

Forcing Flower Bulbs

by Richard Jauron

Bulb forcing can bring the bright colors and fragrant aromas of spring indoors during winter. Daffodils, tulips, hyacinths, crocuses, and other spring flowering bulbs can be forced indoors from December through March. Paperwhite narcissuses are also forced indoors.

Choosing

Purchase bulbs from a local garden center as soon as they arrive in the fall. Bulbs are generally available from September through November. Bulbs also can be purchased from mail-order nurseries.

Choose bulbs recommended for forcing; see list on page 3. They should be large, firm, and unblemished. So-called “bargain” bulbs and damaged bulbs often lead to disappointments. Large, high quality bulbs are needed because bulbs contain the immature flowers and food required to produce flowering plants.

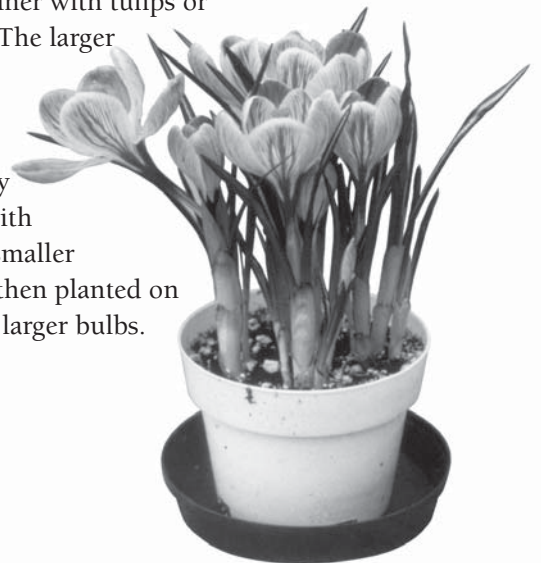
Planting

Most bulbs are forced in a well-drained, commercial potting soil. Gardeners can prepare their own medium by mixing one part garden soil, one part peat moss, and one part perlite.

Containers for forcing may be metal, ceramic, plastic, or clay. Almost any container is suitable as long as it has one or more drainage holes and is twice as deep as the bulbs to be planted.

The first step in planting is to partially fill the container with potting soil. Then gently place the bulbs on the soil surface. Adjust the soil level until the bulb tips are even with the rim of the container. Generally, 3 hyacinths, 3 to 5 daffodils, 5 to 7 tulips, and 10 to 12 crocuses will fit in a 6-inch-diameter pot. Once the bulbs are in place, add additional potting soil until the bulb tips show just above the soil surface. Leave about $\frac{1}{2}$ -inch between the soil surface and the rim of the container. Water the newly planted bulbs from the top or partially submerge the pots in a tub of water until the soil surface is wet. Finally, write the name of the bulb variety and planting date on a label and insert into each pot.

Different types of bulbs can be planted in a single container for a colorful indoor display. For example, crocuses or grape hyacinths can be planted in a container with tulips or daffodils. The larger bulbs are planted first and completely covered with soil. The smaller bulbs are then planted on top of the larger bulbs.



Planting How-to



1. Choose a container that has drainage holes and is twice as deep as the bulbs to

2. Partially fill the



3. Arrange the bulbs on the soil surface. Avoid injuring the bulbs; don't press



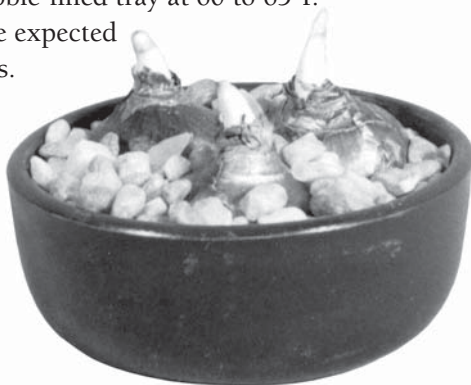
Plant flat-sided bulbs, such as tulips, with the flat side facing the edge of the container. This allows the first leaves to form a border around the edge of the pot. Tulips are more attractive when planted densely (about 5 to 7 bulbs



4. Fill the container with the soil mix until bulb tips show just above the soil

Paperwhite narcissus

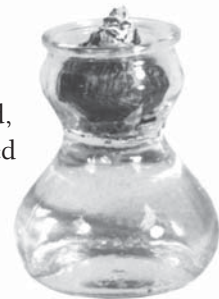
Paperwhite narcissus do not require a cold storage period to flower. They may be grown in potting soil or in a pebble-filled tray at 60 to 65°F. Flowers can be expected in 5 to 6 weeks.



Hyacinths

Hyacinths are quite handsome when planted singly in a 4-inch pot. Three hyacinth bulbs would be appropriate for a 6-inch pot.

Pre-cooled hyacinth bulbs may be grown in water-filled, hourglass-shaped vases called hyacinth glasses.



Bulbs recommended for forcing

Crocuses

Variety

Flower Record
Jeanne d'Arc
Mammoth Yellow
Pickwick
Remembrance

Color

purple
white
yellow
white with blue stripes
lavender

Daffodils

Variety

Barrett Browning
Bridal Crown
Carlton
Dutch Master
Flower Record
cup
Geranium
Ice Follies
Las Vegas
Mount Hood
Tête à Tête
Unsurpassable

Color

white, orange cup
double, white, orange center
golden yellow
golden yellow
white, orange-rimmed yellow

white, orange cup
white, creamy yellow cup
white, canary yellow cup
ivory white
yellow miniature
yellow

Grape Hyacinth (Muscari)

Variety

Blue Spike
Early Giant

Color

double, blue
deep blue

Hyacinths

Variety

Amethyst
Blue Jacket
Carnegie
City of Haarlem
Delft Blue
Jan Bos
Lady Derby
L'Innocence
Pink Pearl
Professor de Hertogh
Yellow Queen

Color

lilac purple
navy blue
white
soft primrose yellow
porcelain blue
pinkish red
rose pink
ivory white
deep pink
bluish purple
yellow

Paperwhite Narcissus

Variety

Bethlehem ('Nony')
Galilee ('Gallilea')
Grand Soleil d'Or
Israel ('Omri')
Jerusalem ('Sheleg')
Nazareth ('Yael')
Ziva

Color

creamy white, yellow cup
pure white
yellow, orange cup
creamy yellow, yellow cup
pure white
soft yellow, bright yellow cup
pure white

Tulips

Variety

Angelique
Annie Schilder
Apricot Beauty
Attila
Bellona
Bestseller
Christmas Marvel
Couleur Cardinal
Esther
île de France
Kees Nelis
Leen van der Mark
Merry Widow
Monte Carlo
Negrita
Passionale
Paul Richter
Pax
Peerless Pink
Prinses Irene
Shirley

Color

double, pink
orange
apricot
light purple violet
golden yellow
coppery orange
cherry pink
deep scarlet
soft pink with lighter edges
cardinal red
red-edged yellow
cardinal red-edged white
red-edged white
double, yellow
reddish purple
lilac purple
scarlet red
white
pink
orange with purple flames
white-edged purple



Chilling

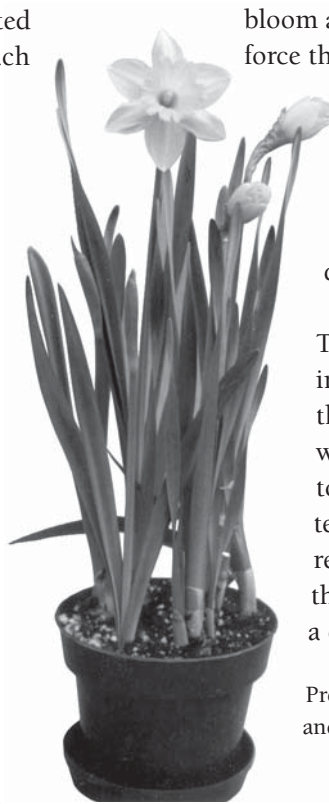
After planting, the potted bulbs need to be exposed to temperatures of 40 to 45°F for 12 to 16 weeks. The bulbs will not bloom properly without the cold period. Critical root growth and flower development occur during this period.

The best places for cold storage are a cool cellar, a refrigerator, or an outdoor trench. For best results, do not allow the bulbs to freeze, water the bulbs regularly throughout the forcing period, and keep them in complete darkness.

If chilling in a refrigerator where apples or other fruit also are being stored, first place the potted bulbs in a plastic bag. Ripening fruit, such as apples, give off ethylene gas that can harm plant growth. During cold storage, remove the plastic bag containing the potted bulbs approximately once a month. Open the bag for 1 or 2 hours to allow for air exchange, then reseal the plastic bag and place it back in the refrigerator.

Annual flower beds and the vegetable garden are possible sites for outdoor storage. Trenches should be at least 1 foot deep and wide enough to accommodate the containers. Place the pots in the trench, place soil around the containers, then cover with several inches of straw.

After 12 weeks of cold storage, roots should be visible through the drainage holes. Also, yellow shoots should have begun to emerge from the bulbs.



If the bulbs are at the proper stage of development after 12 weeks, move the containers to a warmer (50 to 60°F) location that receives low to medium light. Leave them in this area until the shoots turn green, usually 4 to 5 days. Then move them to a brightly lighted, 60 to 65°F location. Keep the plants well watered. On average, bulbs will flower 3 to 4 weeks after removal from cold storage. For a succession of bloom during the winter, remove a few pots from cold storage every 2 weeks.

After blooming

Tulips, hyacinths, and most other spring flowering bulbs are usually discarded after forcing. Most don't bloom again when planted outdoors and attempts to force them again are usually unsuccessful. Daffodils, however, are an exception. Many forced daffodil varieties perform well when planted outdoors. Paperwhites are not hardy outdoors and should be discarded after flowering. Hyacinths forced in hyacinth glasses also should be discarded.

The care after flowering is important if attempting to save forced bulbs. After flowering, remove the spent flowers and place the plants in a sunny window. Water regularly until the foliage begins to yellow. At this point, gradually withhold water until the foliage withers and dries. Carefully remove the bulbs from the potting soil, allow them to dry for 2 or 3 weeks, then store them in a cool, dry place until fall planting.

Prepared by Richard Jauron, extension horticulturist, and Diane Nelson, extension communication specialist.

File: Hort and LA-2

... and justice for all

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Many materials can be made available in alternative formats for ADA clients. To file a complaint of discrimination, write USDA, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Stanley R. Johnson, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.