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Extension Extra

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Establishing Perennial Flowers in South Dakota

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Herbaceous perennial flowers are plants that live for several years. Perennials die back to the ground in the fall, renew growth the following spring, flower, and then complete the cycle as they die back again that fall. Some perennials live many years while others die out after only a few years.

Some plants are known as "tender perennials" since they may not survive winter conditions in some parts of the country. Consequently, they may be treated as annuals.

Another group of flowers are known as "biennials" because they live for only two seasons. They form a low rosette of leaves with a very short stem during the first growing season. After overwintering, they resume growth, develop an upright stem, flower, possibly set seed, and then die. Many biennials appear perennial since they set seed and produce their own replacements.

Unlike shrubs, herbaceous perennials and biennials do not develop a woody stem, so plant height is essentially the same from year to year. Lacking this woody stem, most perennials require no pruning, just removal of dead flowers (deadheading). However, these plants often increase in diameter as the plant gets older, sometimes making it necessary to divide the plants.

Selecting Plants

It is necessary to consider many factors when selecting herbaceous perennials for the home landscape. The perennial border or bed should provide a succession of color harmony as the season progresses.

Perennial producers now offer a wider range of plant material choices than ever before, providing the home gardener with many options. Gardeners may choose to start their own plants from seed, purchase bare root stock from mail-order firms, or purchase potted stock from a local nursery or garden center. Of course, an old tradition among perennial enthusiasts is to trade plants with fellow gardeners.

Where ever you get your plants, start with healthy, disease- and insect-free plants. If you buy from a reputable dealer, the plants should be healthy. However, always inspect plants carefully for signs of insects or disease (soft mushy areas in the crown, buds, or roots). Plants should show signs of growth but should not be overgrown or leggy. Nursery-grown plants should be hardened off and ready for planting.

Hardening-Off

If the plants you buy come from inside a warm greenhouse, they will need to be properly hardened off. To harden or acclimate the plants to outdoor growing conditions, start by setting them outside in a protected site. If cold night temperatures are expected, put the plants in a garage or other protected spot for the night. Gradually get them use to growing in full sun and normal temperatures. After about a week, they should be hardened off and ready for planting.

Bare-root Plants

Bare-root stock should arrive in a protective wrapping that has maintained the roots and crown in a slightly moist environment. Ideally, you will receive bare-root plants at the proper time for planting. However, if planting is

delayed, store plants in a cool place. Make sure to keep the roots and crown slightly moist but not too wet to encourage rotting. The "crisper" section in your refrigerator or a cool basement may be ideal.

If you do not have an appropriate place to store your perennial stock, consider planting them in pots. Use a good, well-drained growing media and pots large enough to accommodate the plants. Place the potted plant in a bright, cool location to temporarily hold them until conditions are right for planting in the permanent location.

Season

Plant early-blooming perennials such as peonies, iris, and lily-of-the-valley in the fall. Plant later-blooming perennials, like chrysanthemums, day-lilies, and phlox in early spring. Plants may be transplanted at other times of year, but the plants may be weakened, become more difficult to establish, and have reduced vigor and smaller blooms the following year.

Preparing Perennial Beds

Most perennials prefer a fertile, well-drained loam soil with high organic matter content. Prepare the soil to a depth of 15 to 20 inches. Apply several inches of organic matter to new beds and incorporate the material to a depth of 12 inches. Peat moss, well-rotted manure, and compost are excellent materials to increase soil organic matter content. The organic matter also can help improve aeration of a heavy, clay-type soil.

Weeds are a major problem facing perennial growers. Try to control all perennial weeds during the previous season to reduce problems after planting. Control annual weeds during the previous season, as well, to reduce the number of weed seeds that may later sprout and cause a weed problem.

Keep the planting well cultivated and at an adequate level of fertility. Apply fertilizer to the planting periodically. Make one application in early spring when growth is beginning and another in early summer. A complete fertilizer such as a 5-10-5 or similar analysis, at the rate of two to three pounds per 100 square feet, is suitable for a new bed.

Older, well-established perennials, also can be fertilized with a water-soluble fertilizer solution. Mix the fertilizer at the labeled rate and apply approximately one cup for small plants, increasing the rate to a gallon for larger plants. Work granular-type fertilizers into the top one inch of soil around the base of established plants. Water the planting after fertilizer application to wash fertilizers off the foliage and to encourage release of nutrients into the soil solution.

Planting Perennials

Always protect the root systems of new plants from drying out prior to planting. If they dry out, they may die, resulting in slower establishment or death of the entire plant.

Prepare the planting hole several inches wider and deeper than the plant's root and crown spread. If you are adding any soil amendments, like peat moss, compost, rotted manure, or other organic materials, mix them with the soil removed from the hole.

Add enough soil back into the hole so the new perennial will be planted at the proper depth. For a bare-root plant, place a small mound of soil in the base of the hole and spread the roots of the plant carefully over the mound. Add the remaining soil and firm gently. Finish by thoroughly watering the newly-planted perennial to settle the soil around the roots.

Proper planting depth for perennials is very important. Peonies, for example, will not flower if the crown buds are planted more than about 2" deep. Other perennials may winter-kill if not planted deeply enough. Consult planting directions that may have accompanied the plant for proper planting depth. If your perennial was grown in a pot, set the plant so that the crown is at the same depth as it was grown in the pot. Or, as a general rule, set the plant so that the top of the crown is one to two inches beneath the soil surface.

Mulching

Summer mulches, such as grass clippings, partially rotted leaves, fine composted wood chips, or compost may be used to help conserve moisture and maintain an even soil temperature.

Winter mulches may be used to protect plants from severe cold, to maintain even soil temperature, and to prevent too-early growth in spring. Marsh hay, sudan grass, clean straw or hay, and evergreen boughs are suitable for winter mulches. Apply the mulch after plants are dormant and the ground is frozen. This usually occurs by mid-November. Remove the mulch gradually in the spring as plants begin to grow.

Watering

Perennials require an adequate and reliable moisture supply. In general, they can use up to one inch of water per week; however, this varies from one species to another.

Plant drought-tolerant varieties if you are not going to be able to provide sufficient water during dry periods. Supply additional irrigation if rainfall is not sufficient to maintain an adequate water supply.

Always water plants thoroughly, saturating the top 6" of soil around the plant. Shallow watering encourages shallow rooting which may result in greater water stress during dry periods and possibly winter injury. Avoid wetting foliage, and water early in the day to allow foliage to dry to reduce incidence of disease.

Staking

Many perennials can be grown without staking. However, some taller, single-spike-type plants like delphinium, hollyhocks and gladiolus, and bushy, multi-stemmed plants like asters, chrysanthemums, coreopsis, and peony may need additional support. Strong summer storms and South Dakota winds may damage or break off tall or heavy, flower-laden stems. Large flowers, like peony, are easily blown to the ground during a heavy rain, damaging the stems and muddying the blooms.

Tall, single stems are best supported using bamboo, plastic, wood, or metal stakes placed a few inches from the stem. Loosely tie the stem to the stake using a soft cloth strip or plant tie, being careful not to damage the stem. The stem should still be able to flex in the wind somewhat.

Large, bushy-type plants can be supported in several ways. One of the easiest is to place a tomato cage around the plant. The cages are reusable and are not too unattractive. Other options include using several stakes around the perimeter of the plant and then using twine or cloth strips to form a ring around the plant. Some gardeners use old branches that are stuck into the soil around the plant. As the plant grows, it hides the branches and uses them to help support the heavy stems. Which ever method you use, place the stakes and supports early in the season rather than trying to pull damaged stems back up into place.

General Perennial Maintenance

Sanitation is a very important practice when growing perennials. Sanitation practices include: removing old faded flowers, old seed pods, dead and diseased leaves, and weeds and cleaning up of old debris in the spring.

Removing faded flowers and developing seed pods keeps the garden tidy and may lengthen the bloom season of some

perennials. Some perennials will rebloom from lower stems and buds if old flowers are removed before the plant invests carbohydrates into producing seeds.

Insect and disease problems can be reduced if the garden is inspected on a regular basis. Early detection of pest problems can allow removal of infested leaves or even entire plants, or treatment with pesticide, before problems spread throughout the planting. Weekly plant inspections only take a few minutes and are easy to do while you are out harvesting flowers or pulling a few weeds. Be sure to check underneath leaves for signs of insects and mites that tend to feed there.

Another aspect of sanitation around the perennial bed includes monitoring pests in the surrounding vegetation. Weedy or grassy areas around the border of a planting may serve as a source for future insect infestations. Keep weeds and grass trimmed and managed to prevent potential problems.

Cultivating and Controlling Weeds

The perennial flower garden requires periodic cultivation to control weeds and maintain an adequate amount of moisture and oxygen supply to the roots. Be careful, when cultivating close to plants, not to cut or damage roots that may be near the soil surface.

Be particularly careful in the spring not to uproot slow-to-emerge perennials that may not yet be visible. Many plants have very brittle stems when they first emerge, so take extra care when cultivating during this time.

Weeds can become a serious problem if not controlled before they become well-established. Remove weeds whenever they become visible, either through cultivation or pulling.

Always try to remove weeds before they develop flowers and seeds. Many weed species produce a large number of seeds, so removing the plants early can save a lot of weeding next year. If weeds have already gone to seed, consider taking a container into the garden with you to collect the weeds. Once you pull the weed, immediately place it in the container. This will allow you to catch any seeds that may fall out of the plant on its way out of the garden.

Mulches may be useful in preventing weed growth. Various weed-preventative herbicides are registered for use around established perennials. Various selective and non-selective herbicides also are available but use them with care to avoid damaging desirable plants.

Overwintering Perennials

South Dakota winters can be quite hard on perennial plants. Fluctuating winter temperatures are one of the most common reasons for losing plants during the winter. Freezing and thawing of the soil around perennials can cause damage by actually heaving the plants out of the soil. Drying winter winds also can desiccate unprotected plants.

Prepare perennials for winter weather by removing any weeds that are still growing in the garden. Resist pruning old plant stems since these can help to catch winter snows that will act to insulate the plants. Once the ground has frozen, apply mulch over and around the plant crowns. A mulch that is light and airy provides better insulation than

one that will mat or pack down when wet. If you apply the mulch before the ground freezes, rodents may nest in the mulch and feed on the perennial plants. When conditions warm up in the spring, gradually remove mulch. Cut back old plant debris close to the ground, but be careful not to damage emerging shoots.

Dividing Perennials

Some perennials should be divided to prevent individual plants from becoming crowded. Other perennials, which are particularly vigorous, will need to be divided to keep them from spreading out of bounds.

To divide perennials, first dig up the plant. This may be done in the spring or fall, depending on the species. Usually plants that bloom early in the spring are divided in the fall and those that bloom in the fall are divided in the spring.

Take care not to severely damage the plant's crown when digging up the plant. Start digging the plant several inches away from the outer edge of the basal foliage.

Start dividing perennials in the spring as soon as you are able to work the soil and new growth is only beginning to emerge. If you are dividing plants in the fall, remove about one-half of the shoot growth to reduce water loss in the divisions.

Once you have the plant dug out, you can divide the plant in several ways. First, remove excess soil so you can better see the structure of the plant. Divide plants by pulling the

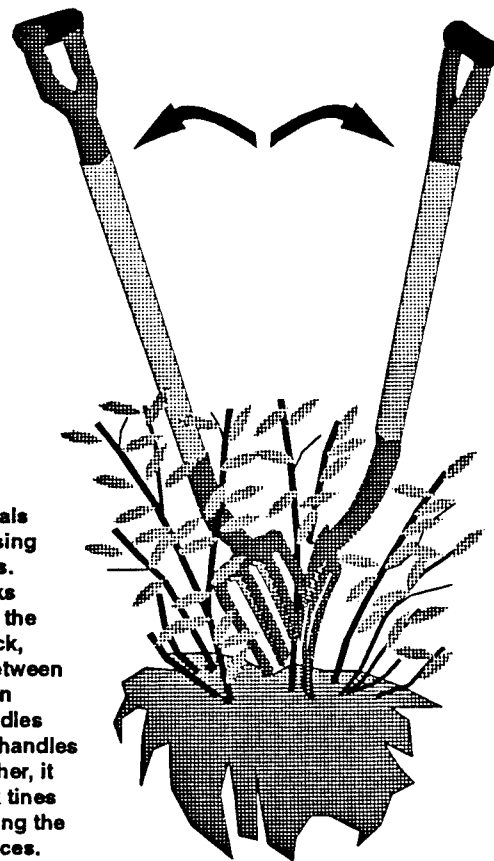


Figure 1. Perennials can be divided using two spading forks. Push the two forks into the center of the plant, back to back, with about 18" between the handles. Then push the two handles together. As the handles are pushed together, it will force the fork tines outward, separating the plant into two pieces.

plants apart by hand or by slicing them apart with a large knife or shovel. You also may divide a clump plant by inserting two spading forks, back to back and then using them to separate the plants into several pieces (Figure 1).

Check each division carefully before replanting. Each division should have several good buds or growing points and a good amount of roots. Remove any weeds that may be growing within each division. Protect the roots from drying out if the plants are not going to be replanted immediately.

For Additional Information

ExEx 6003 Irises

ExEx 6017 Selecting Perennial Flowers for South Dakota

ExEx 8022 Controlling Some Common Pests of Flowers

NCR 274 Home Propagation Techniques



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