



FORCING SPRING BULBS

Forcing Spring Bulbs

Inducing bulbs to bloom when you want them to, rather than when they normally do, is known as forcing. In late summer, most bulbs are dormant with little if any active root growth and no shoot growth. As soil temperatures cool, the bulbs begin root growth, which continues until the temperatures become very cold. Shoot growth begins in the spring as temperatures begin to rise, and is followed soon after by flowering. After bloom, foliage continues photosynthesis and replenishes food stores in the bulbs. As foliage begins to die back, the bulb returns to a dormant state and the cycle is ready to begin again. Forcing is simply manipulating this cycle.

Choosing bulbs: Most spring-blooming bulbs can be forced into bloom. The most common choices are hyacinths, tulips, narcissus, grape hyacinths and crocuses. Catalogs and garden center displays often indicate which cultivars and types of bulbs are more suitable for forcing. Choose only top size bulbs for best blooms.

Containers: Almost any container can be used for forcing bulbs. Specially designed vases for forcing individual hyacinth bulbs are available. Paperwhite narcissus can be easily forced in a shallow container of water using pebbles for support. More extensive forcing projects are best done in clay or plastic pots that have adequate drainage holes.

Soil mix: The best soil mix for forcing bulbs contains equal parts of soil, sphagnum moss, and perlite or vermiculite. Commercial "soil-less" potting mixes can also be used. Bulbs for forcing should not be planted in ordinary garden soil or in potting mixes that are labeled "potting soil." Potting soil mixes are often no more than a fine form of peat moss. This type of material holds too much moisture and may cause water-related disease problems.

Planting: Fill three-quarters of the container with potting mix. Plant bulbs closely together. Spacing considerations that apply to planting bulbs in the garden do not apply when the bulbs are to be forced. Place tulip bulbs with the "flat" side facing the edge of the container. After you arrange the bulbs, place additional media around them. Do not fill the container to the surface with the potting mix. The tops of tulip and narcissus bulbs do not need to be covered. The bulbs should then be watered in.

Cold period: All of the spring-blooming bulbs, with the exception of paperwhite narcissus, must have a cold period of at least three months to initiate bloom. You can supply this cold period in a variety of ways. Potted bulbs can be stored in a refrigerator or in an unheated garage or cellar. Pots in a refrigerator tend to dry out rapidly; check periodically to ensure that the soil is moist.

Bulbs can be chilled in a cold frame as well. If you use this method, make sure you open the cold frame on sunny winter days. Even when the outside temperature is under 40 degrees F, the inside of the cold frame can rapidly heat up, which can initiate early flowering. A simple method involves chilling the pots under natural cold conditions outdoors. Dig a trench or pit in the vegetable or flower garden approximately as deep as the containers. Place pots in the trench or pit and cover with loose, dried leaves, straw or sphagnum moss. Cover the mound with plastic, and anchor it with soil, bricks or rocks. The leaves, etc., act as a buffer zone. Bulbs will receive the cold temperatures they need but will not freeze. While it is not absolutely necessary to cover the pots with plastic, it does make it much easier to remove the pots after the cold period has been completed. The length of the cold period needed depends on the specific bulb and, in some cases, the cultivar. The following table gives cold treatment guidelines for bulbs that are easily forced.

Common Name	Weeks of Cold
Crocus	15
Daffodil	15
Glory of the snow	15
Grape Hyacinth	14-15
Hyacinth	11-14
Iris	15
<i>Iris reticulata</i>	none
<i>Iris danfordiae</i>	14-20
Paperwhite narcissus	none
Tulip	15-17

Forcing: After bulbs have been chilled, bring the pots inside for blooming. Check the pots to see if the bulbs have produced an adequate root system (look to see if any roots are visible through the drainage holes). The number of weeks it takes before the plants actually bloom depends on the environmental factors in the home, but the average is two to three weeks.

Water the pots thoroughly when bringing them inside. Place pots in a cool area of the home (high light intensity is not important at this point) and leave pots in a cool location until active growth is visible. Take care not to over-water. Once active growth begins, you can move the pots to a warmer location that receives more light. Forcing bulbs slowly is more desirable than placing them directly in a bright, warm location. The quick transition from chilling to warm temperatures can sometimes "blast" the buds, which means everything moves too fast and the bulbs do not bloom. Because of the warmer indoor temperatures, flowers from bulbs that are forced indoors do not last as long as outdoor flowers. Forcing several containers of bulbs on a staggered schedule extends the indoor display.

After-bloom care: Forcing is hard on most bulbs. The easiest after-bloom care is pitching the bulbs on the compost pile. If you wish to recycle these bulbs for the garden, after-bloom care is critical. The key to success is keeping the foliage actively growing as long as possible. Bulbs will need to be fertilized with a water-soluble fertilizer. Follow label directions. After the foliage has died back naturally, the bulbs can be planted directly in the garden or stored for later planting. If they do not perform well in the garden, do not be disappointed. Forced bulbs are most useful for indoor enjoyment. By all means, do not try to force the same bulbs the next season. It is difficult to recreate the natural bulb cycle indoors. Most homes simply do not have the necessary light conditions to be successful.