



Department of Horticulture and Landscape Architecture

Purdue University Cooperative Extension Service • West Lafayette, IN

Forcing Bulbs for Indoor Bloom

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Beautiful spring flowers in the dead of winter? Why not! Gardeners with outside gardening room as well as apartment dwellers may have their own spring flowers blooming in their homes. But you must act in the fall. Daffodils, early tulips, crocuses, hyacinths, and paper white narcissus, can all be forced for a continuous flower show from Christmas until spring.

Bulb Selection

To insure good indoor blooms, purchase only bulbs of flowering size. Bargain bulbs should be avoided since they often are not large enough to bloom. For tulip bulbs, bulbs over one and a half-inch in diameter are preferred.

Hardy bulbs which are preferred include crocuses, daffodils: large, medium, and short-cupped, grape hyacinths, hyacinths, early tulips, Darwin tulips, Triumph tulips; and snowdrops.

The tender bulbs of amaryllis and paper white narcissus are quite useful for forcing but must be handled differently from the hardy types.

Soil Method

Hardy bulbs for indoors should be started in late October.

Secure clean flower pots, azalea pots or regular bulb pots. Be quite sure they are clean. Coffee cans or sturdy cardboard containers with drainage holes can also be used.

Prepare a potting mixture of equal parts sand, garden soil and peat moss. Be sure the soil is thoroughly mixed. Do not add any fertilizer.

Cover the bottom of the pot with a one-inch layer of fine pebbles, gravel or chips to provide good drainage. Add enough soil so the bulbs are placed properly (Table 1). Use only one type of bulb for each pot.

Table 1.

Tulips—Place the bulbs so the flat side of the bulb faces the wall of the pot (Figure 1). The lower large floppy leaf grows above the flat side and thus hangs over the pot edge. Usually 3 bulbs are placed in a 5-inch pot (has a 5-inch diameter at the rim). Allow only the bulb tops to show above the soil.

Hyacinths—Place 3 or 4 bulbs in a 7-inch pot, or plant one bulb in a 4-inch pot. Allow the bulb tops to show above the soil.

Daffodils—Place 3 or 4 bulbs in a 7-inch pot. Allow one-half of the bulb to show above the soil line.

Crocuses, snowdrops, grape hyacinths—Place several in a pot, depending upon the pot size. Set one inch below the soil surface.

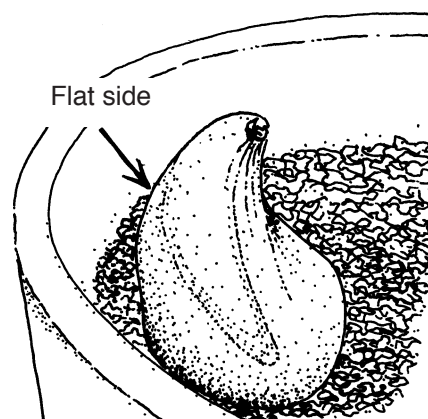


Figure 1. Place tulip bulbs so the flat side is toward the outside of the pot.

Set the bulbs and add more soil, firming it around the bulb. Be sure there is no soil within one-half inch of the top of the pot for ease of watering (Figure 2).

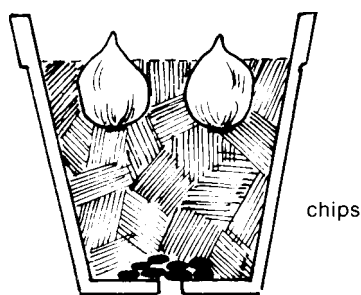


Figure 2. Proper planting depth.

Water thoroughly so water flows from the drainage holes in the bottom of the pot.

Storage

The potted containers must be kept in cold storage until roots grow. A temperature of 40-50°F. is ideal. Root formation must occur first before top growth. If the bulbs receive an inadequate cold treatment, the top may grow before the roots and the flower bud will be abnormal.

The potted bulbs can be buried out-of-doors. A cold frame is ideal, but if not available, select a location where a hole will not hurt existing plant material. Dig a trench 15 inches deep and place a layer of drainage material in the bottom of the trench (Figure 3). Be sure to select a location where the water will not flood the hole.

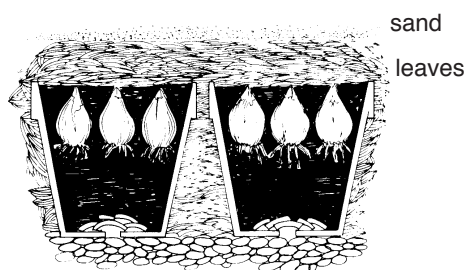


Figure 3. Pots of bulbs are buried in pit or trench and covered with sand, shavings, or peat moss to store for rooting.

Place the pots rim-to-rim in the trench and cover with a 2-inch layer of leaves. For easier digging in the winter when the soil is frozen, cover the leaves with sand, shavings, peat moss or well-leached cinders. The pots can be buried in soil alone, but it is difficult to dig when the soil is frozen.

Some gardeners prefer to store potted bulbs in a dark basement room or vegetable cellar. If this type of storage is used, keep the temperature as near 40°F as possible.

Apartment dwellers may want to set the bulbs in a refrigerator. This means sacrificing some refrigerator space unless you have an unused one. Do not place the pots in an area of the refrigerator where they will freeze. Also, avoid storing large amounts of fruit in the same refrigerator. Check occasionally to be sure the pots don't need watering. Soil-filled pots should be kept moist but not soaking wet.

Forcing

The length of cold storage will vary with the type of bulb and the amount of cool storage the bulb had before planting. Therefore, for most bulbs a minimum of 10 weeks cool storage is recommended. Twelve weeks is usually sufficient for most daffodils, iris and large tulips.

When pots are removed from storage, check for root growth (Figure 4). Place in a cool (60-65°F), partly shaded location.

Also, be sure soil is moist to the touch. Place in a location away from heat sources.

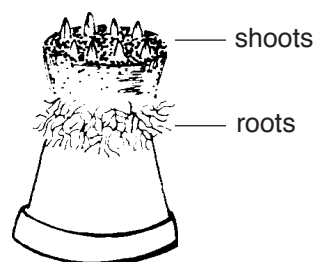


Figure 4. Well-rooted bulbs, ready for forcing.

When removed from cold storage, the yellow sprouts should be showing. Leave in the cool area until the shoots turn green. Then gradually move the pots to a warmer area with more light. A sun porch or bedroom window often is an ideal location. Keeping the plants in cooler quarters will help the blooms to last longer.

For a sequence of bloom, remove hardy bulbs from storage at two-week intervals.

Discard all bulbs after blooming has finished.

Water Method

This method is often used for forcing hyacinths. Secure top bulb size to insure good bloom.

Buy a French hyacinth glass or a specially designed "cup," available in both glass or plastic. Place the bulb (one to a glass) on the collar or rim and fill with water to 1/4 inch from the bulb bottom. Be sure no water touches the bulb as the roots will grow down into the water (Figure 5).

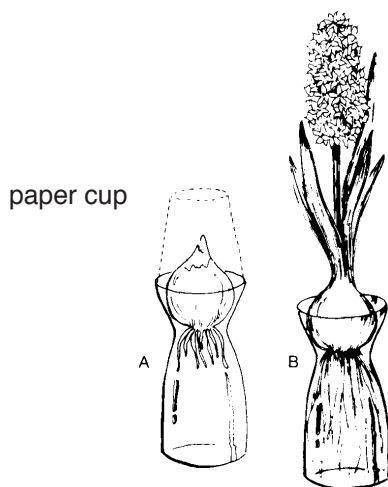


Figure 5. a) Hyacinth bulb being forced in "hyacinth glass" - with paper cup to force bloom. b) Hyacinth in bloom.

Many garden centers now carry both bulbs and glasses. Some bulbs are precooled so they are ready to force. Otherwise the bulb must be stored as per directions in the cold storage section.

Occasionally the hyacinth bloom will fail to stretch out of the rosette. Cover the pot with a paper cup or cone until the bloom has stretched.

Tender Bulbs

Paper White Narcissus

The common paper white narcissus produces white, sweet scented blooms in clusters. The yellow type (Grand Soleil d'Or or Chinese Sacred Lily) can also be used.

Select a low bowl or dish 2-3 inches deep (Figure 6). It may be decorative if you wish.



Figure 6. Narcissus in water.

Grow the bulbs in a medium of washed coarse sand, pea gravel, washed pearl chips or bulb fiber. Place the bulbs so the necks are well exposed. Fill the container with water to 1/2 inch below the medium surface.

Set the container in a well lighted location at 60°F. Higher temperatures encourage weak growth and poor flowering. Be sure to keep the bulbs well watered.

Bulbs immediately placed at a temperature of 60-70°F will bloom in about 6 weeks. For later bloom, the pot can be maintained at 50°F, and then moved to the higher temperature. For late spring bloom, the bulbs can be stored dry at 50°F. When potted, these will usually bloom in 3-4 weeks.

Amaryllis

In the late fall, set a single amaryllis bulb in a pot, allowing one inch of space around the bulb. Use a mixture of 1 part top soil and 1 part peat moss. Set the bulb so 1/3 to 1/2 of the bulb shows above the soil level.

Water well and place in a sunny location at 60°F. Flowering should occur in 6-8 weeks after potting.

While the flower stalk is elongating, feed with a complete liquid fertilizer every 2-3 weeks. After flowers fade, cut the flower stalk off and continue watering and fertilization. Keep the plant in bright light to insure good growth.

When all danger of frost has past, plunge the entire pot in the open sun or grow the plant indoors during the summer. Any interference during this summer growth will hamper the proper development of the bulb in preparation for next spring's flowers.

Late in the summer when the leaves begin to turn yellow, watering should be decreased. After the foliage has died back, allow the soil to become dry.

The bulb is now dormant and should be left in the pot and stored in a cool place at 40-45°F.

By November the bulb should be shaken out of the dry soil, repotted, and forced as if you were starting with a newly purchased bulb. Any offsets may be left on the mother bulb to produce a clump, or, at the time of repotting, they may be pulled off with a portion of root attached to develop new bulbs of the same variety. Handle offsets in the same manner as the mother bulb. They will bloom the second or third season.

By carefully handling an amaryllis bulb, it should bloom indoors for many years.

*This publication was previously authored by Juliann Chamberlain.

Figure 1 illustrated by Mary Lou Hayden.

For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.
