

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 most of them have exceptionally showy flowers. The gardening season begins with the snow drops and winter aconite, usually in early March. These are soon followed by Crocus, Scilla, and Chionodoxa; 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 may be made in solid beds, to be followed in June by annuals. Groupings may be spotted about in a perennial border or rock garden. Bulbs are attractive along paths and walks, or planted around pools, or placed in front of foundation plantings around the home. Most spring bulbs, with the exception of tulips and hyacinths, may 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 snowdrops (*Galanthus*) will, however, give satisfactory performance under trees.

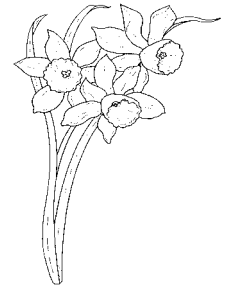
Very few of the hardy, spring flowering bulbs tolerate wet, soggy soil conditions during the winter. Put them in a situation where there is good drainage and where there is no danger of water standing on the surface of the ground through the winter or spring. Camassia is an exception and will do well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

Soil Preparation. While in most of the spring flowering bulbs the flower bud is already formed in the bulb at the time it is planted in the fall, it is necessary to prepare the soil well if the bulb is to remain in vigorous condition for several years. Experimentation has proved that 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, while those not fertilized tend to become smaller and poorer in quality. The best fertilizer is a complete commercial one such as 5-10-5 or 6-12-6 grade, applied at the rate of 3 pounds to 100 square feet of surface area. Work it thoroughly into the top 8 inches of soil. Organic matter can be added to "heavy" soils to improve their physical structure. Manure must be well rotted, as fresh manure may injure the bulbs. Organic matter is applied at the rate of 5 bushels per 100 square feet, and worked into the top 8 inches of soil.

Planting. In some localities where the soil is light and sandy, it is possible to plant bulbs 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 soils that are rather heavy, it is much better to use a trowel to dig the hole for each bulb. It is well to have the soil rather loose underneath the bulb so that the roots can easily penetrate the soil.

Time of Planting. October is the best month to plant all of 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. Narcissi and daffodils are much more tolerant and can be planted until about February 1 without serious detriment. Planting before December 1, however, is more satisfactory.

Depth of Planting. The depth at which to plant a bulb is important. It has been found that the best depth to plant tulips and narcissi is with the tops of the bulbs 4 inches below the surface of the soil. With narcissi and daffodils it makes considerable difference with 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 with their tops 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 amount of soil above the top of the bulb should be about twice the diameter of the bulb.



Spacing. Plant the larger growing bulbs, such as tulips and daffodils, about 8 inches apart. This gives the bulbs space for two or three years' growth before they must be dug up and divided. Plant crocus and grape hyacinths about 4 inches apart. Some of the smaller bulbs, such as winter aconite 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 the small bulbs about 20 to a square foot. Grape hyacinths, scillas, chionodoxas, snowdrops, and other small bulbs are much more effective planted in mass rather than individually.

Growth. Other practices besides planting affect the growth and development of bulbs over a period of years. The removal of seedpods 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, they produce new bulbs, which are practically normal in weight. Narcissi require from 4 to 6 leaves to produce normal sized bulbs.

It is well to 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 are mature.

Cut off the foliage of the bulbs at the ground level when it is fully mature. Remove it from the garden and burn it.

Tulip Fire. Tulip fire, caused by a fungus called *Botrytis*, may develop severely during extended wet weather in the spring. Cut off and burn all decayed leaf tips as soon as noticed. Infected buds and foliage showing grayish tan spots should also be eliminated as soon as noticed. While frequent spraying with ferbam or mancozeb from the time of emergence should help to control the disease, the importance of sanitation cannot be overemphasized.

Failure to Bloom. Old established clumps might not produce flowers because they are overgrown and the bulbs have become too crowded. You may correct this by digging, separating, then resetting the bulbs. If bulbs are dug too soon after flowering, before they mature, no flowers will develop the next season; but if left in place, will flower the second year. Very small bulbs, especially bulblets separated from large bulbs may not flower simply because they are immature. After two or three years of producing only foliage, they flower normally. Tulips infected with virus ("broken") deteriorate, flowers become smaller in successive years, and eventually they cease flowering. Destroy such plants and bulbs.

Some varieties of double white narcissus often develop with blasted flower buds. The cause is not known and research of this problem is not complete.

Digging. It is advisable to dig hardy bulbs and divide the clumps every three years, otherwise, a decline in stem length and in flower size becomes noticeable.

In the years bulbs are to be dug, allow them to mature as long as possible. 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 may 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, since many of the smaller ones will not produce flowers the following year. Plant only the large bulbs in beds or borders. The smaller ones may be planted in rows in a nursery bed and allowed to develop. They will usually form flowering size bulbs in two years.

Broken Tulips. Broken tulips, such as the Rembrandt types, should not be planted among the other bulbs. The flower has a variegation or breaking in its color, often of a feathery outline and in no definite pattern. This breaking is the result of a mosaic disease caused by a virus. Other symptoms of the disease are twisted stems, buds that blast, and a yellowish mottling of the foliage. Aphids will transmit this virus to healthy bulbs and eventually your entire bulb planting will be a total loss. As soon as you notice one of these broken tulips, dig up the bulb and discard the entire plant. It is best not to plant Rembrandt and bybloem types of tulips.

May 1991 Chemung

March 2000 Updated

Every effort has been made to provide correct, complete, and up-to-date pest management information for New York State. Changes in pesticide regulations occur constantly, and human errors are still possible. These recommendations are not a substitute for pesticide labeling. Read the label before applying any pesticide. Trade names used herein are for convenience only. No endorsement of products is intended, nor is criticism of unnamed products implied.

Cornell Cooperative Extension and its employees assume no liability for the effectiveness or results of any chemicals for pesticide usage. No endorsement of products is made or implied.

****HOME REMEDIES: These remedies are not endorsements by Cornell University of any product or procedure. They are not recommendations for use either express or implied. Neither Cornell University, nor its employees or agents, are responsible for any injury or damage to person or property arising from the use of this information.**