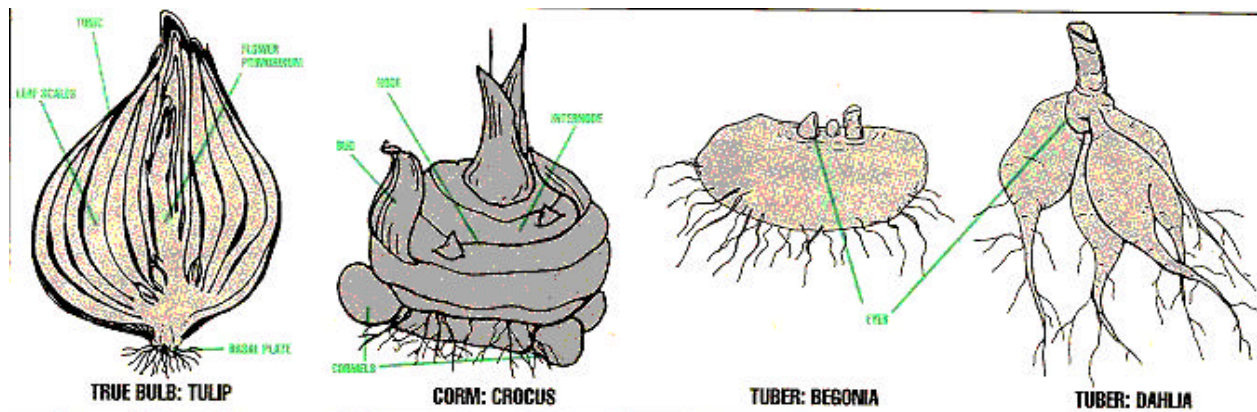


# GREEN TIPS

Department of Horticulture - Michigan State University

---

## Structure of Bulbs



Flowering bulbs are an essential component of the well planned garden or landscape, adding interest and bright colors in a way that shrubbery and other herbaceous plants cannot.

Here in the northern United States, our climate is well suited to growing many hardy and tender flowering bulbs. Bulbs that are planted outdoors in the fall and flower in spring are called hardy bulbs because they will survive very low temperatures over winter in zones 3, 4 and 5. Hardy bulbs include tulips, daffodils, crocus, hyacinth, lily and many others. Not all can survive deep soil freezing in zones 2, 3 and 4. Tender bulbs such as dahlia and gladiolus must be dug and stored indoors over winter and replanted every year.

Plants included under the term “bulb” include true bulbs such as lily, ornamental onions and tulips; corms such as crocus and gladiolus; and tubers, including tuberous begonias and dahlias.

Millions of bulbs are sold in the United States each year, for very good reasons. Bulbs are:

---

Source: MSU Extension Bulletin No. 399

1) **Easy to grow.** Most bulbs contain a preformed flower bud and all the food required for blooming when purchased. It takes minimal skill to make bulbs bloom, provided a good site is selected. In addition, bulbs are generally, maintenance-free and pest-free when planted properly and given a bit of fertilizer.

2) **Colorful.** A chief attraction of all bulbs is that they provide color. Spring-flowering bulbs provide color from early March, before many trees and shrubs bloom, through June, when annuals are planted. Summer bulbs help fill out the garden from June through September.

3) **Inexpensive.** Most common bulbs are relatively inexpensive. They are considerably cheaper when purchased in quantity, and hardy species can last for many years.

4) **Flexible.** Bulbs are relatively small and may be moved, if required, so they are flexible landscape components. Bulbs fit in around existing shrubbery, in wooded areas, in rock gardens and in other niches where they add interest to a landscape.

5) **Compatible.** Bulbs are excellent mixers. They combine especially well with spring-flowering perennials. Spring bulbs are often over-planted with annuals to hide their dying foliage.

No garden or landscape reaches its full potential without a few of these plants.

Bulbs are underground food storage organs that contain large amounts of stored carbohydrates. This food source is often used up during the blooming period and is replenished by the bulb's leaves before they turn yellow or are killed by frost in the fall.

True bulbs such as tulip and lily are made up of many swollen leaf bases growing close together below the soil surface. Carbohydrates are stored in the leaf scales.

Inside is a very small preformed flower called the flower primordium. Barring a very poor environment, the flower primordium will mature and bloom. Bulbs that do not bloom are called "blind"

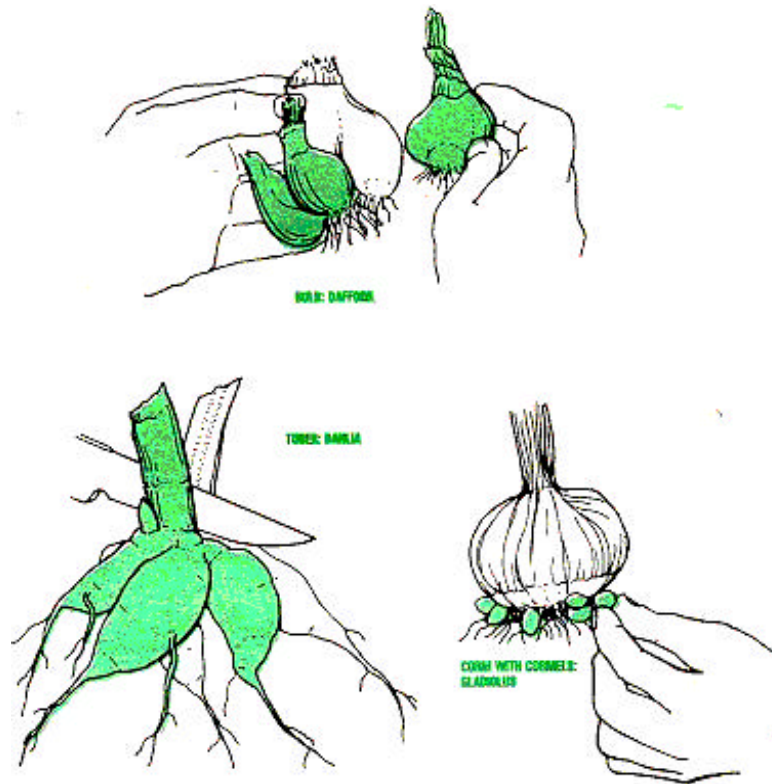
The flattened base of a true bulb is called the basal plate. It is the area from which all roots originate and should always be planted down. Last year's withered stem may linger on the top side of the bulb.

An undamaged bulb is often covered by a thin papery sheath or tunic.

Corms, from which crocus and gladiolus grow, are actually swollen stems and have nodes, internodes, and lateral buds growing from the nodes. A new corm forms atop the old one each year, and clusters of small corms, called cormels, grow around the base. Flowering stems grow from several buds on top of the corm.

On very flat corms, such as those of anemone, it may be quite difficult to distinguish top from bottom. Look for last year's shrivelled stem, and plant it upward.

Tubers, such as tuberous begonias and dahlia, are swollen roots that have one to several eyes at one end near the old stem. Unless an eye is present, a tuber cannot grow.



MSU is an Affirmative-Action Equal-Opportunity Institution. MSU Extension programs are open to all without regard to race, color, national origin, sex, disability, age, or religion.

Issued in furtherance of Cooperative Extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Arlen Leholm, Director, Michigan State University Extension, E. Lansing, MI. 48824.

This information is for educational purposes only. Reference to commercial products or trade names does not imply endorsement by the MSU Extension or bias against those not mentioned. This bulletin becomes public property upon publication and may be reprinted verbatim as a separate or within another publication with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company.

GT1140 - March, 1998

---

Source: MSU Extension Bulletin No. 399