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The Culture of Spring-Flowering Bulbs

Hardy bulbs exceed all other groups of plants in producing color in the spring garden. For the most part they are the earliest plants to bloom, and many have exceptionally showy flowers. The gardening season begins with the snowdrops and winter aconites, usually in early March. These are soon followed by crocuses, scillas, and chionodoxas; then come the hyacinths, daffodils, and tulips. Bulbs are also a most versatile group of plants; there is a type for any location. Attractive mass plantings can be made in solid beds, to be followed in June by annuals. Groupings can be spotted about in a perennial border or rock garden. Bulbs are attractive along paths and walks, planted around pools, or placed in front of foundation plantings around the home. Most spring bulbs, with the exception of tulips, can also be effectively naturalized.

Site

Most bulbs do well the first year regardless of where they are planted. Very few do well for several years unless they have a fair amount of light and generally favorable growing conditions. Planting bulbs beneath large trees is seldom satisfactory because of the dense shade cast by the trees and the competition with tree roots. *Scilla sibirica* crocus, winter aconite, and snowdrop (*Galanthus*) however, give satisfactory performance under trees.

Very few of the hardy, spring-flowerings bulbs tolerate wet, soggy soil conditions during the winter. Plant them in a situation where there is good drainage and where there is no danger of water standing on the surface of the ground through the winter or spring. Camassia is an exception and does well in wet, almost swampy places. It is imperative to plant the so-called botanical or species tulips and narcissi in areas with perfect drainage, where it is dry and sunny during the summer.

Soil Preparation

In most spring-flowering bulbs the buds are already formed at the time the bulbs are planted in the fall. The soil must be prepared well if the bulbs are to remain in vigorous condition for several years. Fertilizer added to the soil before the bulbs are planted increases growth. The improvement in growth is not evident until the second year when the bulbs that were fertilized at planting maintain vigorous growth and large flower size, whereas those not fertilized tend to become smaller and poorer in quality. It is recommended that slow release fertilizers be used and applied according to label directions.

Work it thoroughly into the top 4-6 inches of soil. Organic matter can be added to "heavy" soils to improve their physical structure. It is applied at the rate of 3 bushels per 100 square feet and worked into the top 8 inches of soil. Manure can also be a source of organic matter. It should be well rotted, for fresh manure may injure the bulbs. Do not exceed 2 bushels for each 100 square feet. After bulbs are established fertilizer can be used when the bulbs are in bloom. Avoid fertilizer contact with bulb foliage and scratch the fertilizer into the upper inch of soil.

Planting

In some localities where the soil is light and sandy, bulbs can be planted by the dibble method. Make a small hole in the soil with a short-pointed stick; place the bulb in the soil, and, after pressing the bulb down into the soil as far as possible, cover it with soil. In heavy soils, use a trowel to dig the hole for each bulb. The soil underneath the bulb should be loose so that the roots can easily penetrate the soil.

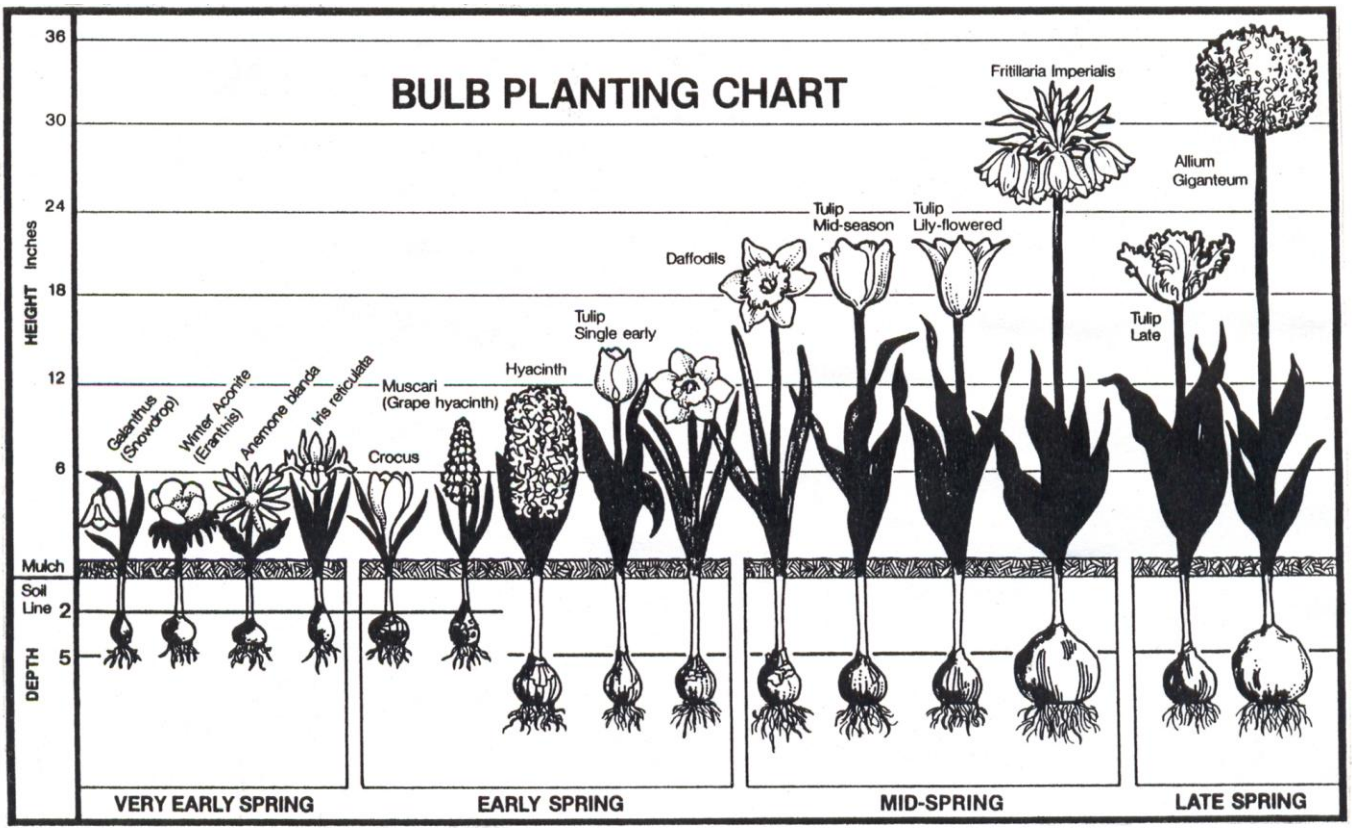
Time of Planting

October is the best month to plant all the spring-flowering bulbs. Tulips show some reduction in size of bulb and length of stem when planted after December 1, but any time before December 15 is reasonably satisfactory for them.

Depth of Planting

The depth at which to plant bulbs is important (refer to the chart in **Fig. 1**). The best depth to plant tulips and narcissi is with the tops of the bulbs 5 inches below the surface of the soil. For narcissi and daffodils, the depth of planting makes

considerable difference to the future growth of the bulb, but tulips are somewhat more tolerant of unfavorable depths. In light sandy soils, plant tulips deeper than in heavy soils. Plant smaller bulbs so the top of the bulb is about 2 inches below the surface of the soil. In this group are scillas, chionodoxas, grape hyacinths, snowdrops, and any of the others that have a diameter of 1 inch or less. As a rule, the depth of soil above the top of the bulb should be about twice the diameter of the bulb.



Adapted from Netherlands Flower-Bulb Information Center

Fig. 1. An illustration showing the various depths of planting for the different bulb species.

Spacing

Plant the larger growing bulbs, such as tulips and daffodils, about 8 inches apart. This gives the bulbs space for 2 or 3 years' growth before they must be dug up and divided. Plant the bulbs of crocus and grape hyacinth about 4 inches apart. Some of the smaller bulbs, such as winter aconites and scillas, should be placed from 2 to 3 inches apart. If you make a naturalized planting, place narcissi at least 10 inches apart and set the small bulbs about 20 to a square foot. Grape hyacinthsscillas, chionodoxas, snowdrops, and other small bulbs are much more effective planted in mass rather than individually.

Rodents

Precautions should be taken to prevent rodents from feeding on the bulbs. When the bulbs are planted in beds, cover the beds with fine mesh wire to prevent mice from digging out the bulbs.

Growth

Other practices besides planting affect the growth and development of bulbs over a period of years. The removal of seed pods is important. When the pods are left on tulips and narcissi, the new bulbs are much smaller than when the pods are removed.

Removing the leaves has just the opposite effect. *The more leaves removed from the bulbs when the flowers are cut, the smaller are the new bulbs produced.* If the two lower leaves of tulips are left on, the new bulbs produced are practically normal in weight. Narcissi require from 4 to 6 leaves to produce normal-sized bulbs.

Let the leaves remain on the spring-flowering bulbs until they show signs of ripening and turning yellow. Tulip bulbs usually reach their full development about June 15. Narcissi complete their development about the middle of July. Other

types of bulbs vary greatly in the date at which they mature. Cut off the foliage of the bulbs at the ground level when it is fully mature (yellow). Remove it from the garden and discard it.

Failure to Bloom

Old established clumps of bulbs may not produce flowers because they are overgrown and the bulbs have become too crowded. Correct this by digging, separating, and then resetting the bulbs. If bulbs are dug too soon after flowering, before they mature, no flowers will develop the next season; but if the bulbs are left in place, they will flower the second year.

Digging

After several years in the ground, both daffodils and tulips form a clump of multiple bulbs, resulting in a gradual decline in stem length and flower size. Daffodils grow many years before the clumps need dividing. Tulips decline sooner and may benefit by digging the clumps and dividing the bulbs every several years. If the bulbs have declined sharply, it may be better to discard them and start again with new ones. Tulips rarely show as well after the first year.

In the years bulbs are to be dug, allow them to mature as long as possible. Around the last of June or the middle of July, when the foliage turns yellow, lift the bulbs carefully, free them from soil, and remove the tops. The bulbs can be divided and replanted immediately. Otherwise, wash the soil from the bulbs with a hose and then spread them out in a shady, airy place to allow the surface to dry thoroughly. Then place them in shallow boxes and store them in a cool, dry, airy place. They will be ready to plant in the fall. Grade the bulbs, for many of the smaller ones will not produce flowers the following year. Plant only the large bulbs in beds or borders. The smaller ones can be planted in rows in a nursery bed and allowed to develop. They will usually form flowering-size bulbs in 2 years.

Resource: Lee, R. E.and Kozlowski, R. E. *The Culture Of Spring-flowering Bulbs*. Cornell University, 9/86.

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