



# Grace Series

## Godetia grandiflora

[www.highsun.com.au](http://www.highsun.com.au) Ph: 1300 137 584 Fax: 1800 644 015 Available as Plugs or Seed



lavender



lavender green



red



rose pink



salmon



shell pink



white

Cut flowers for fresh or dried arrangements.

also avail in a mix

- Grace has lateral branches that produce numerous flowers and 5 to 6 flowers grow in clusters on top of the plants.
- Grace has very strong and highly productive stems where at least 15 high quality cut flowers are produced per plant.
- Suitable for spring to summer harvest.
- Grace is a cool temperature loving plant which can be grown at 15-18°C during the daytime and 10°C at night. Daytime temperatures should not exceed 25°C.
- Height 70-80cm.

## Product Information

**Common Name:**

Clarkia, Godetia, Satin Flower.

**Family Name:**

Onagraceae.

**Genus:**

Godetia.

**Country of Origin:**

West & North America.

**Plant Type:**

Fully hardy annual.

**Promotional Name:**

Grace Series.

**Transplant Date:**

**Cool Areas:** March - May.

**Warm Areas:** April - June.

**Flower Date:**

**Cool Areas:** July - September.

**Warm Areas:** August - October.

**Harvest:**

**Fresh:-** 30% flowers are open on the lateral, the remainder will open after the stem is cut.

**Dried:-** allow as many flowers as possible to open.



# Grace Series cont...

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### Cultural Information

#### Growing-On:

Seedlings should be grown at 10 – 15 °C (50-60 °F). Warmer temperatures result in more spindly growth. Fertilize sparingly (50-75 ppm N) with a complete fertilizer or potassium nitrate. Supplemental high intensity discharge lighting accelerates growth of seedlings considerably.

#### Environmental Factors:

Photoperiod: Early observations showed that Godetia did not respond to daylength or temperature for flower bud formation. However, more recent work revealed that cultivars of the F1 Grace series are clearly long day plants, even though plants also flower in short days. As shown in the following table, plants require less time to flower when grown under long days and supplemental light.

In this work, the highest quality stems were produced with long days and supplemental light. The supplemental light level was approximately 800 fc from high pressure sodium lamps (HPS). Not only do LD influence the flowering time but work from Israel also showed that stem lengths are significantly longer when LD were applied. Plants grown under natural short days were about 84cm (33") long while those under LD were over 1.23m (4') tall. Stems grown with LD have more erect growth than plants under SD.

Temperature: Godetia is a cool-season plant and does not tolerate high temperatures. The best temperature for growth is 10 – 12 °C (50-55 °F) nights and day temperatures below 22.5 °C (75 °F). Greenhouse production at 15 – 16 °C (60-62 °F) nights has been successful in the winter. Overall quality of flowers and stems deteriorates rapidly at temperatures above 22.5 °C (75 °F). Protective row covers could be used to foster earlier plant growth and development.

#### Field Performance:

Yield: Little information is available but 30 stems/plant are common. Work at the University of Kentucky in 1989 and 1990 resulted in 25-75 stems per pinched plant spaced on 61cm (2') centres, depending on cultivar. Stems were 25 – 38cm (10-15") long.

Spacing: Spacing is dependent on whether plants will be pinched or grown single-stemmed. Unpinched plants should be closely spaced on 10 – 13cm (4-5") centres (5-9 plants/ft<sup>2</sup>). Pinched plants should be spaced at 51 – 61cm (20-24") in rows 91cm (3') apart. Although stems attain only about 46cm (18") in height, field support is necessary in the East, particularly in areas with heavy spring rains, even with pinched plants. Bamboo stakes (1 per plant) or at least 1 tier of netting should be used.

Fertilization: Fertilize in field with 200 ppm N from calcium nitrate and 25 ppm magnesium sulphate approximately once every 2-3 weeks to maintain and increase stem strength. Higher frequency of fertilization should be practised in coastal California areas, lower frequency in eastern sites. Too much fertility results in weak stems and lanky growth while lack of fertilization causes bronzing of the lower foliage and stunting. If nutrition continues to be withheld, plants turn brown and die.

Pinching: Although plants do not require pinching, it results in more flowers and more uniform flowering of axillary shoots. Dr. Bob Andersen of the University of Kentucky suggests 2 kinds of pinches. An early pinch is accomplished at transplant stage to leave 4-6 lateral (secondary) breaks. In the field, these secondary branches fall over and the tertiary stems which arise may be harvested with 30.5 - 41cm (12-16") long stems. A late pinch (actually a disbud), removing the first visible flower buds, allows the upper laterals to develop a spray of short stems, much like a spray mum. According to Dr. Andersen, pinching is not necessary under dense spacing (4-6 plants/ft<sup>2</sup>). At such a spacing, a yield of 35 stems/ft<sup>2</sup> was recorded; 75% of the stems were 56 – 86cm (22-34") long.

Protection: If rain during the harvest period is common, some overhead protection, such as shade cloth or single poly, is recommended to reduce the damage. Overhead irrigation or excess rain can result in significant decline in quality.

#### Greenhouse Performance:

Successful greenhouse production must occur under long day conditions, high light intensity and cool temperatures. These conditions may be found in most greenhouses in late winter and early spring. In Kentucky, a late January sowing resulted in mid May flowering. Midwinter production is not possible without high intensity discharge supplemental lighting (approx. 800 fc for 18 hours/day). Additional research is being conducted to reduce the expense of HID lighting.

Single-stem plants may be grown at 8-10 plants/ft<sup>2</sup> for the first 7 weeks if grown under supplemental light. Plants may be finished at 5-6 plants/ft<sup>2</sup> 12.7 – 15 cm (5" x 6") or up to 20cm x 20cm (8" x 8").

Flowering begins approximately 8-11 weeks from transplant and continues for about 2 weeks. Yields of 15-30 flowers/plant are not uncommon under such conditions. Plants need support throughout the duration of the crop. Sub-irrigation is essential, particularly as flower buds form.

If plants are to be pinched, pinch once upon transplanting to the greenhouse bench. Use the same fertility program as for field production.

#### Stage of Harvest:

Harvest when 30% of the flowers on the lateral are open. For dried flowers, allow as many flowers to open as possible. Flowers harvested in the tight bud stage (to reduce shipping weight and damage) often do not open. This is an excellent flower for local sales due to its relatively poor shipability.

#### Post Harvest:

Fresh: In water, vase life is approximately 5-10 days, although the fresher the flowers, the better the vase life. Individual flowers may last only 5-6 days but flower buds continue to open without fading. Therefore, the more flowers present on the stem, the longer the vase life. A vase life of 2 weeks is not uncommon. Silver thiosulfate does not significantly improve vase life. Preservatives enhance the vase life by an additional 1-2 days.

Storage: Storage is not recommended but plants may be kept in water at 3 – 5.5°C (36-41 °F) if necessary. This is an excellent plant for local growers as stems do not ship well dry.

Dried: Strip foliage and hang upside down in a warm, dark, well ventilated area.

#### Single-flowered Cultivar:

Grace series is an F1, hybrid, and although seed is more expensive than open pollinated forms, the uniformity and colour selection are excellent. The upright habit, 2-3' height and the availability of individual cultivars with light pink, rose-pink, salmon, red and lavender flowers and a formula mix make the series particularly attractive.

#### Pests and Diseases:

- Root rots (*Pythium*, *Phytophthora*, *Rhizoctonia*, etc.) infect seedlings in the propagation area or at transplant. *Rhizoctonia* is very pathogenic and can be lethal 3-7 days after symptoms appear. In the field, the foliage turns pink, then red and finally the whole plant declines. The pathogen may be seed borne. Use clean soil and tools and apply a fungicide as needed.
- Rusts have been reported in field plants. Infected plants should be removed and destroyed.
- Aster yellows may occur in field plantings. Rotate crops every 1-2 yrs.
- Aphids and Western flower thrips are the most serious pests in the field. Aphids, whiteflies, mites and thrips are problems in the greenhouse.

#### The effect of photoperiod and supplemental lighting on flowering of Godetia.

Photoperiod (hr)	Supplemental (HPS) light	Time to flower (wk)	Nodes before flowering
8	No	21	75
8	Yes	17	70
20	No	13	37
20	Yes	10	32

#### Guideline for Foliar Analyses:

At field trials in Watsonville, CA, foliage was sampled from vigorously growing healthy plants when flower buds were visible, but prior to flower opening. These are guidelines only and should not be considered absolute standards. Based on dry weight analysis.

N	P	% K	Ca	Mg	Fe	Mn	(ppm) B	Al	Zn
3.2	0.26	4.18	1.03	0.34	189	239	23	96	36
Grace Mix									