



# Forcing Hardy Bulbs for winter blooms

Plan now to get an early taste of spring.

BY RITA PELCZAR

**I**N THIS SEASON of short days and reduced activity in the garden, spring may seem a long way off, especially if you live where snow covers the ground and temperatures hover below freezing. But you needn't wait for winter's end to enjoy the colors and fragrances of spring-flowering bulbs. Hardy bulbs can be coaxed into early bloom if you plan ahead and follow a few important steps. (Bulbs such as paperwhite narcissus and amaryllis, which are popular for growing indoors in winter, are not hardy, so they are not included here.)

Early-blooming bulbs such as snowdrops, this page, and hyacinths, opposite, are best suited for forcing.



The life cycle of every hardy bulb includes a vernalization period. During this dormant period, the bulb doesn't appear to grow; however, essential physiological changes are taking place. For hardy bulbs, cold temperatures are necessary for flowers to develop; the specific length of the cold period varies by species, but ranges from about eight to 18 weeks. By satisfying their vernalization requirements, most hardy bulbs can be fooled into blooming indoors, weeks earlier than they would in the garden. In regions that are too warm in winter for vernalization to happen naturally outdoors, forcing is the only way to have these spring blooms, whether for indoor enjoyment or temporary color in the garden.

A note: The term "bulb" is frequently used for any plant that develops enlarged underground storage organs, including true bulbs, corms, tubers, tuberous roots, and rhizomes. The botanically accurate term for such plants is geophyte, but for this article, which focuses on hardy geophytes, I will refer to them as bulbs.

### SELECTING SUITABLE BULBS

"The earliest bloomers are the easiest to force," says Brent Heath, co-owner with his wife Becky of Brent and Becky's Bulbs



Hardy bulbs, such as these hyacinths, require a period of chilling before they can flower.

in Gloucester, Virginia. He cites crocuses, common snowdrops (*Galanthus nivalis*), miniature daffodils, and species tulips among his forcing favorites. Other bulbs that lend themselves to forcing include hyacinths, grape hyacinths (*Muscari* spp.), glory-of-the-snow (*Chionodoxa luciliae*) and squill (*Scilla* spp.). Daffodils and tulips make spectacular displays but can be

a little more finicky. Bulb suppliers can recommend the best varieties for forcing.

While most sources suggest purchasing the largest bulbs possible, Shane Smith, retired director of the Cheyenne Botanic Garden in Wyoming, prefers moderately sized bulbs, which are less expensive. "By putting more smaller bulbs in a pot, you can still get a great colorful show," he says.



Bulbs can be forced in a variety of containers. Just be sure they hold an adequate amount of soil and have drainage holes.



Arranged in a moss-lined wire basket, containers of forced daffodils supported by branches of yellow twig dogwood bring a burst of bright early color to this outdoor garden nook.

Be sure whatever bulbs you choose are firm and without blemishes.

### POTTING THEM UP

Start with a container that has drainage holes and sufficient depth for good root development. Terracotta and ceramic containers are good choices—they are heavy enough to not topple over as the flowers grow. You'll also need some well-draining potting mix.

Fill the container three-quarters full with pre-moistened potting mix and plant larger bulbs such as tulips, daffodils, and hyacinths so that the tips of the bulbs are exposed just above the soil line; cover smaller bulbs

with about an inch of potting soil. Place them “shoulder to shoulder—it’s ok if they touch,” says Heath. The more bulbs you fit into the container, the better the show.

After potting, water well. Keith Kaiser, executive director of the Pittsburgh Botanic Garden, cautions it’s important to “then keep the soil on the dry side. Often, rotting of the bulbs is the cause of unsuccessful forcing.”

### MIMICKING MOTHER NATURE

To successfully bring hardy bulbs into bloom, you must provide similar conditions to their native climates. (See the chart on page 16 for guidelines for some common

## FORCING HARDY BULBS IN WATER



Hyacinths and crocuses are easy to grow without soil. Start with pre-chilled bulbs (see “Mimicking Mother Nature” in the article). You can use especially designed bulb vases or forcing jars—such as the one shown above with a hyacinth—that support the bulb on top while its roots grow into the water below, but any container that holds water and keeps the bulbs upright will suffice. It’s important that only the very bottom portion of the bulb touches moisture—otherwise, the bulb will rot. To provide extra support for the bulbs, you can place pebbles around them. Check the water level regularly and replenish as needed during the growing period.

—R.P.

hardy bulbs.) After planting, expose bulbs to a period of cool temperatures—ideally between 50 and 60 degrees Fahrenheit. “They will fill a pot with roots in about two weeks at this temperature,” says Heath. After roots develop, the cellular structure in the bulb changes. “The cell walls become elastic, almost like they have antifreeze,” says Heath. This is why rooted hardy bulbs can survive winter temperatures.

Once rooted, temperatures should be lowered—for best results between 35 to 45 degrees Fahrenheit—and maintained for the entire chilling period. An unheated garage or basement, a cold frame, or a ventilated crawl space are good options. You can also dig a two-foot deep trench in the garden for pots, covering them with 18 inches of straw. To protect bulbs from wildlife foraging, place wire mesh over the tops of pots.

A spare refrigerator is another cold storage option. This is the best choice for those who live in regions that don't experience prolonged cold temperatures. Unplanted bulbs can be stored dry in a mesh sack or a paper bag perforated with a few holes. By refrigerating the unplanted



To chill bulbs in a refrigerator before planting them, store them in a ventilated paper bag.

bulbs for several weeks, their dormancy requirement is met, after which they can be potted in containers or planted in the garden. It is critical not to place bulbs in a refrigerator with fruit; ethylene gas given off by ripening fruit can cause blooms to abort. Be sure to label each pot or bag with the name of the bulb and date so you'll know when to bring it out of hibernation.

Some growers offer pre-cooled bulbs, whose necessary chilling period has been met, another good option for gardeners in warmer climes. If you purchase pre-cooled bulbs, or refrigerate your own without soil, plant them immediately upon receipt or removal from cold storage.

## ENCOURAGING BLOOMS

Once the cold requirement has been met, gently nudge your bulbs into growth. Kaiser recommends placing them in a room “as cool as possible with as bright a light that is available. I grow all my bulbs un-



*Muscari* sp.



*Crocus* sp.

## CHILL TIME FOR HARDY BULBS

Below is the number of weeks of chilling required to force some common bulbs to bloom. There is some variation among species and varieties. —R.P.

Bulbs	Weeks of Chilling
<i>Chionodoxa</i> spp. (glory-of-the-snow)	15
<i>Crocus</i> spp. (spring-blooming crocuses)	10–15
<i>Galanthus</i> spp. (snowdrops)	15
<i>Hyacinthus</i> spp. (hyacinths)	12–14
<i>Muscari</i> spp. (grape hyacinths)	14–15
<i>Narcissus</i> spp. (daffodils)	14–18
<i>Scilla</i> spp. (squill)	12–15
<i>Tulipa</i> spp. (tulips)	14–20

der grow lights,” he adds. When shoots emerge and grow three or four inches tall, move the pot to a warmer location—68 degrees Fahrenheit is ideal. Water them regularly during this period of active growth. Most bulbs bloom in two to five weeks after they break dormancy.

“Even when you do everything right, the bulbs can get floppy,” adds Smith, who says that wire or bamboo supports may be necessary to hold flower stems upright. To prolong flowering, move the pots back to indirect light as flowers begin to open, and transfer pots to a cool room at night.

## POST-FLOWERING

If you want to transplant forced bulbs into the garden for future flowers you must maintain vigorous foliage to refuel the bulb. “Hyacinths retain their foliage for a long time after they have flowered, so they are good candidates for being transplanted,” says Kathy LaLiberte, who blogs for

Longfield Gardens, a bulb and perennial nursery in Lakewood, New Jersey. But not all forced bulbs will make the transition. “If the foliage on the forced bulbs is long and lank, I would throw them out. If the foliage is turgid, upright, and well attached to the bulb, they will transplant well and continue to grow,” she says. Forced bulbs may take a few seasons to gather strength before returning to bloom.

Flowers that appear in winter are well worth the time and effort to cultivate. Forcing bulbs just takes a bit of forethought and a little trickery. Beyond their colorful blooms, many will perfume your home with delightful scents. “Fragrance is an added value,” says Heath. In a garden their scents may go unnoticed, “but in the house they get up to nose level.” And if you close your eyes and breath deep, you may believe it's spring! 🌸

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