

Spring Flowering Bulbs

Anne M. Streich, Extension Educator
 Don E. Janssen, Extension Educator
 Kathleen P. Cue, Extension Associate

Selecting, planting, caring for, harvesting and forcing spring flowering bulbs are discussed in this publication.

Bulbs are underground stems formed by fleshy scales attached to a basal plate (for example: tulip, narcissus and lily). Corms are underground swollen stems surrounded by dry, scale-like leaves (gladiolus, freesia and crocus). Tubers are swollen underground stems that are often irregularly shaped (dahlia, gloriosa and ranunculus). Rhizomes are horizontally creeping underground stems that produce aerial shoots from nodes (iris and convallaria). In this publication, all corms, tubers and rhizomes will be referred to as bulbs.

Most spring flowering bulbs are hardy perennials. Some, such as tulips and hyacinths, are short-lived or may never flower in Nebraska because of high soil temperatures or improper planting procedures.

Site Selection and Design

Bulbs are among the easiest plants to grow. Most bulbs need full sun or a minimum of six hours daily. Others, such as wood hyacinths, require partial shade. Few bulbs will

thrive in heavy, constant shade. If reliable bloom is desired from year to year, the site should receive at least eight hours of full sunlight per day. Some areas near trees may receive full sun early in the season, before leaves have fully emerged and may be suitable for early flowering bulbs. All bulbs need well-drained soil to reduce rot while dormant. For this reason, areas that receive frequent moisture from lawn irrigation are not desirable planting sites.

Spring flowering bulbs may be used to provide early season color in the landscape while other plants are slowly developing. Some, such as grape hyacinths (*Figure 1*) and daffodils (*Figure 2*), can be planted in grassy areas and may spread or multiply to give a naturalized effect.

Bulbs planted in a southern exposure near a building or wall will encourage early foliage growth due to increased soil temperatures. Late spring freezes occasionally may cause foliage or flower damage on early emerging plants.

Homeowners can choose from hundreds of spring flowering bulbs varying in flower color, form and height. Among the most popular are tulip (*Figure 3*), narcissus, grape hyacinth, hyacinth and crocus. Less known spring flowering bulbs include scilla, allium (*Figure 4*) and Dutch iris.

Bulbs should be planted in waves or masses to give a natural appearance and the showiest color impact. Bulbs planted singly or in rows are not effective.



Figure 1. Grape hyacinths



Figure 2. Daffodils



Figure 3. Tulips

Site Preparation for Establishment

A well-drained soil is essential for the survival of bulbs. All bulbs benefit from the addition of organic matter to the soil. Organic matter loosens the soil and adds essential nutrients. Thoroughly mix compost with loosened soil at the rate of 1 part organic matter to 4 parts soil. For example, 3 inches of organic matter should be incorporated to a depth of 12 inches.

When establishing a new bed of bulbs, the soil should be loosened to at least 4 inches below the suggested planting depth. For example, if the recommended planting depth is 6 inches, the bed should be prepared to at least 10 inches.

Bulb Selection and Planting

Bulbs available in garden centers vary considerably in quality. Make sure they are healthy and firm with strong growing points and unblemished skin. Avoid small, soft and diseased bulbs. Bulbs that are smaller than others of the same type often will not produce flowers during their first growing season.

Spring flowering bulbs should be planted in late September through October when soil temperatures fall below 60°F. This will allow a root system adequate time to develop before the ground freezes. If bulbs are purchased before planting time, keep them in a cool, dry area. A temperature of 60° to 65°F is cool enough to preserve the energy of the bulbs until they can be planted. Extended storage in high temperatures can damage flower buds within the bulb.

Dig and plant flower beds when the soil is fairly dry. Wet soil packs tightly around the bulb and retards growth. If you can crumble the soil between your fingers, it is dry enough for digging and planting.

Remove soil to the correct depth, as indicated in *Table I*. In loose, sandy soil, plant bulbs 1 to 2 inches deeper than the recommended depth.

Place the bulb in the hole with the pointed end up. Replace and firm the soil around the bulbs to ensure no large air spaces have formed. Water thoroughly, and in the absence of rainfall, water deeply once a week until the ground freezes. After ground freeze, add a 2 to 3 inch layer of organic mulch (wood chips, shredded bark, pine needles, etc.) to protect the bulbs.



Figure 4. Allium

Maintenance

Remove faded flowers to prevent seed formation. Seed production takes energy away from the bulb and may reduce flowering the next year. Deadheading some types of tulips and daffodils can lengthen flowering time for up to two months.

Apply a balanced fertilizer, such as a 10-10-10, after the flowers have faded. This will help create a larger bulb to enhance next year's bloom.

After bloom, the dying foliage can be hidden by the developing growth of other flowers and shrubs in the bed, although the leaves should receive some sunlight until they begin to yellow. Future flower production may be reduced by removing, braiding or tying the foliage.

After the leaves have turned yellow, cut and remove the foliage. Removal of dead foliage from the garden will help prevent diseases from affecting next year's bloom. To hide unattractive, yellowing foliage, plant annual flowers in front of spring flowering bulbs.

After the establishment year, mulch may need to be added each spring to maintain the desired depth of 2 to 3 inches. Mulch also will conserve soil moisture, reduce weed populations and protect the bulbs from temperature fluctuations in the soil.

Harvesting

Bulbs can be harvested for thinning, relocating or redesigning the bed. Wait until the leaves have turned yellow to dig the bulbs. Bulbs should be harvested when they are mature (tan to brown) rather than when they are immature and white. Do not cut the leaves off; they will help locate the bulbs. Keep only bulbs that are firm and disease-free. Bulbs can be replanted immediately or held for fall planting.

When holding for fall planting, spread the bulbs in a shaded, well-ventilated place to dry. Once the outer scales have dried, store the bulbs away from sunlight in a cool, dry basement, cellar, garage or shed at 60° to 65°F. Inspect bulbs throughout the summer and remove decayed ones as soon as possible. Bulbs should be sorted and replanted according to size.

Table I. Bulb selection and planting.

<i>Common name</i>	<i>Scientific name</i>	<i>Planting depth</i>	<i>Spacing</i>	<i>Flower height</i>	<i>Flower Color</i>	<i>Comments</i>
Very Early Spring (March-April)						
Glory-of-the-Snow	<i>Chionodoxa luciliae</i>	2-3	3-4	4-6	Blue, white, pink	Naturalizes; use in rock gardens, borders
Golden crocus	<i>Crocus chrysanthus</i>	3	3	4	Orange, white, yellow, blue	Small, earlier flowers than Dutch crocus
Dutch crocus	<i>Crocus vernus</i>	3	4	6	White, yellow, blue, purple	Naturalizes; use in rock gardens, lawns and at the bases of trees
Winter aconite	<i>Eranthis hyemalis</i>	3	2-6	4-6	Yellow	Naturalizes; moist soil
Common snowdrop	<i>Galanthus nivalis</i>	4	2-4	4-6	White	Fertile soil; shade; naturalizes
Striped squill	<i>Puschkinia scilloides</i>	3	4-6	4-6	Blue	Plant in large masses; self-seeds
Siberian squill	<i>Scilla siberica</i>	3	4-6	4-8	Blue, white	Fertile soil; naturalizes in lawns
Early Spring (April)						
Common hyacinth	<i>Hyacinthus orientalis</i>	6	8	6-10	pink, blue, white	Fertile soil; good for forcing
Armenian Grape Hyacinth	<i>Muscari armeniacum</i>	3	4	6-10	Blue	Grows best in cool, moist sites; plant in masses; multiples and self-seeds
Common grape hyacinth	<i>Muscari botryoides</i>	3	4	4-8	Blue, white	Less robust than <i>M. armeniacum</i> ; tends not to multiple or self-seed
Tulip (species and hybrids)	<i>Tulipa kaufmanniana</i>	6	6	4-8	Yellow, orange, purple, red, white	Good for rock gardens
	<i>Tulipa fosteriana</i>	6	6	15-18		Large flowers; comes back year after year
	Single Early	6	6	6-18		Often fragrant flowers
	Double Early	6	6	10-18		Slightly later than the single early
Daffodils (divisions)	Miniature	5	4	4-6	White, yellow, pink, orange, red	Good for rock gardens and forcing
	Trumpet	8	4	18-20		
	Large cupped	8	6	10-20		Naturalizes well
Mid-Spring (late April-early May)						
Crown imperial	<i>Fritillaria imperialis</i>	6	8-12	24-28	Yellow, orange, red	Rich soil; shade to part shade; use in borders or naturalized areas
Checkered lily	<i>Fritillaria meleagris</i>	4-6	4-6	10-15	White, purple, gray, bronze	Moist soils; drooping flowers
Tulips (species and hybrids)	<i>Tulip greigii</i>	8	6	8-16	Many colors are available	Good for containers and forcing
	Mendel	8	5	18-24		Good for forcing
	Darwin	8	6	20-28		Large flowers; keep out of the wind
	Triumph	8	5	18-24		
Late Spring (May)						
Spanish bluebells/ Wood hyacinth	<i>Endymion hispanica</i>	4	5	12-24	Blue, pink, white	Does well in heavy shade; good cut flower
Bearded iris	<i>Iris</i> hybrids	1-2	4	30-36	Many colors are available	
Tulips	Parrot	8	6	18-22	Many colors are available	Excellent cut flower; protect from wind
	Double Late	8	6	16-24		
	Lily Flowered	8	6	18-24		Plant in sheltered area
	Darwin	8	6	24-32		Excellent for bedding and cut flowers
	Cottage	8	6	22-30		
	Green Fringed	8	6	18-26		Good cut flower
Very Late Spring (June)						
Giant flowering onion	<i>Allium giganteum</i>	6	12	36-48	Pink	Large, globe-shaped cluster of flowers
Allium	<i>Allium</i> spp.	6	6-12	18-48	Pink, white, purple	Several species and cultivars are available
Dutch hybrid iris	<i>Iris</i> hybrids	6	4	18-24	White, yellow, orange, blue, purple	

Forcing

Bulbs can be forced into bloom during the winter and early spring to bring color and fragrance indoors. The easiest to force are crocus, hyacinth, narcissus, scilla, muscari, iris and tulip.

Starting in October through the end of November, bulbs can be planted in clean pots with adequate drainage holes. Use soil that drains well. A good soil mixture contains one part loamy soil, one part organic matter such as peat and one part sand. Do not add fertilizer.

Plant bulbs so their tips show above the soil line. Put bulbs in the pot and add soil around the bulbs. Pushing bulbs into the pots will compact the soil below the bulbs and inhibit rooting. Tulip bulbs should be planted with the flat side of the bulb facing the outside of the pot. This results in an attractive flowering pot with the first leaf facing outward. On average, 15 crocus, four to six daffodils, three hyacinths or six tulip bulbs will fit in a 6-inch pot.

Pots should be maintained between 35° to 48°F for a minimum of 12 to 13 weeks. Some bulbs may require 15 to 18 weeks. Suitable locations would be an unheated basement, storage area, cellar or cold frame. Refrigerators also may be used, but be certain no fruit (especially apples) are stored there. Many fruits release ethylene gas which will destroy the bulbs. Keep the soil evenly moist, adding a plastic cover over the pots if necessary.

After 12 to 15 weeks, the bulbs should be well-rooted and short shoots should be present. Bring the pots into a bright, cool room, 55° to 60°F. The bulbs will flower in three to four weeks. Once the plant flowers, it can be moved to a cool location at night to extend blooming. Discard the plant after flowering. Forced bulbs will seldom rebloom when planted outdoors.

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