

## Perennials: Culture, Maintenance and Propagation

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Perennials are plants that live year after year. Trees and shrubs are perennial. Most garden flowers are herbaceous perennials. This means the tops of the plants (the leaves, stems, and flowers) die back to the ground each fall with the first frost or freeze. The roots persist through the winter, and every spring new plant tops arise. Any plant that lives through the winter is said to be hardy.

There are advantages to perennials, the most obvious being that they do not have to be set out every year like annuals. Some perennials, such as delphiniums, have to be replaced every few years. Another advantage is that with careful planning, a perennial flower bed will change colors as one type of plant finishes and another variety begins to bloom. Also, since perennials have a limited blooming period of about 2 to 3 weeks, deadheading, or removal of old blooms, is not as frequently necessary to keep them blooming. However, they do require pruning and maintenance to keep them attractive. Their relatively short bloom period is a disadvantage, but by combining early, mid-season, and late-blooming perennials, a continuous colorful show can be displayed.

### Culture

**Site Location.** You need to consider many of the same aspects of site selection for perennials as you do for annuals; sunlight (full sun to heavy shade), slope of the site (which affects temperature and drainage), soil type, and the role the selected plants will play in the garden. This is especially important with perennials, as they usually are left in the site for several years. In general, it is best to plant clumps of perennials rather than one plant. Large plantings may be made if space allows. An ideal location would provide a background such as a wall or hedge against which perennials will stand out while in bloom. In island beds, perennials can provide their own background if tall plants are placed in the center and low ones toward the edges.

**Soil Preparation.** Preparing the soil is extremely important for perennials. Some annuals can grow and flower in poorly prepared soil, but few perennials survive more than one year if the soil is not properly prepared. Preparation is best done in the fall. Proper preparation of soil will enhance success in growing perennials. First, have the soil tested. The results will indicate how much fertilizer needs to be added in the spring, and the pH level - which should be adjusted if needed. Check and adjust drainage. To do this, dig a hole about 10 inches deep and fill with water. The next day, fill with water again and see how long it remains (should not exceed 8 hours). (If drainage is poor, plan to plant in raised beds.) The next step is to dig the bed. Add 4 to 6 inches organic matter (OM) to heavy clay to improve soil texture. Dig to a depth of 12 or 18 inches and leave "rough" in fall or early spring. (Note: 2 to 3" of OM should be applied if bed can only be turned 6 to 8" deep.) Finally, in spring, add fertilizer, spade again, and rake the surface smooth.

**Selecting Plants.** It is best to select plants with a purpose in mind, such as low-growing edging plants, accents for evergreens, masses of color, rock garden specimens, etc. With specific purposes in mind, you can choose perennials by considering their characteristics and deciding which plants best meet your requirements.

For a good display from a limited number of plants in a limited space, select named varieties. Observe the flowering times of perennials in your neighborhood. That way you will be able to choose plants that will flower together and plants that will be showy when little else is in bloom. The flowering time may vary as much as 6 weeks from year to year, but plants of the same kind and their cultivars usually flower at the same time. To obtain details on particular plants or groups of plants; search the Inter-

net, consult plant societies, specialty books, nurseries which specialize in herbaceous perennials, and local botanical gardens.

Many perennials can be bought at a local nursery. These plants usually are in bloom when they are offered for sale, which allows you to select the colors you want. However, it is better to buy perennial plants that are compact and dark green before flowering, as they will establish and grow more quickly. Plants held in warm shopping areas are seldom vigorous and generally have thin, pale, yellow stems and leaves. Avoid buying these plants. Buy named varieties of plants for known characteristics of disease resistance, heat and cold resistance, growth habits and colors.

**Planting Times.** Generally, late-summer or fall-flowering perennials are planted in the spring, while spring-flowering perennials are planted in late summer or early fall. However, it is wise to check exact planting dates for specific perennials. Regardless of the time of planting, perennials should be allowed sufficient time to establish themselves before blooming or the onset of cold weather.

**Planting Seed Outdoors.** Perennials seeded in the garden frequently fail to germinate properly because the surface of the soil cakes and prevents entry of water. To avoid this, sow the seed in vermiculite-filled furrows. Make furrows in soil about 1/2 inch deep. If soil is dry, water the furrow, then fill it with fine vermiculite and sprinkle with water. Then make another shallow furrow in the vermiculite and sow the seed in this furrow. Sow at the rate recommended on the package. Cover the seed with a layer of vermiculite, and using a nozzle adjusted for a fine mist, water the seeded area thoroughly. Keep the seed bed well-watered or cover with a mulch, such as newspaper, to prevent excess evaporation of water. Remove mulch promptly after germination starts, so that young seedlings will receive adequate sunlight.

**Setting Out Plants.** Whether you buy plants from a nursery, mail-order source, or start your own indoors, set them out the same way. Dig a hole for each plant large enough to accept its root system comfortably. Lift out each plant from its flat or container with a block of soil surrounding its roots. Set the soil block in a planting hole and backfill it so the plant sits at the same level. Irrigate each hole with a starter solution of high phosphate fertilizer which is water-soluble. Follow package directions. Allow plenty of space between plants, because perennials need room to de-

velop. Perennials usually show up best when planted in clumps or groups of plants of the same variety.

## Maintenance

**Watering.** Since herbaceous perennials grow back from the roots every year, it is important to encourage healthy, deep roots. Proper watering promotes good root development. Make sure that all the roots are reached when watering. Do not rely on summer rainfall to keep flower beds watered. Plan to irrigate them from the beginning. When watering, moisten the entire bed thoroughly but do not water so heavily that the soil becomes soggy. After watering, allow the soil to dry moderately before watering again. A soaker hose is excellent for watering beds. Water from the soaker hose seeps directly into the soil without waste and without splashing leaves and flowers. The slow-moving water does not disturb the soil or reduce its capacity to absorb water. Water wands and drip systems are also good. Sprinklers are not as effective as soaker hoses. Water from sprinklers wets the flowers and foliage, making them susceptible to diseases. Soil structure may be destroyed by the impact of water drops falling on its surface; the soil may puddle or crust, preventing free entry of water and air. The least effective method for watering is with a handheld nozzle. Watering with a nozzle has all the objections of watering with a sprinkler. In addition, gardeners seldom are patient enough to do a thorough job of watering with a nozzle; not enough water is applied, and the water that is applied is usually poorly distributed over the bed.

**Mulching.** Mulch gives an orderly look to the garden and cuts down on weeding. Mulches are very useful for maintaining uniform moisture conditions and reducing weeds in the garden. Soil temperatures are modified by mulches to various degrees. Organic mulches may add some nutrients and humus to the soil, improving its tilth and moisture-holding capacity. Bark, pine needles, and shredded leaves are common organic mulches used in perennial beds. Most organic mulches should be applied after plants are well-established and when there is reasonably good soil moisture. A rule of thumb for perennial borders is to apply mulch in early spring to get good weed control. Inorganic mulches, such as plastic films and paper, are applied prior to planting. Black plastic and similar materials should be spread on land that has been completely prepared for planting and has a high moisture level. All mulches require care to keep them attractive; litter is very noticeable.

Perennials should be mulched during the winter months to protect them from the heaving that results from repeated freezing and thawing of the soil. However, you must be careful with winter mulching, as it can do more harm than good. Be careful not to pile mulch heavily over the crowns, as this would encourage rotting. Evergreen branches give ample protection but allow air circulation. Apply mulch around the plants only after the soil temperature has decreased after several killing frosts. If winter mulch is applied too early, the warmth from the protected soil will cause new growth to start. Severe damage to the plant can result from new growth being frozen back. Remove winter mulch as soon as growth starts in the spring. If you don't, new growth will develop abnormally with long, gangly, pale stems.

**Weeding.** A few preemergent herbicides are now registered for use in perennial flowers. However, mulching is still the best weed control for most perennials, along with hand-weeding when needed.

**Fertilizing.** Regular fertilization is necessary. Perennial plantings can rob the soil of its natural fertility. However, do not fertilize perennials heavily. A light fertilization program gives a continuous supply of nutrients to produce healthy plants. Use 5-10-5 fertilizer. Spread fertilizer in small rings around each plant in March. Repeat twice at 6 week intervals. This should be enough to carry plants through the summer. Apply another treatment of fertilizer to late-blooming plants in late summer. Always water the bed after applying fertilizer. This will wash the fertilizer off the foliage and prevent burn. It will also make fertilizer available to the plants immediately.

**Deadheading.** After perennials have bloomed, spent flowers should be removed. Cut flower stems down to a healthy leaf, or to the ground if there are no more buds. This will keep the beds looking neat and will prevent plants from wasting energy setting seed. Numerous perennials, such as delphiniums, can be forced to reblossom if cut back severely after the first bloom.

**Disbudding.** To gain large blooms from perennials, as opposed to more numerous but smaller blooms, plants can be disbudded. In disbudding, small side buds are removed, which allows the plant to concentrate its energy to produce one or a few large blooms. Peonies and chrysanthemums are examples of plants which are often disbudded.

**Staking.** Most erect perennials are top-heavy and taller ones need staking. If plants fall over, the stem will function poorly where it has been bent. If the stem is cracked, disease organisms can penetrate the break. Stake plants when you set them out so they will grow to cover the stakes. When staked, tall perennials can better withstand hard, driving rain and wind.

Select stakes that will be 6 to 12 inches shorter than the height of the grown plant. Place stakes behind the plants and sink them into the ground far enough to be firm. Loosely tie plants to the stakes, using paper covered wire, plastic, or other soft material. Tie the plant by making a double loop of the wire with one loop around the plant and the other around the stake. Never loop the tie around both stake and plant. The plant will hang to one side and the wire may girdle the stem. Add ties as the stem lengthens.

**Fall Care.** In the fall, after the foliage of perennials has died down, remove dead leaves, stems, and spent flowers. These materials often harbor insects and disease-causing organisms. Apply winter mulch after the soil temperature has dropped.

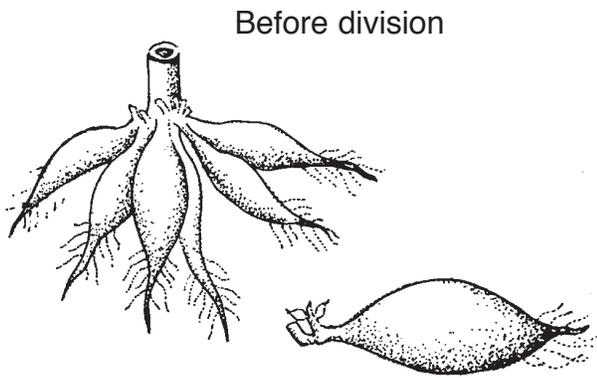
**Controlling Insects and Diseases.** Although perennials in general are healthy plants, there are occasionally some problems. It is advisable to select resistant varieties. Plant perennials in conditions of light, wind, spacing, and soil textures which are suited to them. Remove spent flowers, dead leaves, and other plant litter, as these serve as a source of reinfestation. It is advisable to know the major insect and disease pests (if any) of each specific plant type grown, so that problems can be correctly diagnosed and treated if they arise.

## Propagation of Perennials

**Division.** Most perennials left in the same place for more than 3 years are likely to be overgrown, overcrowded, have dead or unsightly centers, and need basic fertilizer and soil amendments. The center of the clump will grow poorly, if at all, and the flow-

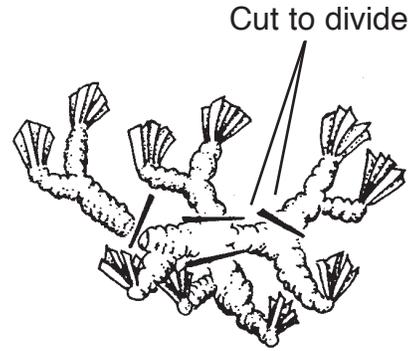


**Perennials or Shrubs**



Before division

**Dahlia**



Cut to divide

**Iris**

ers will be sparse. The clump will deplete the fertility of the soil as the plant crowds itself. To divide mature clumps of perennials, select only vigorous side shoots from the outer part of the clump. Discard the center of the clump. Divide the plant into clumps of three to five shoots each. Be careful not to over-divide; too small a clump will not give much color the first year after replanting. Divide perennials when the plants are dormant, just before a new season of growth, or in the fall so they can become established before the ground freezes. Stagger plant divisions so the whole garden will not be redone at the same time; good rotation will yield a display of flowers each year. Do not put all the divisions back into the same space that contained the original plant. That would place too many plants in a given area. Give extra plants to friends, plant them elsewhere in the yard, or discard them.

**Cuttings.** Many plants can be propagated from either tip or root cuttings. Generally, tip cuttings are easier to propagate than root cuttings. Make tip cuttings 3 to 6 inches long. Treat the base of the cutting with a root stimulant. Leave all foliage on the cutting except the part that will be below the soil line. Insert one cutting per pot or cell of a flat. Place the flats or pots in a lightly shaded place. Cover with a sheet of clear plastic. Check regularly to make sure the cuttings do not dry out. When cuttings do not pull easily out of the soil, they have begun to root. Make holes in the plastic sheet to increase the exposure of the cuttings to the air. This will harden the cuttings. Every few days, enlarge the holes or make new ones.

To make root cuttings, dig the plants in late summer after they have bloomed. Select pencil-sized roots; cut them into 4-inch sections. Put each piece in a pot. Use a soil mix of 2 parts sand, 1 part soil, and 1 part peat moss. Water thoroughly.

*(For more information, see VCE Publication 426-002, Propagation by Cuttings, Layering and Division.)*

**Seed.** Many perennials do not grow true to type if grown from seed saved from old plants. If you plant seed you have saved, many off-types of color, flower form, and plant habit are produced. Purchased seed, whether hybrid or strains, usually gives uniform results. You can sow perennial seeds directly in the beds where the plants are to stay, or you can start early plants indoors or in a cold frame and set them out in beds after the weather warms.

*(For more information, see VCE Publication 426-001, Plant Propagation from Seed.)*

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