

BULBS, CORMS, TUBERS, RHIZOMES, TUBEROUS ROOTS

Article and pictures courtesy of the Parker County Master Gardener Association

Bulb - A storage organ, usually formed below ground level. True bulbs consist of fleshy scales surrounding the central bud. Most popular bulbs have a papery skin and the purpose of this is to protect the tissues of the bulb. The Lily does not have this and can be damaged with rough handling. Reproduction is by means of offsets (bulblets). There are spring and fall flowering bulbs. Example of a true bulb is a narcissus.



Corm – Some corms look like true bulbs. A thickened/swollen underground stem base that produces roots leaves and flowers during the growing season. The nutrient-holding body is a stem base and not a series of scales, and the tunic is made up of the dry leaf bases from the previous season. Another important difference is that a corm lasts just one year. When active growth is underway the food store is depleted and the corm starts to shrivel. At the same time one or more new corms start to develop on top or at the sides of the old one. These new corms form next year's planting material and will flower during the season. A few corms such as Gladioli form small cormlets around the edge; these tiny corms take 2-3 years before they reach the flowering stage. Example of a corm is a crocus.

Tuber – A flat underground stem that stores food and plant energy and from which a plant grows. A tuber does not have a basal plate nor is there a protective fibrous covering and does not



have a neat organized growing point. The buds are scattered over the surface and so stems can appear from the sides as well as the top of the structure. There is no standard shape but they are usually more flat and rather knobby. Example of a tuber is a potato.

Rhizome-Grows horizontally and spreads outwards either partly or completely below the soil surface. The main growing point is at the tip of the rhizome, but other buds are formed along the upper surface and along the sides. Roots develop

from buds on the underside of the rhizome. Most rhizomes are easy to propagate as the long and branching stem can be cut into roots and at least one bud. Example of a rhizome is a begonia.

Tuberous Root-This bulbous type differs from all the others by being a swollen root rather than a swollen stem or a collection of scale leaves. The swollen storage organs are borne as a cluster from the crown, which is the base of the old stems. These modified roots provide stored nutrients to the

plant, during growth fibrous roots are produced to absorb water and nutrients from the soil. These bulbous plants can be propagated by cutting off individual storage roots that have a bud bearing section at the top. Example of a tuberous root is a dahlia.

Bulb Planting

Bulbs are some of the most rewarding plants you can grow. Here are a few pointers to keep in mind when you are planning your bulb garden.

When You Bring Your Bulbs Home

If you have purchased your bulbs through a mail order source, open the box of bulbs as soon as it arrives. Inspect your order to be sure that all bulbs on the list are there and in good condition and disease free. They should be firm and mold free with no rotten spots.



If you cannot plant right away keep the bulbs in a cool, dry place, such as a garage. Warmth and moisture will signal the bulbs to start growing. Check on them occasionally to be sure they aren't getting moldy or soft.

When to Plant

Spring flowering bulbs can be planted anytime in the fall after temperatures cool down, but before the ground freezes. Your bulbs need to establish strong root systems before winter sets in.

In our warmer climate some bulbs, will require some pre-cooling by being stored in a refrigerator before planting. About six to eight weeks will do the trick, but they can stay in the refrigerator longer if necessary. Remove any fruit (especially apples) in the refrigerator. The ethylene gas given off by ripening fruit will kill the flower inside the bulb.

Planting Location

Plant bulbs in an area that drains well. Most bulbs need from four to six hours of sunlight each day; some varieties (Spanish bluebells and daffodils) are more shade tolerant than others. When planting under trees select shade tolerant varieties and site them at the drip line rather than right under the tree.

If the bulbs are going to come back year after year, try to find a place where they won't be disturbed later in the season and where it won't be a bother to allow the foliage to die back naturally after they flower.

Soil

Spring flowering bulbs appreciate well-drained, humus rich soils. Add a little compost or bagged humus to the bottom of the planting hole as well as a bulb fertilizer. A synthetic fertilizer will not

attract squirrels and rodents the way bone meal does. But that is your choice. Other than at planting time, the best times to fertilize established bulbs are when the foliage appears **and** as the blooms fade, usually in March and May/June.

Planting Depth

The rule of thumb is to plant bulbs at a depth that is three times their height. For example, if a daffodil bulb is approximately two-inches tall, dig a hole six-inches deep. Smaller bulbs such as miniature daffodils are generally planted three- to five-inches deep. You will want to plant the big ones like *Allium giganteum* 'Globemaster' six- to eight-inches deep. Once covered with soil, a two-inch thick layer of mulch will help retain moisture and keep the bulbs cool. Just remember that if you do plan to add mulch, factor it into your planting depth.

When planting any type of bulb, position it so that the peaked end points up. That's where flower stems will emerge. The flatter, usually larger end goes at the bottom of the planting hole.

Protecting from Squirrels and Rodents

To protect your bulbs from rodents burrowing underground and eating them, create a chicken wire basket that you can place in the hole dug for the bulb. Line the bottom with the wire and bend up the sides about 2 inches. Once the basket is in place cover the bottom with a blend of 50-50 compost and topsoil, add a little bulb fertilizer and then drop in the bulb. Fill in the hole with the remaining soil. This is only if you have problems with rodents.

If you have a problem with dogs, squirrels or other animals digging into your bulb plantings, you can place a piece of chicken wire over the top of the entire bed space and hide it with mulch. Just remember to remove the wire before the bulbs begin to emerge in the spring.

Early Emerging Foliage

Sometimes warm winter weather causes bulb foliage to begin emerging early. Bulbs are equipped with a certain amount of anti-freeze that can help them get through cold so the leaves should be okay. The only time to be concerned is once the flower has completely opened. If it looks like that may happen, you may want to cut a bouquet and enjoy the blooms in the house.

After Bloom Care

If you want the bulbs to bloom again the following year, keep the leaves green as long as possible. This gives the foliage time to recharge the bulb for next year's blooms. For the best results, wait about eight weeks after the blooms have faded to remove the foliage. In areas where tulips are not perennial you can remove the bulbs as soon as the flowers fade. Other than the Texas tulip, tulips should be treated as annuals because their foliage will return but rarely do they rebloom.

WHERE TO PLANT BULBS

Bulbs in Turf

Crocuses of all types are ideal for planting directly in the lawn. These low-blooming, early flowering bulbs can create a carpet of color and will be ready for cut back by the time mowing season begins. In addition to crocus, snowdrops are also excellent choices.

In grass along roadsides or long private drives, where mowing can be put off longer, daffodils can be used to stunning effect. The same idea is easily adapted to other settings.

Bulbs can be planted in turf grasses that are about a year-and-a-half mature, with no damage to the roots. Where bulbs are naturalized, avoid fertilizing in spring so the quick-growing grass plants don't overshadow the bulb leaves before dieback. A 9-9-6 fertilizer in fall is beneficial for bulbs.

Bulbs in Wooded Areas

Deciduous trees such as cedar elm, oak and all fruit trees, are perfect for a natural sprinkling of spring bulbs. The leafless branches allow plenty of light through in winter and early spring.

Bulbs that can flourish in naturalized wooded settings include narcissus and snowflake. Planting under evergreens, however, is not advisable.

Bulbs in the Border

Bulbs are perfect for a perennial border that is otherwise rather drab in spring. By intermixing bulbs that bloom in March/April, with perennials that peak in summer, you not only achieve a maximum amount of color, but the flowering perennials camouflage the dying leaves of the bulbs.

Bulbs in the Rock Garden

For rock gardens, the smaller, more delicate-looking varieties are best. Iris, miniature narcissi and the small botanical or species tulips are incredibly beautiful in this type of setting. Also excellent in a rock garden are low-growing bushy bulbous plants such as oxalis.

SEASONAL COLOR

In the landscape, bulb flowers are either treated as annuals or left in the ground to multiply and return year after year. Though bulbs are technically perennials, the effects of hybridizing and various local climate conditions mean that some types, notably many tulip cultivars, cannot always be counted on for high-profile landscapes when left to perennialize.

More gardeners are looking to naturalize their plantings. Many bulbs are perfect for this. Naturalized plantings need little maintenance, but carelessness can kill them. In areas where bulbs are naturalized, you should avoid cutting back leaves before they have yellowed, allowing the bulbs to regenerate; avoid tilling the soil just as the plants are beginning to grow and be careful of chemicals. In addition, it's a good idea to remove fallen leaves from naturalized areas, though mulching leaves back into the soil is an easy and beneficial alternative.

TEN TIPS FOR SUCCESS WITH BULBS

1. Unpack the bulbs as soon as they arrive or when you get them home. If they can't be planted immediately, store them in a cool, dry place with good air circulation. Bulbs are not dormant, they are living plants so do not let them dry out.
2. In borders where tulips have been planted for several years, fungi could be present. Renew the upper layer of soil (plus or minus ten inches) or disinfect with Rhizolex. Rotation is an organic alternative.
3. Plant in areas that drain well. Standing water rots bulbs. However, bulbs do not root deeply and need soil that retains moisture well. It may be desirable to amend the soil with sand or peat. A pH between 5.5 and 7.5 is ideal.
4. Fertilizing is often advisable, especially in new beds with poor soil. Slow release, low nitrogen fertilizer or compost is best.
5. Bulbs can do well in many areas where herbs and grass can't, such as woody areas. Here it is not advisable to work the soil too well for this promotes weed growth. If weeds have already taken over a newly laid-out area, these competitors should be removed.
6. Bulbs must be planted deep enough but planting too deep slows emergence and flowering. In areas with heavy clay soil, add a layer of lightly structured topsoil.
7. Plant bulbs before ground-freezing frosts arrive. If ground has frozen and then thawed again, bulbs can be planted. They need several weeks to establish roots however. Root growth is optimal in ground that is 41 to 50 degrees F. Some bulbs that are especially frost sensitive will do well with a layer of mulch.
8. Bulbs planted in grass need an average of six weeks for die back. If this interrupts your mowing schedule, perhaps opt for taller bulbs planted along the edges of grassy area.
9. Be careful with chemicals. Bulbs are very sensitive to most herbicides.
10. Cluster-forming bulbous plants, such as daffodils, can be split after they have rooted a few years. This encourages growth.

For information on individual bulbs, corms, tubers, tuberous roots, refer to [*the real dirt*](#)
[*a Gardening Handbook for Parker County*](#)

<http://www.pcmg-texas.org/therealdirt.htm>