Calendula as a Warm Season Cut Flower or Landscape Plant

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Current horticultural literature describes calendula *(C. officinalis)* as a cool season annual. The season of calendula commercial availability seems to reinforce the notion that it must be grown during the cool season in most of California. However, some seed companies offer cultivars described as heat resistant.

In order to observe warm season performance, a field planting of 21 cultivars of calendula was made at the UC Deciduous Fruit Field Station in San Jose. Seeds were greenhouse planted April 12, 1983 and field planted from 2 inch pots on May 24. Planting distance was 12 inches within rows spaced 40 inches apart. Initially the plants were sprinkler irrigated. When fully established, furrow irrigation was used. Plants in this test were allowed to grow naturally without any attempt to manage stem length by pinching or deshooting. All cultivars reached peak flower production 2 months after planting in the field.

Some cultivars in the bedding plant

trade are very susceptible to powdery mildew disease. Optimum conditions for development of the causal fungus are frequently present during the warm season. A rating of cultivars was made for occurrence of powdery mildew disease (see table 1, column c) at the time of peak flowering late in July. The appearance of cultivars rated above 5.0 in the 0 to 10 powdery mildew index ratings would likely be a problem whether they are grown as cut flowers or in a landscape situation.

Most cultivars were quite uniform for height except for the five noted in table 1 (column d) that show a range of heights. The variable height characteristic should not prevent their use as bedding plants in an informal setting or as cut flowers. Cut stem length measurements (column e) indicate the range of lengths achievable in the warm season under the climatic and soil conditions of the San Jose planting site.

These observations indicate that powdery mildew disease poses a greater problem than does temperature for the commercial production of calendula during summer in some major flower and bedding plant production areas of California.

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TABLE 1. Comparison of 21 calendula cultivars grown during the warm season–Deciduous Fruit Field Station, San Jose

Cultivar	(a) Color	(b) Retail source†	(c) Mildew index‡	(d) Height (in)	(e) Cut stem length (in)
Apricot Sherbet	Apricot	P	9.5	15	8-12
Art Shades	Gold, Orange	HU	1.0-8.0§	25	12-20
Baby Orange	Orange	T	4.0	15	8-12
Balls Orange	Orange	HU	4.0	15-22	12-16
*C. officinalis**	Orange, Gold, Cream	T	1.0-9.0§	16-28	12-18
Chrysantha Sunshine	Gold	HU	1.0	15-20	8-15
Dwarf Golden Gem	Gold	T	8.0	15	8-12
Dwarf Orange	Orange	S	0.5	15	8-12
Fiesta Gitana	Cream-yellow to Orange	S	5.0-9.0§	12	6-8
Geisha Girl	Dark Orange	S	2.0	16-22	10-15
Goldfinch	Golden-orange	HU	1.0	23	12-18
Green Crown	Gold	T	0.0	23	12-18
Lemon Coronet	Yellow	HE	9.0	19	10-14
Mandarin*	Cream, Apricot	T	10.0	17	8-12
Orange King	Orange	HU	1.0	26	12-18
Pacific Beauty Apricot	Apricot	S	2.0	25	12-18
Cream	Cream	S	6.0	18	12-16
Flame	Orange	S	3.0	22	12-18
Golden	Gold	S	2.0	23	12-18
Lemon	Yellow	S	5.0	17-22	12-18
Persimmon	Orange	S	5.0	23	10-18

*Colors observed in test planting do not agree with seed company description, but it should also be noted that flower color and intensity can be influenced by cultural and environmental factors.

†HE = Herbst Seedsmen, Inc., Brewster, NY; HU = J. L. Hudson, Seedsman, Redwood City, CA; P = George W. Park Seed Co., Greenwood, SC; S = Stokes Seeds Inc., Buffalo, NY; T = Thompson & Morgan, Inc., Farmingdale, NJ.

‡0-10 powdery mildew index; 0 = no powdery mildew disease at full bloom stage; 10 = all leaf and stem surfaces infected at full bloom stage.

§Varies from plant to plant.