



Specific Crops

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Forcing Bleeding Heart for Spring Sales

Old-fashioned Bleeding Heart (*Dicentra spectabilis*) produces sprays of deep pink or white heart-shaped flowers and is a natural for Valentine's Day and Mother's Day sales. Potted plants can be enjoyed indoors, and then planted in a flower garden outdoors after danger of frost for enjoyment year after year.

Growth Habit in the Garden

Outdoors, garden Bleeding Heart is a hardy perennial best grown in well drained soil in partial shady areas. Plants produce feathery foliage and arching stems covered with heart-shaped flowers May to June. Bleeding Heart has a summer resting period and by late summer, the stems die back, often disappearing entirely by August. By that time, the large fleshy roots have stored lots of food and are preparing for the onset of cool temperatures. As the soil temperature drops, "eyes" or crown buds form. From these eyes will come next year's stems. Several small growing points are within the eye. With time, these meristems become more fully developed, and gain the ability to flower. During this period, cold temperatures are needed to satisfy the winter dormancy requirement. In the garden, this requirement is met by naturally-occurring cold winter temperatures. Plants can be divided in early spring every 3 to 4 years as needed.

Chilling Requirement for Plants Grown Bareroot

Field growers who produce bareroot plants commercially must provide the necessary cold requirement prior to shipping. Although various storage temperatures have different effects on budbreak, stem elongation and flowering, it is suggested that a temperatures of 41° F or less be provided for 16 to 20 weeks to promote growth and flowering. If some chilling has occurred in the field, less time is required in treatment. Failure to provide adequate chilling results in plants that are unable to grow and these crowns usually store poorly.

Forcing Bleeding Heart in the Greenhouse

Although Bleeding Heart can be grown for year-round production, special requirements make this commercially impractical and not cost effective. The crowns however, can be forced economically for Valentine's Day and Mother's Day sales. Dormant, precooled crowns are available from suppliers in various sizes and corresponding price ranges according to the number of crown buds or "eyes" they have. Purchase top quality cold-treated "number 1" divisions containing a minimum of 2 to 3 eyes per crown. Follow procedures for planting crowns as soon as possible upon receiving.

Culture

Before planting, soak the root crowns overnight in tap water. This improves the uniformity of emerging shoot development, and the precise timing of B-Nine application.

Prune off up to one-half of the root system if necessary to facilitate potting the crowns. Research has shown that this does not adversely affect plant growth. Plant crowns with the eyes at the soil surface. One 2 to 3 eye division can be planted in a 4- or 6-inch (azalea) pot, one 3 to 5 eye division in a 6 inch pot, or one 5 to 8 eye division in a 1.5 to 2 gallon container. Large containers should be used when planting large crowns or more than one crown per pot. Use a good growing medium, either mineral soil based or a soilless mixture that is light, porous, well-drained, has a moderate nutrient content, and is easy to manage. Firm the soil around the roots and water well. Make sure that there are no air pockets as this can cause the plants to grow poorly.

For Valentine's Day, 6 to 7 weeks of forcing time are required at 52° F. Less forcing time is needed at warmer temperatures at the expense of quality. For Mother's Day market 4 to 5 weeks are needed for forcing. While the plants grow and flower well between 50 to 65° F, plants are more robust and of higher quality at 50 to 55° F. Provide full winter light and natural or artificial short daylengths to promote compact growth. *Table 1* shows

several examples of Bleeding Heart forcing schedules.

Table 1. Forcing schedules for Bleeding Heart *

Valentine's Day	Mother's Day	Comments
December 22	April 1	Unpack cold-stored crowns, soak in tapwater overnight.
December 23	April 2	Plant crowns and grow under short days: natural (Valentine's Day) or artificial SD (Mother's Day).
January 7-11	April 12-16	Leaves unfolding apply B-Nine, spray at 1250 to 2500 ppm. Add a surfactant to assure full coverage of the leaf.
January 17	April 21	Inflorescences early visible.
February 7	May 4	Plants begin bloom.
February 14	May 11	Holiday.

*From T.C. Weiler and P.K. Markam

Bleeding Heart has stem internodes that tend to elongate excessively making the plants unattractive. Excessive elongation is most serious in the upper internodes just before the inflorescences enlarge and may cause the stems to lean away from the center of the pot. For this reason, an application of B-Nine is suggested. B-Nine effectively improves plant form. Apply B-Nine plus a surfactant just as the leaves on the emerging sprout begin to unfold, 10 to 19 days after planting at 50 to 55° F night temperature. In experimental studies, 1 part surfactant to 199 parts water was used with 1250 to 2500 ppm B-Nine to produce a marketable plant.

Nutrition

To maximize growth, begin a fertilization program three weeks after planting. For a medium containing field soil, watering with 200 ppm each of N and K on a constant feed program using a balanced NPK fertilizer will result in high quality plants. For a soilless medium, it is suggested that 250 ppm of N and K be applied in the irrigation water. Leaching with plain water is done as necessary to prevent high soluble salt levels.

Varieties

While the forcing schedule and other information presented in this article was based on using *Dicentra spectabilis*, common bleeding heart, there are others worth trying as a forced potted plant.

D. spectabilis, (common bleeding heart) is readily available from commercial propagators as a bare-root division or potted perennial. It can be propagated from seed and germinates best when fresh seed is used.

D. spectabilis var. *alba* is not as vigorous as the species but has white flowers on plants from 20-30 inches tall.

D. eximia (fringed bleeding heart, plume bleeding heart) has deeply cut leaves that are almost fernlike in appearance. Flowers are pink to lavender in color, although several other colors are available. This variety is available as bare-root divisions or from seeds. Mature height is 15 inches.

D. eximia and *D. formosa*. 'Luxuriant' is considered by many to be a hybrid of *D. eximia* and *D. formosa*. Plants have cherry-rose flowers on plants 15 inches tall and is vegetatively propagated. 'Zestful' is also considered to be a cross. It has large pink flowers and is vegetatively propagated.

D. eximia var. *alba*. 'Snowdrift' has pure white flowers and grows 12 - 15 inches tall. It is vegetatively propagated.

D. eximia selections, especially 'Luxuriant', are more filled-out but shorter in the pot. They may take from one to two weeks longer to flower. These plants may not need a growth regulator to keep their shape.

Postharvest Care and Marketing

Like other potted crops, plants should be marketed with 50 to 75% of the florets open. The florets are fragile, and are unlikely to withstand long-distance transport. The expected postharvest life is 2 to 3 weeks after removal from the greenhouses, provided plants spend little time sleeved and if plants are kept in a bright, cool

location and are well-watered.

First-time producers may wish to introduce small numbers of the crop to their program to test the scheduling, crop culture, and local market. Promoting the plant as an unusual potted plant for the home and long-lasting addition to the flower garden can boost your spring sales.

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