

Tips on Growing Bulbs for the Cut Flower Market:

Planting depth:

Bulbs are usually planted with 3 to 4 inches of soil above the bulb. Be sure to pack the soil down prior to measuring planting depth. Planting too deep can hurt the bulb's ability to produce a flower.

Planting density:

Tulips and iris can be planted at 9 to 12 bulbs per square foot. Lilies can be planted at 6 to 8 bulbs per square foot. Larger bulbs and varieties that produce above average foliage may need to be planted at a lower density. Certain varieties will gain in length when planted close together. The closer the plants are, the greater the risk of botrytis.

Preferred soil type:

Bulbs like well drained soils. You do not need Dutch style sandy soils to grow good bulbs, but you will need good drainage. If you have heavier soils, such as wet clay, planting the bulbs in raised beds or hills will help improve drainage.

When to plant bulbs:

Tulips and Iris can only be planted in the fall. Generally speaking, they can be planted once the soil temperatures have cooled down. Here in Western Washington, the second half of September is the earliest one can plant, with October being the usual time. Do not try to plant if the soil is saturated with water. Try to plant prior to the chance of night frost.

Lilies can be planted (or forced) throughout the year. However, they do need conditions that allow them to continue growing. Colder temperatures, shortening days, and lower light levels are all signs to the bulb that its window of opportunity for growth/flowering is closing. Plant a lily too late and it will produce a nice stem, but the flowers will likely abort.

Where to plant:

Do not plant bulbs in the shade or in soils that have standing water on them at any point. Fields that allow air to move through the crop are preferred. This allows the foliage to dry during the day which in turn reduces the chance of botrytis.

What does the bulb size number mean:

Bulb sizes are generally graded by a range of centimeters circumference (distance around the entire bulb). The larger the number, the larger the bulb. For example, an 8/10 size means 8-10cm around the bulb, and a size of 14/16 means the bulb is 14-16cm around.

How does bulb size affect the plant:

A larger bulb size will usually increase the length and girth of the stem. Lilies will gain 1-2 inches of height, on average, for each larger size. For bulbs that produce multiple flowers per stem, a larger bulbs size means more flowers per stem. For bulbs that only produce one flower, one will see an increase in the flower size.

Our most commonly purchased commercial sizes for bulbs/corms:

Crocsmia: 8/10cm
Daffodil: 12/14cm
Dutch Iris: 8/+cm - 10/+cm
Gladiola: 12/+cm
Lilies: 14/16cm
Tulip: 12/+cm

Can bulbs be used for cut flowers the following year:

Most bulbs used for cut flowers should be considered a one-year crop. Cutting a bulb reduces or eliminates their ability to make enough energy to prepare for the next year.

Lilies can, in some instances, be cut for more than one year. It is suggested to purchase a large size bulb and, when cutting, to leave *at least* 12 inches of stem/foliage standing. This will allow the bulb to recoup some of the reserves that it has spent growing the stem and flower.

Even in a best case scenario, there is no guarantee of success. Our American Roots does not have experience with such techniques; this is simply what we have been told anecdotally from various growers throughout the years.

Winter cooling requirements:

Most bulbs have a cooling requirement; they need to go through a period of sustained cold temperatures for a certain amount of time before they begin working toward their Spring bloom. This cooling requirement protects the bulb from starting to grow in the winter. Once they have met this requirement, a bulb is ready to grow normally when Spring arrives.

Fall-planted bulbs such as Tulips and Iris will receive this cooling naturally in colder climates. For this reason, it is also why many bulbs do not do well in areas with warm winters. Tulips that are forced commercially for cut flowers in the winter and early spring are given cooling (pre-cooled) prior to being brought into a greenhouse. This process is completed by keeping the bulbs in a cooler at a certain temperature for a specified period of time, then planted in a greenhouse at warmer temperatures. This signals to the bulb that the correct cooling time has finished and it is time to begin their growing cycle.

-The cooling requirement varies for each bulb. For example, tulips need 14-16 weeks of cooling, where Dutch Iris only need 9-11 weeks.

-NOTE: although peonies are not bulbs, they also need a period of winter cooling each year.

The lilies we supply for Spring planting have been below 32°F and their cooling requirements will have already been met when you receive your bulbs. This is also the case with Spring-planted peonies.

Blooming time:

Fall planted bulbs such as Tulips and Iris will have different blooming times based on the variety. Climate and weather conditions will always have an effect on when a bulb will flower. That means the “normal” blooming time for Minnesota will not be the same as for Washington, nor is 2010 likely to be the same as 2009.

Which herbicides can be sprayed around bulbs:

To control weeds around bulbs, there are various sprays available. When spraying an herbicide make sure that it does not drift onto your crops, and that it is not an herbicide that can leach into the bulbs’ root zone and be taken up by them.

Most weeds can be controlled with an application of Roundup (which is also available under different trade names). For clovers and vetch it is best to use a 2-4D product (which will control only broadleaf weeds and not grasses).

Always read and follow all chemical and pesticide labels. Check with your local farm and garden store or pesticide supplier to get more exact information on what is available and legal to use at your location.

Avoiding and containing botrytis:

Botrytis is the most common disease in tulips. It is a fungus, spread via spores, that likes cool, damp, and still air. The spores can come from other plants in the area, the soil, or bulbs.



Photos of Botrytis in tulips



Foliage that stays wet for over 24 hours in these conditions has a greater chance of being infected by botrytis. This is why it is important not to plant too densely if in a location that can expect conditions that botrytis prefers. Plants showing botrytis damage are infected with the disease. Leaving infected plants in with other tulips can lead to the disease spreading to other plants. Leaving infected bulbs or leaves near your tulip fields can also allow the disease to spread.

Placing your rows so that they are parallel to the normal direction of the wind at your location will help keep the foliage drier. For our location (west of the Cascades), the summers are very dry, so the density of Spring-planted bulbs can be increased (with the added benefit of gaining a little more length).

Crop rotation is also very important. Do not plant bulbs where you have planted the same bulbs before for at least 3 years (for peonies, 10 years!).

If you spot a plant with botrytis, remove it from your crop and dispose of it far away (do not compost!). Making sure that the old foliage from the previous year is kept to a minimum helps as well. There are various fungicides that are labeled for bulbs which can be sprayed to contain a botrytis outbreak.

Contact fungicides (kills on contact) often have noticeable residual after applying them which will wear off over time; there are also systemic fungicides (work from within the plant) on the market that can be sprayed to help prevent botrytis.

Again, always read and follow all chemical and pesticide labels. Check with your local farm and garden store or pesticide supplier to get more exact information on what is available and legal to use at your location.