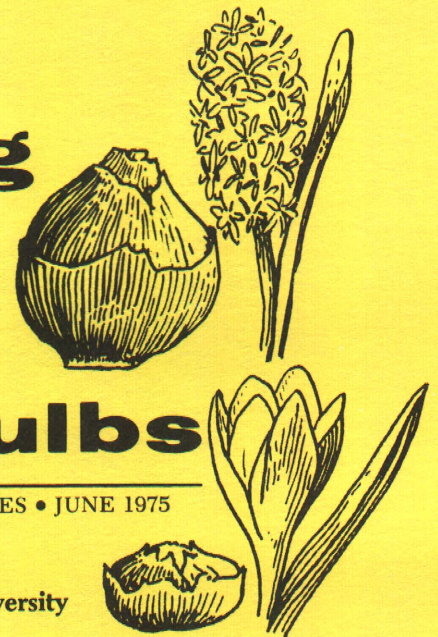




# home forcing of Spring Flowering Bulbs



EXTENSION BULLETIN 593 • HOME AND FAMILY SERIES • JUNE 1975

Cooperative Extension Service Michigan State University

BY A. A. DE HERTOGH AND W. H. CARLSON  
*Department of Horticulture*

CAUSING SPRING BULBS TO FLOWER by other than naturally occurring conditions is called *forcing*. This is a practice carried out by commercial growers the world over. With a little care and effort, anyone can have a steady supply of bulb flowers from late January through April. Using certain procedures and specific bulbs, it is possible to have flowers prior to January. Forcing bulbs should be a challenge to those who are interested in plants.

## GENERAL INFORMATION

The steps involved in forcing are quite simple.

(1) The proper cultivars (cultivated varieties) must be selected for the desired flowering periods. This is necessary since all cultivars are not suitable for all flowering periods. The table on page 4 lists some cultivars which are best suited for pots for the various months.

(2) The bulbs must be planted and given a cold treatment with temperatures ranging from 35 degrees to 48 degrees F. This cold treatment can be provided by either a cold-frame, an unheated cellar or refrigerator. Regardless of the method used, the bulbs must be rooted and stored for a minimum of 13 weeks.

(3) They should be carried into the house for flowering. On the average, the bulbs will take about 3 to 4 weeks to flower. During this time you will be able to enjoy a growing plant.

## MATERIALS

**Bulbs** — The selection of the proper cultivars for the desired period is very important. The following table describes several cultivars which are suitable for pot plants for the various months. It is strongly suggested, since some cultivars (see the table) may be in short supply, that you place your bulb order with your dealer in the spring to make sure he will have them in the fall.

**Planting Medium** — The purpose of the planting medium is to anchor the bulbs and to serve as a supply of moisture. Thus, the planting medium must be *well-drained* and yet retain sufficient moisture. A good mixture would be 1 part loamy soil, 1 part peat, and 1 part sand. Fertilizer should not be added to the mixture.

**Containers** — Use only clean pots with adequate drainage holes. If they have been previously used, scrub the pots and rinse thoroughly. If they are new plastic pots, be sure that there are holes in the bottom of the pot. When clay pots are to be used, soak them overnight so they will not draw moisture from the planting medium.

## PROCEDURES

**Handling of bulbs prior to planting** — It is extremely important that all bulbs be handled with care at all times. They are living plants and should not be



1. Observing Flat Side of Bulb



2. Correct Placement of Bulbs in Pot



5. Marking Individual Pot Labels



6. Placing Labels in the Pots

dropped or subjected to extreme temperatures. After purchasing, be sure that the bulbs are kept *well-ventilated*. If they are in paper bags, open the bag to allow maximum air movement. If possible, store them on open trays. Keep the bulbs in a room with a temperature between 45° and 55° F. Bulbs can be stored for several weeks at these temperatures. Temperatures above 63 degrees F. should be avoided at all times.

**Planting** — Planting can take place any time from October 1 to December 1, depending on the desired date of flowering, the type of storage used, and the prevailing weather. As a general rule, for late flowering, plant late, and for early flowering, plant early. Remember the minimum length of the total cold treatment should be 13 to 14 weeks.

If the bulbs were held at 45° to 50° F (precooling) prior to planting be sure to count this time in the total weeks of cold given. Thus, if bulbs were pre-cooled for 3 weeks they only need 10 weeks more after planting.

For flowering in late January, the planting must be done around October 1. For February flowering, the bulbs should be planted in mid-October and for March and April, in mid-November.

When planting, (See Figures 1-4) the pot should be loosely filled with enough soil so that the top of the bulb will be even with the top of the pot (See Figures 2 and 3). Place 6 tulips, 3 hyacinths, 6 daffodils, or 15 crocus to a 6-inch pot. When planting tulips, you will note that they have a round side and a flat side (See Figure 1). Plant them so that the flat side of the bulb will be facing the outside of the pot (See Figure 2). When this is done, the first big leaf of the



3. Covering Bulbs with Soil



4. The Finished Pot



7. Setting Pots in a Cold-Frame



8. Watering the Pots

plant will face outward and an attractive pot will be obtained at flowering.

Do not press the bulbs into the soil. The soil under the bulbs should be loose so that good rooting can take place quickly. When covering bulbs, do not fill the entire pot (See Figures 3 and 4). Fill only to within  $\frac{1}{4}$  of an inch of the top so the plants can be more easily watered.

Remember to *label each pot* (See Figures 5 and 6) with the name of the cultivar, date of planting, and date to be placed in the house.

**Cold Treatment**— After planting, two procedures are available for forcing. The first and by far the most convenient method is the use of indoor cold-storage such as a vegetable or unheated cellar. As long as the temperatures run between 35 degrees and 48

degrees F., any type of structure can be used very successfully. It is a good practice to stagger the time of planting as previously suggested. After placing the pots in the unheated cellar, *water them well*. A good root system is essential, and this cannot be obtained without proper watering. The bulbs should be watered frequently, making sure that the soil is kept moist.

The second method which can be used is using a cold-frame (See Figure 7). The cold-frame should be constructed on a well-drained piece of land and preferably in a shaded area which does not receive heat from the house. After the pots are placed in the cold-frame, *water them well* (See Figure 8). After watering, the pots should be covered. There are various covering materials which may be used. These include sand, peat, perlite, sawdust, and woodchips. When using a cold-frame, stagger the plantings and remember that the last planting should be

Type of bulbs	Time of flowering	
	January and February	March and April
<b>TULIP</b>	<u>Red</u> - Bing Crosby, Paul Richter, Olaf <u>Yellow</u> - Bellona <u>White</u> - Hibernia <u>Pink</u> - Christmas Marvel <u>Variegated</u> - Kees Nelis	<u>Red</u> - Bing Crosby, Olaf <u>Yellow</u> - Bellona, Ornament <u>White</u> - Hibernia <u>Pink</u> - Peerless Pink <u>Variegated</u> - Golden Eddy, Edith Eddy
<b>HYACINTH</b>	<u>Red</u> - Jan Bos <u>Pink</u> - Pink Pearl, Lady Derby <u>White</u> - L'Innocence, Colosseum <u>Blue</u> - Ostara, Delft Blue	<u>Red</u> - (none available) <u>Pink</u> - Pink Pearl, Marconi <u>White</u> - Carnegie <u>Blue</u> - Blue Jacket, Ostara
<b>DAFFODIL</b>	<u>Yellow</u> - Carlton, Unsurpassable, Dutch Master <u>Bicolor</u> - Barrett Browning, Ice Follies, Fortune <u>White</u> - Mt. Hood	<u>Yellow</u> - Dutch Master, Unsurpassable <u>Bicolor</u> - Magnet, Barrett Browning, Ice Follies, Flower Record, Fortune <u>White</u> - Mt. Hood
<b>CROCUS</b>	<u>Purple</u> - Remembrance, Purpureus Grandiflorus <u>White</u> - Peter Pan <u>Striped</u> - Pickwick <u>Yellow</u> - (none available)	<u>Purple</u> - Remembrance, Purpureus Grandiflorus <u>White</u> - Peter Pan <u>Striped</u> - Pickwick <u>Yellow</u> - Large Yellow
<b>MUSCARI</b>	<u>Blue</u> - Early Giant	<u>Blue</u> - Early Giant
<b>IRIS RETIC- ULACE</b>	<u>Blue</u> - Harmony <u>Yellow</u> - Danfodiae <u>Purple</u> - Hercules	<u>Blue</u> - Harmony <u>Yellow</u> - (none available) <u>Purple</u> - Hercules

done at least 3 weeks prior to hard freezes. If the rains are infrequent, it will be necessary to water to ensure that the pots are kept moist.

**Forcing the bulbs** — After a minimum of 13 weeks of cold, the first bulbs may be placed in the house. Longer cold storage will result in taller flowers, while storage shorter than 13 weeks will result in smaller plants. If the first planting was made on October 1, the first plants may be taken into the house right after Christmas. For a continuous supply of flowers, bring in a few pots at weekly intervals. In the house, place the plants in an area with a temperature of approximately 60 degrees F. For best results, place them in direct sunlight. The plants will require about 3 to 4 weeks to flower. Since the bulb contains most of the plant food it needs, it is not necessary to fertilize. Bulbs which have been forced indoors are usually of little value for outdoor plantings. There are, of course, exceptions to this rule.

For additional and more complete information on home forcing of bulbs, it is suggested that you consult the references listed on the last page.

#### REFERENCES

1. *Flowering Bulbs for Winter Windows*, Marian C. Walker, D. Van Nostrand, Inc., Princeton, New Jersey. 1965.
2. *Handbook on Bulbs*, Brooklyn Botanic Gardens, Brooklyn, New York. 1959.
3. *Holland Bulb Forcers Guide*, Netherlands Flower Bulb Institute, Five World Trade Center, Suite 6217, New York, New York. 10048. 1973.
4. *Hotbeds and Coldframes*, USDA Farmer's Bulletin. 1743. U.S. Government Printing Office, Washington, D.C.