

Peonies

Mary Anna Anderson, Extension Assistant
 Dale T. Lindgren, Extension Specialist
 Jennifer L. Chaky, Assistant Extension Educator

This NebGuide discusses peonies, which are long-lived, versatile landscape plants valued for their floral display, foliage texture and late-season drought tolerance.

The peony is a very adaptable plant, hardy even in the Northern Plains states. The plants are long-lived, and the clumps become quite large in time, requiring 3 or 4 square feet of space for full development. Peonies flower during late spring. Their many colors vary from white to deep violet red with many intermediate shades of pink. As an accent plant, their flowers provide color both from a distance and up close.

Peony foliage can provide an element of texture in the garden both before and after flowering. They can be used in front of taller plants or as a foliage backdrop for smaller, finer-textured plants. The foliage color can be used as a contrast with other plants in the landscape. In Nebraska, peony plants that are decades old can be found in cemeteries, old homesteads and special gardens. There are close to 30 species of peonies worldwide, including two native species in the western United States.

Two types of peonies are generally grown in Midwest landscapes. Tree peonies are actually shrubs and are not nearly as cold hardy as the herbaceous types. They produce permanent woody growth. Of the tree peonies, the Lutea hybrids are the most hardy, while the Japanese type blooms more freely.

The more common type of peony is the herbaceous or garden kind, which dies down to the soil surface in late fall. The herbaceous peonies include five general flower types: single, semi-double, Japanese, anemone and double flowering. Herbaceous peonies can grow from 2 to 4 feet tall, depending on the cultivar. They are valuable and versatile landscape plants because of their floral display, foliage texture, late season drought tolerance, fragrance (good to unappealing), and tolerance to deer feeding. They are desirable as both fresh and dried cut-flowers.

Included in the herbaceous peonies are fernleaf peonies, *Paeonia tenuifolia*. They have delicate and feathery foliage, grow 15 to 20 inches tall and flower earlier than the typical garden peony. Fernleaf peonies have single, dark-red flowers, except for 'Plena' ('Flore Plena' or 'Rubra Plena'), which has double flowers. This NebGuide will discuss the herbaceous or garden types of peonies.

Over 3,000 named cultivars of peonies have been released, but many are no longer available. Most local



Figure 1. *Paeonia tenuifolia*, commonly called fern-leaved peony.

nurseries carry only a limited number of cultivars. Gardeners who are interested in unusual cultivars may have to order them from specialty mail-order companies or visit nurseries that specialize in growing peonies.

Many good varieties are available. The cultivar you choose will depend on your personal preference for color, size and use. In the first half of the 1900s, Hans Sass, a well-known plant breeder from eastern Nebraska, released at least 16 peony cultivars. Two of his enduring varieties, 'Elsa Sass' and 'Sea Shell', are still popular.

Culture

Peonies can live for more than 50 years, so locate them in a permanent site. The site should have full sun with a minimum of 6 hours of sunlight a day, away from competition from tree roots. Peonies prefer a deep, well-drained, fertile silt or clay loam soil high in organic matter with a pH of 6.0 to 7.0.

Good drainage is essential since peonies are susceptible to root rots in wet soils. Before planting, dig and loosen soil to a depth of 1 to 2 feet. Mix in liberal quantities of organic matter (a 2- to 3-inch layer) such as compost or well-decayed manure. Plant the peonies 24 to 36 inches apart. Dig the planting holes large enough to accommodate the roots without crowding. In heavy clay soils, plant the rhizomes so the upper bud is no more than 1 to 2 inches below the surface. In lighter sandy soils, they can be planted up to 3 inches below the surface.

The best time to plant or to transplant and divide peonies is in the fall from early September through October after the foliage has died down. Planting may be done in early spring for roots that have been stored in dry peat moss or sand. The divisions offered by nurserymen include three to five buds (or eyes) with a portion of the root system. These standard divisions are preferable to other sizes.

Peonies should begin to bloom within three years of planting or dividing and will not be at their best until they have been in a location for several years.

Peonies should be watered in the spring during shoot development and bloom time if dry conditions prevail. In summer, they will tolerate some dryness but with extreme drought, watering is required. In fall, peonies are developing roots, so it may be necessary to add supplemental watering. Let the soil dry moderately between waterings.

Apply one-half cup of 5-10-5 or 10-10-10 fertilizer in early spring about 6 inches from the crown and carefully work it into the soil around each plant. A second approach to fertilizing is to apply one-half the annual amount of fertilizer after the shoots emerge in the spring, and the second half after the plant goes dormant in the fall. Avoid over application of nitrogen, which causes excessive foliage growth at the expense of flowers.

Weeds can be removed by hand or by hoeing, but peonies have shallow feeder roots, so cultivating for weed control should be done with care. If mulches are used, 2 to 3 inches of an organic mulch (bark, wood chips, etc.) may be applied in early July. Mulching also will conserve moisture and maintain even soil temperatures.

Each fall after the foliage turns yellow or is killed by frost, cut off the main stems at the ground level. Properly dispose of the plant material to avoid harboring diseases over winter.

Division – Peonies can grow successfully for many years in the same location; however, they will benefit from division of the crowns when they become crowded. Division also can be used to start more plants.

Take care to avoid or reduce injury to the roots when dividing or transplanting peonies. Ideally, division should be done in the fall. First, moisten the soil around the plant several days before lifting. Cut the soil around the crown to a depth of about 8 inches and then lift out the crown. Wash the soil from the roots, cut the stalks off within 1 inch of the tip buds, and with a sharp knife or spade, separate the clump into several divisions containing three to five buds each. Crowns and roots will vary in size and shape, but buds and roots must be in each division. The most vigorous portion of the crown is usually found around the crown's outer edge. Next, move the divisions to the prepared transplanting site and set the divisions shallowly, with buds no more than 1 to 2 inches below the soil surface. Planting too deeply can result in plants with abnormal growth, reduced vigor and little or no flowering. Fill soil between the roots so that there are no air pockets, then water thoroughly.

Apply an organic mulch 2 or 3 inches deep to prevent winter heaving the first season. After the first year, mulching is usually not necessary for herbaceous peonies. Keep newly planted peonies evenly moist.

Staking – Some peony cultivars may require staking due to their heavy flowers. One commercial type of stake consists of a circular grid that is placed several inches above

the soil surface above the peony plant. The stems grow through the grid and are supported as they develop. Home-crafted stakes of wood dowels, bamboo, wire or small branches also will work. Select stakes that will be 6 to 12 inches shorter than the grown plant. Loosely tie the plants to the stakes. Make one loop around the plant and the other around the stake. Flopping, or "lodging," also can be reduced by tying twine around the whole plant about 1 foot above the ground.

Cutting for Home Display – Peony flowers are excellent as cut flowers for indoor display. Cut the flower stems in the cool part of the day, usually morning, when the plants are turgid. For longest lasting flowers, harvest just before the buds open. To help maintain a sturdy plant when cutting flowers, leave at least three leaves on the remaining stem, and do not remove more than one-third of the plant's total leaf surface area. Strip off the lower leaves of the cut stem and place the stems in warm water (100 degrees Fahrenheit / 38 degrees Celsius).

Flowers last longer when the stems are recut under water. Remove any leaves that will be under water in the vase. Floral enhancers/preservatives may be used to help extend the vase life of the cut stems.

To obtain larger cut flowers, remove all but the terminal bud of each stem on the plant when the buds are small. This will increase the size of the remaining flower. Single-flower cultivars, however, usually are more attractive with several buds on a stem. Peony flowers also can be dried and used in arrangements.

Problems

Peonies, generally, have few problems. However, insects, diseases, nutrients, weeds, water and other issues can cause some problems for peonies in the landscape.

Peony Diseases

Several disease problems can affect the health of peonies. Disease management is most effective when problems are avoided, rather than attempting to "cure" a sick plant. Disease prevention begins with proper site selection, cultural management and good sanitation practices. Of these techniques, sanitation, or removal and destruction of all affected plant parts, is most important to disease control. Spent flower blooms and affected buds, leaves or stems should be removed when plants are dry. Pruning tools should be cleaned in a 10 percent bleach solution (1 part bleach to 9 parts water) after cutting diseased plant material before making any cuts to a healthy plant.

In the fall, cut all stalks to just below the soil surface without injuring the buds. A top dressing of sand around the stalks may help to reduce moisture and thereby reduce the potential for diseases to develop. Organic compost could be worked lightly into the top 1 to 2 inches of soil in the fall to add nutrients and improve the soil.

Fungicides also can be an effective management tool for diseases when applied preventatively. Fungicides should be applied when the new growth is just emerging in the spring, being sure to thoroughly cover all plant parts. Additional applications may be necessary for good disease control. Follow all label directions when applying fungicides.

Botrytis Blight – The most common and destructive peony disease in Nebraska is Botrytis Blight, caused by the fungus *Botrytis cinerea*. The disease can attack the buds, stems and leaves. Infections can occur anytime during the growing season but are most common during overcast, wet weather. Young shoots that are infected may become discolored at the base and may suddenly wilt from stem rot. Young infected buds may turn black and shrivel, and older buds will often turn brown and fail to open due to infection. When affected buds do flower, petals often appear water-soaked and matted.

Symptoms on the leaves generally develop later than on other plant parts and will appear as irregularly shaped brown spots. One characteristic of the disease that may occur in response to moisture from rain or watering is a gray-brown fuzzy growth on affected plant parts. Thousands of fungal spores are produced in the fuzzy mold growth, and these spores can be wind-blown to other plant parts and begin new infections. Diseased plant material should be removed immediately. Beginning when shoots emerge, several fungicide applications of a product registered for Botrytis on peonies may be an effective management option.

Phytophthora Blight – Another fungal disease that may attack peonies is Phytophthora Blight, caused by *Phytophthora cactorum*. This disease can attack buds, stems, leaves and crowns. Affected plant parts will turn brown to black and often appear leathery. If young shoots are infected, entire stalks may turn black.

Phytophthora Blight symptoms can be quite similar to Botrytis Blight, although a fuzzy mold growth will not be present with Phytophthora under cloudy, wet conditions. If this disease develops in the plant's crown, a wet rot may kill the entire plant. Diseased plants should be removed, along with the surrounding soil, and healthy plants moved into a new location to avoid problems with this disease.

Leaf Blotch and Stem Spots – Leaf Blotch disease is also caused by fungi and results in reddish-purple lesions on leaves and stems. Leaves that are heavily infected may have numerous lesions that coalesce to form irregularly blotched symptoms. Affected stems often have reddish-brown spots or streaks. Sanitation, or removal of diseased plant material, is the primary method of management. It is especially important to cut stems at the ground level and destroy diseased plant materials in the fall.

Peony Insects

Thrips – Thrips are small insects less than 1/16 inch long that can suck the juices from the leaves, buds and flowers of peonies, causing unwanted spots to occur. They

are small enough to get inside the peony buds and feed there, resulting in the failure of the bud to open. Remove and destroy infected buds. A systemic insecticide will help control thrips.

Ants – Ants are a common sight on peonies. They are attracted to the sweet liquid secreted by the flower buds. Peonies do not need ants for the buds to open. The only potential injury produced by ants is the spread of Botrytis fungus.

Failure to Bloom

Occasionally, peonies fail to bloom for causes not easily recognized. Failure to bloom or sparse flowering may result from one or more of the following causes: heavy shade, especially in conjunction with root competition; crowded plantings that require division; insect or disease problems; flower buds killed by late frost; poorly drained soils; roots planted too deep; transplants that have not yet reached flowering stage; infertile soil; or a nearby walnut tree releasing a toxin into the soil from the roots.

Foliage Yellowing

Peony foliage may occasionally turn yellow. This yellowing may be related to diseases, weather or the soil. In western Nebraska, iron chlorosis can be a problem with peonies. Iron in the soil may be less available due to pH and other conditions, such as soils staying too wet or too cold. Products such as iron chelates and sulfur are available at garden centers to help alleviate iron chlorosis problems in the soil. Make sure the soils in which peonies are grown are well-drained. Avoid over mulching.

Peonies can be a wonderful addition to the landscape. The large colorful flowers are a welcome sign of late spring, and the foliage's special texture is a landscape delight. With the right cultivars, site selection, care and maintenance, peonies can be a dependable, long-lived plant for the garden.

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