

# Missouri Environment & Garden

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## Forcing Bulbs Indoors

Plan ahead. These words are sound advice for any walk of life and especially relevant for gardeners since we simply cannot rush nature. For example, in an attempt to add a bit of color to the dull days of winter plant lovers might consider forcing spring bulbs next January or February. To their disappointment they will learn the process should have started the previous fall since spring bulbs have a chilling requirement which must be met before they will flower indoors. It is possible to lessen the doldrums of a typical Missouri winter by getting an early start on spring and now is the time to “plan ahead”.

“Forced” bulbs are those which are induced to flower at other than their normal time. This practice is commonly used to flower narcissus (daffodils), hyacinths, tulips, crocus and other spring-flowering bulbs in containers during the winter. The process is relatively simple and involves five basic stages or steps.

**Step 1:** Preparation stage. The general procedure for forcing all species of spring bulbs is similar and starts with purchasing only top quality, flowering-size (large) bulbs. Good bulbs contain the stored reserves necessary for successful production of roots, leaves and flowers.

**Hyacinths:** This species is considered by most to be the spring bulb easiest to force and may be forced potted in a growing medium or in ` with water so that the base of the bulbs are continually wet. Potting should be done in late September or early October. Plants will flower about four weeks after being taken out of the chilling treatment (described later) and brought indoors.

**Narcissus:** The cultivars of narcissus most suitable for forcing include Rembrandt, Cragford, Golden Harvest, King Alfred and Carlton. Paperwhites are a form of narcissus that can be forced without chilling either in pots or water.

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**Table 1. Tulip cultivars (colors) recommended for forcing indoors**

Apeldoorn (orange-scarlet)	Jewel of Spring (yellow-streaked red)
Attila (purple-violet)	Make Up (red-edged white)
Bellona (golden yellow)	Merry Widow (white-edged red)
Blizzard (creamy white)	Olympic Flame (yellow-flamed red)
Christmas Gold (deep yellow)	Orange Nassau (double orange)
Christmas Marvel (cherry pink)	Orange Wonder (bronzy-orange)
Couleur Cardinal (cardinal red)	Paul Richter (scarlet red)
DeWet (orange)	Peach Blossom (double deep rose)
First Lady (reddish-violet)	Preludium (salmon, white base)
Garden Party (white-edged red)	Queen of Sheba (mahogany orange)
Gudoshnik (streaked yellow)	Westpoint (yellow)

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**Tulips:** While any cultivar of tulip can be forced into flower early, some are more suitable than others. Table 1 below lists cultivars of tulips especially suited for forcing. Tulips should be potted before the end of October for adequate root growth and chilling. Most cultivars flower about four weeks after being removed from chilling treatment and brought indoors, although there is variation according to cultivar and forcing conditions.

**Step 2:** Potting stage. Whatever the species, bulbs usually are potted in the month of October. Use azalea or bulb pots four to eight inches in diameter, according to the species being forced. Although equal parts of garden soil, peat and sand can be used, excellent results can be obtained through the use of soilless media containing

primarily sphagnum peat, perlite and vermiculite. These mixes have the advantage over soil of being biologically inert and possessing better drainage properties than soil-based mixes.

Add enough potting medium to fill the pot so bulbs are planted as follows:

- 1) Narcissus—plant so about one-half of the bulb will be above the soil line after watering and settling. Use five bulbs per six-inch pot.
- 2) Hyacinths and tulips—allow only the tip of the bulb to show above the soil line. Use three hyacinths or six tulips per six-inch pot. Tulips should be placed in the pot with the flattened side facing toward the outside of the pot to insure a uniform flower display.

- 3) Small bulbs (e.g. crocus) –plant so they will be about one inch below the soil line. Use 15 bulbs per six-inch pot. Label each pot with cultivar of bulb, date of planting and expected forcing date and water thoroughly.

**Step 3:** Rooting/chilling stage. After potting and watering, keep hardy bulbs where temperatures will range between 35 to 40 degrees F. This might be a cool north room, basement, bulb cellar, outdoor trench, cold frame or refrigerator. If the latter is used, food products should not be stored in the refrigerator while the bulbs are being chilled. The purpose of this stage is to allow bulbs to produce a healthy root system and to elongate their flower

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primordium in advance of being forced to bloom. If placed outdoors in trenches or cold frames, bulbs should be exposed to at least three weeks of favorable temperatures (around 40 degrees) before the first hard freeze ensues. Most cultivars will require 13 to 14 weeks of chilling treatment to develop necessary root growth and flower primordium development being forced into flower

**Stage 4:** Top-growth stage. The actual forcing of the plants into flower indoors adds an additional three to four weeks to total forcing time, depending upon species and forcing conditions. If the potting

medium and tops are frozen when they are brought indoors, place them in a cool room at about 40 degrees F for two or three days to thaw out slowly. If the plants are not frozen, they can be brought directly into a cool, bright window where temperatures are in the 60 degree F range. They should remain in this environment until nearly ready to bloom. Bulbs must be kept watered during this stage but fertilization is not necessary.

**Stage 5:** Bloom stage. When flower buds are almost fully developed, pots may be moved out of the bright window into the living room or other area of the

home they are to be displayed and enjoyed. Avoid placing them close to heater or in direct sunlight. The life of the flower can be lengthened by moving the plants back into a cool room each evening. Unfortunately, bulbs that have been forced indoors are of little value for outdoor planting and probably should be discarded after their bloom period is over.

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