

Goldenrods



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Editor's Note - This article will be used in the book
"Floriculture: Principles and Species" written by Harold Wilkins
and John Dole

Europe as cut flowers and garden
ornamentals.

Goldenrods (*Solidago* species) are long-lived plants that grow 2 to 8 feet tall with numerous small, white to yellow flowers, grouped in various types of inflorescence ranging from long, slender wands to columnar clubs to loose, open plumes. Goldenrods flower from midsummer to late fall. In general, the plants tolerate heat, drought, and cold very well and are hardy from zones 2 to 9.

Numerous *Solidago* species are native to North America, with a few species also found in Europe, Asia, the Azores, and South America. Contrary to popular belief; goldenrods do not cause hay fever. Goldenrods produce heavy pollen which requires transportation by insects while hay fever is caused by light, windblown pollen. This misconception has limited the use of goldenrods in the United States.

Goldenrods are used as a field grown specialty cut flower, both fresh and dried. Goldenrods are also occasionally sold as garden perennials. Goldenrods are especially popular in

Cultivars. Numerous hybrids have been created, ranging in size from low growing types suitable for perennial gardens to taller types suitable for both cut flowers and perennial gardens. Most of the species are relatively tall and suitable for both cut

flower production and gardens. Species with wand or columnar shaped inflorescences are less likely to be considered goldenrods, and may be better accepted as cut flowers in the United States. Tall cultivars include 'Golden Baby,' 'Strahlenkrone,' 'Super,' and 'Yellow Submarine,' while 'Baby Gold' is a short cultivar for perennial gardens.



Propagation.

Goldenrods can be propagated from seed, shoot cuttings, or division. While the seed of some species germinates readily in two to three weeks when sown at 68 to 72°F, seed may need to be stratified for up to 10 weeks at 40°F. *Solidago petiolaris* germinates rapidly in two days after stratification for 10 weeks. Stem cuttings can be propagated from vegetative shoots, and established plants can be divided every two to three years.

Media/Planting. Goldenrods thrive in a wide range of media. A pH of 5.5 to 6.5 is acceptable for container production, and 5.0 to 7.0 is acceptable for field production. For retail sales, plants can be grown in cell packs green, one plant per quart container or one to three plants per gallon container.

Outdoors, goldenrods tolerate a wide range of soil types as long as the location is well drained. For field cut flower production, spacing can range from 8 by 12 inches to 24 by 24 inches.

off and root rots, especially if improperly irrigated or the media soluble salt level is high. Outdoors, goldenrods are prone to rust (*Coleosporium asterum*) which covers the foliage and stems in late summer with rust-colored pustules. *Solidago* sp. should not be planted near pine trees, which are alternate hosts for the

Schedule/Temperature/Timing		
Stage	Temperature (°F)	Time
Stratification (depends on species)	40	10 weeks
Germination	70 to 75	2 to 14 days
Growing on seedlings	70 to 75	2 to 3 weeks
Cell packs	55 to 65	9 to 12 weeks from transplanting
(Cell packs are also suitable for transplanting to the field for cut flower production.)		
Quart and gallon containers	55 to 65	2 to 3 months from transplanting

Light. While some of the species tolerate light shade, most goldenrod species and hybrids prefer full sunlight. Most goldenrod species examined are categorized as short day plants; thus, seedlings and container grown plants should be grown under long days.

Nutrition. Seedlings and container grown plants can be fertilized with 50 to 100 ppm N constant liquid fertilization.

Pinching/Support. Established plants may benefit from pinching. Most goldenrod species need one layer of support netting for cut flower production.

Insects. In the greenhouse, goldenrods are usually pest free, but they may occasionally be susceptible to aphids and whiteflies. Outdoors, the goldenrods are host to the larvae of numerous moths and butterflies. Late flowering goldenrods may be covered with pollen seeking bees and other insects, and care should be taken when harvesting cut flowers.

Diseases. In the greenhouse, goldenrods are sensitive to damping

rust. Powdery mildew (*Erysiphe polygoni*) can also be a problem.

Postproduction. Cut flowers last 7 to 10 days in water and may be stored at 35 to 41°F for up to five days. Many species also dry very well.

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