

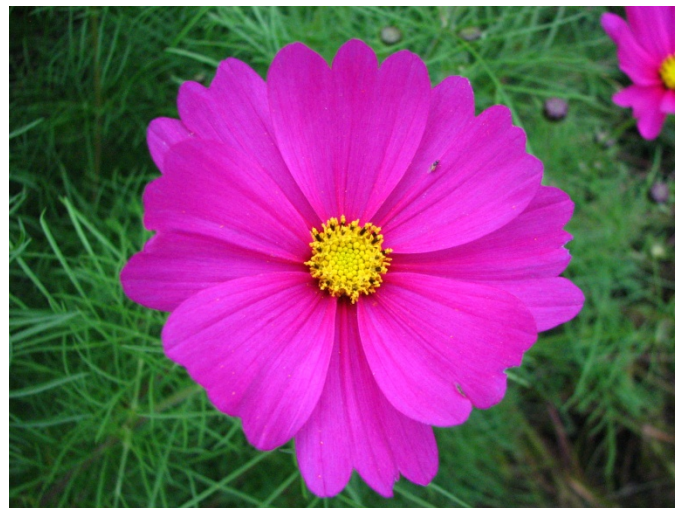


## Cosmos in the Garden

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### Summary

Cosmos is native to Mexico with daisy like flowers that come in an array of colors. It is referred to by its genus name which was derived from the Greek word 'kosmos', which means order, harmony, or the world. Mexican priests cultivated the flower and named it Cosmos because of the evenly placed and orderly petals. Cosmos is the flower for the birth month of October and symbolizes balance and harmony. It attracts butterflies and is easily used as an attractive border or backdrop plant. Cosmos is simple and easy to grow from seed sown in the spring, readily reseeds itself, and tolerates a wide range of soil types. Once established, Cosmos needs little water, no fertilizer and not much care, which makes it well suited to Utah's climate.



### Recommended Varieties

There are over 25 known species of Cosmos as well as numerous varieties and cultivars. Often referred to as Mexican Aster, it is a member of the Asteracea family. Two annual species most familiar to home gardeners include *Cosmos sulphureus* and *Cosmos bipinnatus*.

Yellow Cosmos (*C. sulphureus*) is native to the American meadows and grasslands and can range in height from 4 to 7 feet. Cultivated varieties include 'Crest Red', 'Lady Bird Dwarf' varieties, and 'Klondike'. *Cosmos bipinnatus* is usually a mix of purple, pink, and white flowers and can range in size from 1 to 6 feet tall. Cultivated varieties of *C. bipinnatus* include 'Candy Stripe Mix', 'Daydream', and 'Gazebo Mix'. Chocolate Cosmos (*Cosmos atrosanguineus*) has dark purple-brown flowers with a unique chocolate fragrance and deep rich color. There are many varieties for sale in

local nurseries, garden centers and seed catalogs. Most grow well in Utah.

### How to Grow

**Soils:** Cosmos prefers well drained soil with average to poor fertility with a neutral to slightly alkaline pH.

**Soil Preparation:** Because cosmos plants prefer poor soils, not much soil preparation is needed. Simply rake through the bed prior to seeding, loosening the soil and removing any weed material from the bed.

**Plants:** Plants are grown from seed sown directly into the ground once all danger of frost has passed. Plant once the soil has warmed to 65°F. Seeds germinate best at temperatures between 70-75°F and require 7 to 14

days to germinate. At temperatures above 80°F or below 65°F seed germination is reduced. Cosmos likes full sun, needing at least 8 hours of intense light. Cosmos is day-length sensitive and blooms best in late summer, when days get shorter.

**Planting and Spacing:** Plant seeds 1/8 inches deep. Scatter on soil surface then lightly raking them into the soil. If seeds are planted too deep, germination may be reduced. Keep the soil moist after seeding. Thinning is not really necessary though plant size is improved with more space. A plant spacing of 2 feet apart is recommended; however, cosmos spaced closer together provide support for one another or create a screen or full backdrop in the garden.

**Water:** Once seedlings emerge, reduce water to one time per week, watering deeply. Cosmos thrives in drier areas of the garden and blooming is reduced if over-watered or managed.

**Fertilization:** Do not fertilize cosmos. Soil that is too nutrient rich produces plants that are weak-stemmed, late blooming and flower sparsely. Plants tend to flop over as they mature. Avoid soil that has been heavily amended with fertilizer and compost and avoid feeding the plants.

## Problems

Very few production problems are associated with Cosmos. The most likely problem is its ability to self seed. In many texts Cosmos is referred to as a weed due to heavy seed production and self sowing. To avoid this problem, plant in an area where you want it to naturally reseed. Encourage re-blooming by simply cutting the plants back to 12 to 18 inches high. Deadheading spent blossoms will promote heavy flowering throughout the season and may also reduce self sowing. Plants will be back in bloom in a month.

Weed control is important during germination and early establishment. Once plants are established, weed competition is rarely a problem. Few insects and diseases affect Cosmos.

## Harvest and Storage

To harvest Cosmos, cut stems of complete flowers in full bloom. Blooms can be harvested throughout the season. The stems and flowers of Cosmos make a very nice cutting plant that can be used in arrangements or dried. To store seeds, dry flowers completely, then remove seeds from heads and place in a paper bag in a cool dry location. Cosmos readily reseeds itself, so it may be unnecessary to save seeds.

Dry the blooms in a well ventilated area, away from sunlight or use a food dryer. Flowers should dry in 1 to 5 days when dried naturally. Store blooms in a moisture tight container in a cool, dark place.

## Uses

Ornamental uses of Cosmos include cut flowers and as backdrop or border annual. Cosmos has a pleasant aroma and attracts butterflies to the garden. Small finches are attracted to the seeds. Cosmos can be used to attract beneficial insects to the garden including lacewing, tachnid flies, hoverflies, and various parasitic mini-wasps, all which prey on destructive insects.

Medicinally, Cosmos has been used to treat jaundice, fever, and other disorders. There is little evidence of medicinal uses for this plant, though some suggest Cosmos has antioxidant properties and has a protective effect against oxidative DNA damage.

## References

Cosmos - The Flower Expert - Flowers Encyclopedia.  
<http://www.theflowerexpert.com/content/aboutflowers/tropicalflowers/cosmos-pink>

Cosmos - Mexican Aster. In: Encyclopedia of Plants.  
<http://www.botany.com/cosmos.html> .

Jang, In-Cheol, Jae-Hee Park, Eunju Park, Hae-Rong Park, and Seung-Cheol Lee. 2008. Antioxidative and Antigenotoxic Activity of Extracts from Cosmos (*Cosmos bipinnatus*) Flowers. Plant Foods for Human Nutrition 63: 205-210.

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