



Department of Horticulture

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Growing Perennial Flowers

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For many home gardeners, perennials are the backbone of the flower garden, adding beauty for many years. Perennials vary in size, leaf texture, and flower color. Delphinium, peony, hollyhock, columbine, hosta, and daylily are traditional favorites. But there are many other species from which to choose.

A perennial plant normally lives at least three years under local growing conditions, but many live even longer.

Those perennials whose stems die to the ground each winter are known as herbaceous perennials. Those perennials whose stems live from season to season and continue to grow in size each year are known as woody perennials. This publication focuses on herbaceous perennials. Bulbs, such as tulips and daffodils, are also herbaceous perennials, but usually are considered separately as flowering bulbs.

Plan Your Garden

Most perennials have a relatively short season of bloom compared to annual flowers. Planning on paper before you plant can help you have something in bloom much of the year.

Most perennial plants prefer a sunny location with well drained, fertile soil, but a good number can adapt or may actually prefer shade. The size and shape of your garden will depend on the space available, but try to place the garden where you will enjoy it most. A stone wall, building, trellis, or fence will make an attractive backdrop for the perennial garden.

Ideally, a perennial border garden should be at least six feet wide. Allow enough space for air circulation, care, and cultivation. Designs that fit well with other landscape elements give perennials a sense of "belonging" in the landscape. Taller plants should be placed to the rear, medium height plants in the middle, and low-growing perennials in front. By alternating plants of different heights, the perennial bed can have greater visual appeal.

Interesting color combinations are possible for your garden, since many perennials are available in several colors. Selecting perennials that bloom at different

seasons will give you color throughout the year. For display, planting perennials in masses works best. You can also add annuals, bulbs, and shrubs to complete the effect.

Preparing The Garden

Preparation of the perennial planting site is important, since the plants will be in the same location for many years. Most perennials planted in poorly drained soils seldom live for more than one year. Thus, a planting site with proper drainage as well as adequate moisture retention is a must.

Test the site for drainage by digging a hole 10 inches deep. Then fill it with water, and allow the water to drain away. If the hole is empty in 8 to 10 hours, the site is acceptable. For poorly drained areas, raised beds can be formed by either adding new soil or elevating existing beds.

The preparation of new beds usually should begin in the fall, well before planting time. Spade or rototill the soil to a depth of six to eight inches. Turn the soil completely and remove all large stones, roots, debris, etc.

Then, incorporate two inches or more of an organic material such as peat moss, compost, or well-rotted manure. In spring, re-till or spade the area prior to planting, but after fertilizing (see below).

Fertilizer should be applied to all beds when the soil is prepared in early spring. Add 2 to 3 pounds of a general purpose fertilizer such as 5-10-5 or similar analysis per 100 square feet of bed area. One pound of dry fertilizer is about equal to 2 cups and there are 48 teaspoons in each cup. So a rate of 2 pounds per 100 sq. ft. of area would need approximately 4-6 cups per 100 square feet or 2 teaspoons per sq. ft. If soil fertility is low, additional applications may be necessary throughout the growing season. Usually 1/2 to 1 pound of 5-10-5 per 100 square feet used as a side dressing will be sufficient. Side dressing can be applied during the active growing season of the specific perennials involved. A yellow foliage color or poor growth pattern may indicate a lack of nutrition. Do not over-fertilize, or you will stimulate production of foliage, with a decrease in flowering. Do not let dry or

concentrated liquid fertilizer contact foliage or flowers. Water thoroughly after applying fertilizer. To help plants get ready for the coming dormant season, do not fertilize after August 1.

Seed

Although starting from plants is generally easier, some perennials can be successfully grown from seed. Always obtain fresh seed from reputable dealers. Many perennials are hybrids and their seeds usually produce a wide range of unpredictable colors and growth habits.

Seed can be sown in the early spring or late fall. Plants produced by early spring sowing should be large enough to overwinter successfully and bloom in succeeding years. Fall-sown seeds usually remain dormant until the following spring.

Many perennial seeds require a moist chilling period before they are mature enough to germinate. Fall sowing outdoors accomplishes this naturally. If you plan to spring sow, you can give the seeds a moist chilling period (called stratification) by mixing them with a small amount of vermiculite or other porous organic matter, moistening the mixture to even dampness (not soaking wet) and placing the mixture in a sealable plastic container. Then, place the container in the refrigerator for 10 - 12 weeks. Time the stratification so you will be able to plant the seeds immediately when they come out of the cold.

For best results, sow the seed in a hotbed or cold frame. Or choose a well-drained location in the garden which has at least 6 hours of sunlight each day.

Sow the seed in short rows, making the furrow the recommended depth. Cover with a fine layer of soil or vermiculite. Do not allow the seed to dry out.

If equipment and space are available, seed can be sown in trays and handled like spring bedding plants.

Plants

Early spring is the best time to set new perennials from plants. However, divisions of established plants can be made at the proper time in the fall. Plant as early as possible so that newly set plants develop good root growth before freezing weather occurs.

Perennials can be purchased at many garden centers and nurseries or ordered from reputable dealers. Select plants that are compact and dark green. Named cultivars are most reliable because their heat and cold resistance and their growth habits are well known.

Set the plants at the same depth they were growing in the original container. When transplanting plants in fiber or peat pots, remove the portion of the pot above the soil surface to prevent the rim from acting as a wick which takes moisture away from tender young roots. Because

peat can be difficult to wet once it dries, it may be helpful to slash the sides of the pot or poke holes through it to ensure that roots will be able to penetrate to the surrounding soil.

Press the soil firmly around each plant. Water with a diluted fertilizer solution such as 1 tablespoon of high phosphate fertilizer (10-52-17 or similar analysis) in one gallon of water.

Label each plant so you'll know its identity and location. If the plants wilt, cover with baskets or newspaper tents for several days. Be sure the plants have enough moisture for good establishment.

Perennials usually should be planted in clumps or groups. Do not crowd perennials, for most will develop into sizeable plants as they reach maturity.

Mulching

Mulching perennials will help conserve soil moisture and keep weed growth to a minimum. Apply 2-4 inches of chipped or shredded bark, straw, grass clippings or other suitable material. Pull weeds by hand frequently.

A winter mulch may help carry over plants that are not quite winter hardy, or in the case of fall-planting, have not yet had a chance to develop a strong root system. Apply winter mulch **only** after the soil temperature has dropped, usually after several freezes. If the mulch is applied too early, the soil will remain too warm and may force new growth which is easily winter damaged.

Staking/Support

Some perennials have weak stems, grow tall, become top heavy, and ultimately fall over. For such plants, place a stake or wire cage when you first set the plant so that growth will hide the support.

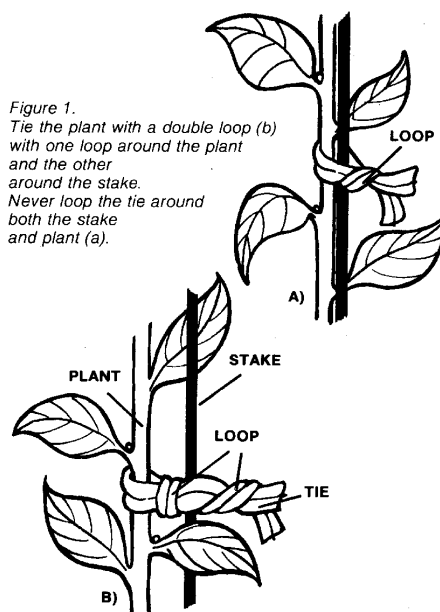


Figure 1.
Tie the plant with a double loop (b) with one loop around the plant and the other around the stake. Never loop the tie around both the stake and plant (a).

Use stakes or support frames made from twigs, wood dowels, bamboo, wire, or plastic. Stakes should be 6 to 12 inches shorter than the full height of the plant. Place the stake behind the plant and sink it into the ground far enough to be firm. Tie the plant **loosely** to the stake with soft cloth ties or wire covered with paper or plastic. Tie the plant with one loop around the plant and another around the stake rather than a single loop around both the stake and plant (Figure 1).

Watering

Most perennials require a steady supply of water for good growth, especially during the first growing season.

Many perennials tend to produce a large number of shallow roots, so supplemental watering is a must when rainfall is not reliable. A single, gentle soaking to provide one inch of water each week is preferred to frequent shallow watering. Allow the water to penetrate 6 to 8 inches deep. A sprinkler or soaker hose does a better job than a hand-held hose. A soaker hose is most efficient because it allows little water runoff and minimizes evaporation and soil compaction.

If possible, water during the early part of the day to allow the plant ample time to dry before nightfall. Nighttime watering increases the chance of disease.

Propagation

Most perennials can be propagated by cuttings or by division. Generally, most plants benefit from division every 3 to 5 years to rejuvenate flower production and remove unproductive sections of the planting. To divide perennials, dig up the clump and cut into several sections

using a sharp spade or large knife. Replant the sections as soon as possible, having prepared any new planting locations ahead of time.

Many plants can be started as shoot tip cuttings. Make the cuttings 3 to 6 inches long, and treat the base of the cutting with a root hormone powder. Trim off any foliage which would otherwise be below the soil line.

Place each cutting in a container filled with a mixture of 2 parts sand, 1 part soil, and 1 part peat moss. Be sure the container has drainage holes at the bottom to allow excess water to drain. Water thoroughly and cover loosely with a plastic bag to keep relative humidity high. Place in a bright area, but out of direct sunlight.

After the cuttings begin to root, make air holes in the plastic to help "harden off" the cuttings. Finally, remove the cover and allow the plants to grow. Then transplant to cold frames or outdoor beds.

Cleaning Up

To keep perennials looking their best, remove faded mature flowers, commonly referred to as "deadheading". Removing spent blooms will also encourage reblooming in some species.

When the leaves of the perennials die in the fall, cut the stalk back to 3 or 4 inches, and compost the old stems and leaves. In some species, such as ornamental grasses, the brown, dead stems provide winter color and texture, as well as cover for wildlife. Cut back these plants in late winter or early spring before new growth begins.

*This publication was previously authored by John Wott.

For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.
