the leaf miner affecting other composites such as cinerarias. Both specific materials, such as miticides and more general products such as methomyl or acephate need to be used.



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