



## SUMMER AND FALL FLOWERING BULBS FOR THE LANDSCAPE

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Summer and fall flowering bulbs provide another dimension to gardening. They add beauty and interest to the landscape and, since most of them are tender, they offer a unique challenge to the gardener. There are a large number of different types of bulbs, offering variations in forms, fragrances, colors, and lasting brilliance which many summer annuals cannot achieve.

When choosing “bulbs,” one must always be aware of a few basic terms. Not all grow from true bulbs; some grow from rhizomes (Canna), corms (Gladiolus), or tuberous-roots (Dahlia). Botanically, there is a difference, but this is generally important only to the scientist. The everyday usage of the term “bulb” includes all plants that grow from fleshy underground storage organs. The most important difference which must be understood is the distinction between hardy and tender bulbs. In North Carolina, hardy bulbs (daffodils, hyacinths, tulips, lilies) over-winter in the ground, while most tender bulbs (Gladiolus, caladiums, tuberous begonias) are either dug after the first frost or the containers are brought indoors. They are dried or placed in storage materials in either a warm or cool place (see Table 1). In the spring, they are either replanted after the last frost or subsequently placed outside on patios, decks, etc.

When landscaping with summer and fall flowering bulbs, special attention must be given to the design. As with most annual flower beds, they are planted in late spring and usually renovated every year. During

the winter months, a mulch is spread over the bare ground. Design the area to incorporate woody ornamentals which offer a landscape interest when the bulbs are not flowering. Favorite uses of these bulbs are in: borders, ground covers, rock gardens, and especially in containers and hanging baskets. Most summer flowering bulbs are not suggested for “perennializing” because they do not overwinter and they are considered somewhat “formal.” Rhizomous Iris, Lilies, and daylilies are notable exceptions. The following are examples of the eight of the most popular summer and fall flowering bulbs and their cultural and storage requirements:

**Caladiums** are tropical plants with heart-shaped leaves ranging in size from 6 to 12 inches. The numerous cultivars offer foliage colors in red, salmon, rose, white, or green with many variegated combinations. Caladiums prefer a rich soil and shade. Grown mostly for their interesting foliage display, caladiums perform well in garden borders and containers. Fertilize them once a month with 8-8-8 (2 lbs/100 ft<sup>2</sup>). Caladiums do not overwinter in N.C. Therefore, they must be dug in the fall and stored dry at 70 to 75 °F. The tubers are replanted in the spring after the last chance of frost. One additional note: most cultivars are adapted to full shade, but many selections tolerate partial sun or early morning sunlight. Full sun generally reduces the intensity of the foliage color of most cultivars.

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**Cannas** are popular among home gardeners and professional landscapers because of their extended flowering period and luxurious green or bronze foliage. There are over 60 cultivars available, providing a wide choice of colors. The rhizomes are generally planted the first of May in a rich well-drained soil, and in an area which receives full sun for at least 6 hours per day. Plant with only about an inch of soil over the rhizomes and set them 18 to 24 inches apart. Apply 3 to 4 lbs. of 10-10-10 per 100 ft<sup>2</sup> every 4 to 6 weeks throughout the growing season and water thoroughly. In cold areas of North Carolina (zone 6), the ground freezes and the rhizomes do not overwinter well. Once the foliage has been killed by frost, the rhizomes should be dug, shoots removed (along with any soil), and dried for a few days. They can be stored in bushel baskets or burlap bags covered with dry peat or vermiculite at a temperature of 41 to 50 °F. In zones 7 and 8, they can be left in the ground, if mulched with 3 to 4 inches of organic material. .

**Dahlias** are generally associated with late summer to early fall flowering periods in N.C. (usually August to October). They can, however, be flowered earlier. Dahlias prefer full sun (zone 6) to partial shade (zones 7 and 8) and a rich, well drained soil. They require ample water during the summer, especially during periods of drought . Once started, be certain to keep them actively growing. Some dahlias require staking, as heights up to 7 feet are not uncommon. Flowers range from 3 to 12 inches in diameter and there are many shapes and colors available. A good pest control (insect and disease) program will enhance the success of dahlias. They are excellent as fresh cut flowers for the homeowner. Dahlia clumps are generally dug in the fall after the first frost and stored at 35 to 45 °F in dry vermiculite or sand. In the spring, clumps can be divided with each section having at least one shoot. It should be noted that seed grown dahlias are not very heat tolerant. Also, they also tend to lack uniformity in growth habit and flower color display.

**Daylilies** (*Hemerocallis* -- Greek meaning 'beautiful for a day') are among the most popular and easiest bulbs to grow. One can have a flower display from early on summer to frost by using any garden soil, full sun to partial shade, an early summer application of 8-8-8 fertilizer, and a range of cultivars. Some daylilies can perennialize in extreme environments e.g., poor eroded slopes with no supplemental irrigation. However, the addition of organic matter is generally recommended for landscape use, both incorporated into the rootzone area and as a mulch. Currently there

are over 12,000 registered cultivars representing almost the entire spectrum of the rainbow (Pure blue and pure white are the only two colors not available.). Daylilies are excellent for use in the perennial garden as taller background plants, in naturalized settings, or even the cutting garden. Hardy through zone 3, daylilies are adapted to all regions of N.C. and do not require winter storage. Propagation is usually by division of clumps either in the fall or early spring using plantings that are 2 to 3 years old. Each clump should have 3 shoots with an adequate amount of fibrous roots. They range in height from 12 inches to 4 ft. The flowers are borne on a leafless stem called a scape.

**Gladiolus** are a gardener's delight because they are easy to grow and offer a wide spectrum of colors. When planting times are staggered (weekly), they flower over the entire summer. Corms can be planted outdoors starting in early May. Planting depth to base of the corms is 4 to 6 inches. Use a well-drained soil and plant them 6 to 8 inches apart. Many gardeners like to plant in rows -- if so, the rows should be approximately 36 inches apart. A slow release fertilizer (5-10-10) should be applied at the rate of 3 to 4 lbs. per 100 ft<sup>2</sup> of bed area when plants are 6 to 8 inches tall, and again when the flower spikes begin to appear in the foliage. Most Gladiolus do not overwinter. Therefore, the corms must be carefully dug and stored. After the foliage has dried, dig the corms, remove the soil, and cut off dead tops. Dry corms for 3 or 4 days in an open area and dust with an insecticide and fungicide. Store dry in mesh bags or trays at 35 to 41 °F.

**Lilies** (*Lilium* spp.) are excellent bulbs for the summer garden. There are about 80 species and several hundred cultivars available. They range in height from 2 to 8 ft. They are available in white, yellow, red, pink, orange, maroon, and various bicolors. They require a well-drained area that receives plenty of sunlight and need to be kept moist. They can be planted either in the fall or spring. Either time is satisfactory; it only depends on the availability of the bulbs. Space them 6 to 10 inches apart. With the exception of *Lilium candidum* (Madonna Lily), which should be planted with only 1 inch of soil covering the bulb, lilies should be planted with 4 to 5 inches of soil covering the bulb. This allows them to form stem roots. Tall lilies may need to be staked and should be protected from high winds. For most lilies, the pH should be about 6.5. Fertilize them lightly on a monthly basis with 5-10-10 starting when the shoots begin to emerge. Lilies

perennialize readily and generally do not need to be disturbed. Aphids and thrips can be pests.

**Rhizomatous Iris** (*Iris* spp.) are one of the easiest bulbous plants for the garden. There are many species including: Yellow Flag Iris, Siberian Iris, Blue Flag Iris, Japanese Iris, Crested Iris and Black Iris. There are 6- to 8-inch dwarf types and 3- to 4-ft tall types. They come in all colors (solid and bicolors) except red. Most species require a well-drained soil and only an occasional fertilization. They can be planted in the fall or spring depending on the availability of the rhizomes. Plant them with 1 to 2 inches of soil covering the rhizomes. They grow best in full sun, but do quite well in light shade. Rhizomatous Iris tend to grow and perennialize rapidly and need to be separated every 4 to 5 years.

**Tuberous Begonias** are one of the most spectacular of the summer flowering bulbs. Colors range from soft

pastels to brilliant and electric solid colors. They can be used as bedding plants, in hanging baskets, or simply as flowers around trees in home lawns. Tuberous Begonias are somewhat temperamental because they do not tolerate stresses. They dislike strong winds and require good air drainage. They need to be well watered, but do not like moisture on the foliage. They don't flower well in either full sun or dense shade if not properly watered.

Incorporate a rich, organic loam into well-drained topsoil. Plant the enlarged hypocotyls (also called tubers) after the last chance of frost. The top of the hypocotyl should be at soil level. Place container in partial shade. Water when soil shows signs of drying, preferably in the morning hours. Storage procedure requires digging after frost has killed foliage, drying for a few days in open area, then storing in dry peat moss at 35 to 41 °F. They can also be stored in containers or hanging baskets.

**Table 1. Partial list of summer and fall flowering bulbs for North Carolina:**

Name	Storage Organ	Light Exposure	Habit	Storage Condition
Achimenes	Scaly rhizome	Partial sun	Low trailing	Keep rhizomes in pots indoors at 60 to 70 °F during winter.
Acidanthera	Corn	Full sun	2 to 3 ft.	Store in dry area with ventilation at 60 to 70 °F.
Agapanthus (Lily-of-the-Nile)	Rhizome	Full sun	2 to 5 ft.	Zone 6, bring plants indoors in containers.
Alliums	Bulbs	Full sun	10 in. to 5 ft.	Not necessary
Amaryllis belladonna (Naked lady)	Bulb	Full sun	2 to 3 ft.	Not necessary
Anemone coronaria	Tubers	Full sun	2 to 15 in.	Store in dry peat moss at 50 to 55°F.
Begonia, Tuberous	Hypocotyl (tuber)	Partial shade	12 to 18 in.	Store in dry peat at 35 to 41°F.
Caladium	Tuber	Light to med. shade	12 to 20 in.	Allow to dry, then store at 70 to 75°F
Canna	Rhizome	Full sun	2 to 7 ft.	In zones 6 and 7 store in dry peat or vermiculite at 41 to 50 °F. Mulch in zone 8.
Colocasia esculenta Elephant's ear	Tuber	Full sun	3 to 6 ft.	Allow to dry, then store in 70 to 75°F, dry area.
Convallaria (Lily-of-the-valley)	Rhizome	Partial shade	8 to 10 in.	Not necessary

**Table 1. Partial list of summer and fall flowering bulbs for North Carolina (continued)**

Name	Storage Organ	Light Exposure	Habit	Storage Condition
Cyclamen Hardy spp.; not the florist type)	Hypocotyl (tuber)	Partial shade	3 to 12 in.	Not necessary
Dahlia	Tuberous root	Full sun	1 to 8 ft.	Store in dry vermiculite or sand at 35 to 45°F. Overwinter in zone 8, mulch in 7.
Eucomis (Pine-apple lily)	True bulb	Full sun	1 1/2 to 2 ft.	Grows well outdoors in zones 7 and 8. Overwinter inside in container in zone 6 at 55 to 68°F.
Gladiolus	Corn	Full sun	1 to 5 ft.	Dig when foliage dies down; air circulation is essential. Dust with insecticide and fungicide and store in mesh bag at 35 to 41°F.
Gloriosa (Climbing lily)	Elongated tuber	Filtered sun	Climbing to 6 ft	Store in dry peat moss or sand at 50 to 60°F. Can overwinter in zone 8 with a mulch.
Hemerocallis (Daylily)	Tuberous root	Full sun/light shade	1 to 3 ft.	Not necessary
Iris, Rhizomatous	Rhizome	Full sun/light shade	1 to 4 ft.	Not necessary
Liatrix	Corn	Lt. shade	2 to 4 ft.	Not necessary
Lilium spp. and cvs.	True bulb	Full sun	1 to 7 ft.	Do not need to be lifted. If stored, place bulbs in peat moss at 32 to 35 °F.
Scadoxus (Blood lily)	True bulb	Light shade	10 to 24 in.	Bring containers indoors and grow at 50 to 58 °F.
Zantedeschia (Calla lily)	Rhizome, tubers	Full sun	1 to 4 ft.	Store in pots indoors at 50 to 60 °F. Can overwinter in zone 8 with a mulch.