



CORNELL COOPERATIVE EXTENSION - SUFFOLK COUNTY



INSECT AND PLANT DISEASE DIAGNOSTIC LABORATORY

EDUCATION CENTER
423 GRIFFING AVENUE
RIVERHEAD, NY 11901
HORT INFO LINE 631.727.4126



Cornell University
Cooperative Extension
of Suffolk County

BAYARD CUTTING ARBORETUM
MONTAUK HWY. PO BOX 463
OAKDALE, NY 11769
HORT INFO LINE 631.581.4223

Forcing Bulbs for Indoor Bloom



Daffodils forced for blooming indoors
(Susan Mahr, Dept. of Horticulture,
Univ. of Wisconsin – Madison)

Forcing flower bulbs at home is a fun and easy way to enjoy spring flowers during the winter months. Some bulbs are so easy to force they make great projects for kids. Others take a bit more doing.

"Forcing" — coaxing, actually — is the term used to describe the process that stimulates bulbs to bloom out of season. Among the most commonly forced bulb flowers are amaryllis, paper-white narcissus, muscari and hyacinths. Certainly they are the easiest. However, other bulbs that can be forced include colchicum and miniature iris. When selecting bulbs for forcing, look for varieties that are specifically recommended.

Spring flowering (hardy) bulbs usually require a rooting period of about 12 to 15 weeks at temperatures between 41-48°F in order to produce a good root system, which is essential if they are to be "forced" into flower. To achieve this you will need to store your bulbs in a location where this temperature can be maintained throughout the rooting period. There are a few ways which you can consider to achieve the desired results. Non-hardy bulbs such as amaryllis and paper white narcissus do not require this type of rooting period.

Storing Bulbs

Pot your bulbs right away if you have an appropriate location immediately available, such as an old (functioning) refrigerator, a root cellar or cool basement — or if outdoor temperatures are below 45°F. If you do not immediately have an appropriate location for rooting bare bulbs can be stored for several weeks in your refrigerator prior to potting without damage if they are packed properly. However, they will still require a rooting period after they have been potted.

The best way to store them is in a mesh bag or paper bag with holes that permit ventilation. You don't have to worry about water, as the humidity inside a refrigerator is usually high enough. Check them periodically to make sure they are not molding or drying out.

Potting Bulbs for Cooling/Rooting

Use clean pots with drainage holes (the depth will depend on the bulbs being grown). Allow for 2 inches of soil below the bulb and select a pot large enough to allow the top of the bulb to be even with the rim when placed on the soil.

Plain potting soil is fine. You can add some bone meal or special fertilizer formulated for bulbs, just a "pinch" per bulb, to the soil mixture. Place 2 inches of soil in the pot, then place (don't push) bulbs into position. Add enough soil to fill the pot, firming the soil gently around the bulbs being careful not to bruise them. Water well in order to settle the soil around the bulbs. Bulbs can be planted very close together, even touching, and make the best show in "crowded" arrangements.

Different types of bulbs require differing periods of time to root well. For this reason it is not advisable to combine different types of bulbs in the same pot. Label each pot with the name of the variety, planting date, and the date you intend to bring it out of storage for forcing.

Bulbs will flower some 3-4 weeks after they have been brought into warmer temperatures. Thus, from time of planting to flowering, allow a period of 15 weeks, comprised of 12 weeks for rooting, 3 weeks in warmer temperatures to flower. (It is easier to hold bulbs back than to speed them up, so when you know the date you want them to be in flower, calculate accordingly the best planting time. (For Valentine's Day flowers, for example, plant bulbs in early- to mid-October).

The following timetable will help plan a forcing schedule in order to have bulbs in flower at a given date. Remember that these can vary, and in all cases, the bulbs must be well rooted before being forced.

- To flower in January, plant in September or very early October
- To flower in February, plant early- to mid-October
- To flower later, plant in late October or early November

There are exceptions: amaryllis and Paperwhite narcissus.

Rooting Potted Bulbs

A few appropriate locations which can be used for rooting the bulbs that you have potted are an old (functioning) refrigerator, a root cellar or cool basement — or if outdoor temperatures are below 45°F they can be rooted outdoors.

Refrigerator. Especially if your area experiences an "Indian Summer," which is quite often the case on Long Island your refrigerator can serve as a suitable rooting area. Vegetable or crisper drawers can be used, but don't store bulbs in the same drawer you keep ripening fruit or vegetables which give off ethylene gas which can harm the bulbs. (Also some bulbs are poisonous, so this storage method is not recommended for households with young children.)

Unheated basement or cool, ventilated crawl space. If you can maintain temperatures at 35° - 55°F. either of these two locations are often the most convenient locations to use to root potted bulbs.

Outdoor garden. Potted bulbs can be placed outdoors for rooting if you live in an area where the outside temperature cools off to the 40°F range. In areas where the winter temperatures are likely to drop below 32°F, pots can be kept cool in a trench in the garden or in a cold frame structure, but it's important to keep pots from freezing.

A cold frame should be shaded and well drained. After pots are placed in the frame, cover them with insulating materials, such as straw, if temperatures drop below 30F.

If you choose a trench, select a sloping location (for better drainage). Mark off and dig a trench about six inches wider than the pots. Spread an inch of gravel or cinders on the bottom for drainage and set pots in. Place the pots in the reverse order in which you will remove them. Cover pots with a soft, non-compacting material such as vermiculite. Add hay, fir bark or peat moss if very low temperatures are expected.

Forcing Bulbs

The actual forcing begins at the stage when you remove the bulbs from the root-growing environment into warmth and light, triggering the growth of leaves and flowers. Sunshine and temperature are the most important factors in promoting successful flowering. Most bulbs will require about 3 or 4 weeks from the time they are removed from cold storage before they bloom.

After the rooting period specified for your particular bulb variety (generally at least 12-14 weeks), transfer the pots to a place indoors with indirect sunlight and temperatures about 60°F for a week or two.

When the shoots are 4-6 inches tall, move the pots to a bright, sunny window to stimulate blooming. A temperature of about 68°F and direct sunlight will produce the best results. When the buds take on color, return

the plants to indirect sunlight to make the blossoms last. Keep the soil moist at all times.

If blossoms begin to develop too quickly, you may be able to retard blooming a bit by moving the pots out of direct sunlight and into a cooler location. Re-acclimate them to sunlight and warmer temperatures when you want them to resume growing.

After blooming, hardy bulbs such as hyacinths and tulips cannot be forced again and should be discarded. Or they can be planted outdoors where they may rebloom within a year or two.

Amaryllis – Steps to follow for re-blooming

It is possible to get Amaryllis bulbs to re-bloom again if treated properly during the year.

Winter through Autumn: Amaryllis Growing & Re-bloom Tips

1. Fertilize starting one month after planting (when active growth is underway). Use regular houseplant fertilizer (usually liquid types) once per month or use a long-lasting, balanced, timed-release fertilizer, applied as needed.
2. After the bloom cycle finishes, cut off the stems just above the bulb nose.
3. Continue to grow the plant in bright light, watering regularly to keep soil moist.
4. During the summer growth period: keep the pot watered, fertilize monthly. If you like, keep it outdoors.
5. In September, bring the pot inside (if outdoors).
6. To re-flower the bulb, stop watering the plant, and place the bulb (still in pot) in a dry cool place or closet for 8-10 weeks.
7. Do not store the plant near ripening fruit (such as apples) which emit ethylene gas. This naturally occurring gas damages flower development.
8. After 8-10 weeks, add a little more potting soil to the pot, or, if you like, repot it.
9. To repot in fresh soil: Fill the soil under and around the bulb with potting soil. Leave the “shoulders” of the bulb exposed (the top 1/3 of the bulb). Use a pot sized only slightly larger around than the bulb itself. Usually a 6- or 8-inch pot is perfect. For a more dramatic display of flowers, plant three bulbs with flowers of the same color together in a broad-based pot sized just big enough to hold all three bulbs. *All pots must have drainage holes.*
10. To initiate growth, a warm site is best. Cooler sites are fine once growth commences.
11. Water thoroughly to “start up.” In subsequent weeks, water sparingly. Once growth emerges, water regularly to keep soil moist (never soggy) and resume a fertilizing program.
12. The amaryllis will bloom again, about 8 weeks after the first watering.

Paperwhite Narcissus – Steps to follow for blooming.

Paperwhites (narcissus tazetta), 'Soleil d'Or', 'Chinese sacred lily' and colchicum are among the most popular forcing flowers that don't require the 12-week rooting period. They are easy to start and can give you indoor blooms from Thanksgiving until late March, if planted successively, batch after batch in late fall.

Paperwhites are most often (and most easily) potted in shallow containers of gravel. Place bulbs on a layer of gravel and carefully fill in enough gravel to hold bulbs but not cover them. A crowded grouping will be the most attractive.

Add water to the container. It should go just to the base of the bulbs, but not touching the bulbs. Place container in a sunny spot, step back and watch 'em grow! You'll see roots in a day or so and in three to five weeks you'll have gorgeous flowers.

For more details on forcing bulbs including some of the best bulbs to consider visit the U.S. Netherlands Flower Bulb Information Center (NFBIC) web site www.bulb.com, which was used as the resource for this leaflet.

Prepared by Thomas Kowalsick, Senior Horticulture Consultant, Cornell Cooperative Extension – Suffolk County, 12/2008.

TK 12/2008