

# A Description of the Cotton Plant



Cotton plant -3 image by Alexey Burtsev from Fotolia.com

Cotton (*Gossypium* spp.) is native to both tropical areas of the New and Old World, and the color and quality of cotton fibers varies per each species. A tropical perennial plant, man has hybridized and selected it to grow quickly and tolerate growing conditions outside of tropical areas, where it's grown as an annual crop. Upland cotton (*Gossypium hirsutum*) has origins in Mexico dating to 3400 B.C. and today is the leading cotton grown for fibers worldwide.

## Size

As a perennial, upland cotton will become a large shrub-like herb anywhere from 6 to 12 feet tall and equally as wide at maturity. If it is planted and allowed to grow as an annual (developing across one growing season), it matures to 4 to 5 feet tall and 3 to 4 feet wide. Underground, the cotton plant develops a strong taproot with many lateral branches, penetrating as deeply as 8 to 10 feet, according to Purdue University.

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## Foliage

Cotton plants' leaves look like hearts with pointed lobes. Medium to deep green in color, there are three to five lobes at the ends of each leaf blade, which measures up to 7 inches long and across. Leaves are fuzzy (hairy) and are arranged in an alternating pattern on the stems and branches.

## Branching Structure

Two types of branching occurs on the cotton plant: vegetative and fruiting. Vegetative branches support foliage. From these vegetative stems will branch either additional long vegetative branches or fruiting branches. Fruiting branches are short and terminate with flowers that eventually yield the fruits that contain the fibers and seeds.

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## Flowering

The plant typically begins to produce its first flowers after approximately three months of age, according to Purdue University. In a tropical setting or greenhouse where the cotton plant continues to grow year round, flowering is possible at any time of year. The flowers are hibiscus-like, five-petaled and a creamy white or yellow in color and pollinated by insects. Each flowering branch supports six to eight blooms that open in succession. An individual blossom comprises around 100 pollen-carrying stamens around a female pistil organ.

## Development of the Boll

Once pollinated, the flower petals wither and the female pistil with three- to four-chambered ovary inside ripens to form a green capsule or "boll." This long, spherical capsule contains a few oil glands as well as many dark brown seeds that are encased in lint and fuzz. The fibers we associate as "cotton" are actually a matrix of singular, long epidermal cells that are attached to the seed coat.

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The capsule eventually dries and splits open on four sutures to reveal the seeds and white fibers. The edges of the opened capsule hardens and turns tan, turning into sharp, thorn-like claws surrounding the fibrous core. If not harvested, weather will eventually cause the fibers to scatter in the wind, dispersing seeds for later germination across the landscape.

## Do cotton plants have thorns? - Answers

Cotton plants don't have thorns in the traditionally 'rose thorn' or 'thorn bushy' sense.

From a personal essay about picking cotton, below:

"You have to wear good gloves, leather if you can afford it, so that the dried bristles off the plant do not cut your fingers and wrists."