



FLOWERS

Perennial Gardening

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Quick Facts...

Choose your garden location before designing it.

Consider sun, wind, soil type, soil amendments and water.

Plan the area to scale on paper.

Perennial beds are easier to maintain when easily accessible.

Consider the amount of time needed to maintain the garden.

Prepare a list of desired perennials.

Add organic matter to improve soil aeration and drainage.

A well-designed perennial garden can provide many years of beauty and enjoyment. Careful selection of plant materials and thoughtful planning can result in a full season of color. Perennials often require less maintenance than some annual flowers. Once established, they generally require less water than annuals and often have fewer pest problems.

Perennial gardens may serve as borders along a fence or property line, thus easing mowing, trimming and water requirements that a lawn may present in such areas. It is also visually pleasing to locate the garden against a background such as a fence, wall, shrubs or evergreens.

Site Selection

Site selection is the first step in planning a successful perennial garden. Take stock of your environmental conditions to see where an optimum site might be. Ease of access, proximity to outdoor living areas, and visibility from within the home are other factors to be considered. A perennial garden may also be a focal feature in the landscape, unrelated to indoor living areas.

Locate the perennial garden so it can be accessed from at least two sides. This makes it easier to maintain. Most perennials require abundant sunshine — approximately 10 hours of sunlight during the longest days of summer. Shade-loving perennials, such as ferns, bleeding heart and hostas, need much less sunlight or filtered shade.

Air circulation is important to avoid diseases. Still, warm, humid air creates ideal conditions for diseases to develop. To minimize disease problems, give perennials adequate space where air circulates well.

Designing Perennial Gardens

Perennial plants can live many years, so careful planning is required. Determine garden size by available space and the amount of time you have for maintenance. Perennial gardens should be functional, simple to maintain, accessible, and supply a progression of flower colors and textures all season.

When access is available from two sides, a maximum width of 8 feet works well. Use stepping stones to prevent soil compaction and allow easy access through the garden space.

To begin the design, measure the proposed site. On graph paper, sketch the layout to scale, using a scale of 1 inch = 4 feet or 1 inch = 2 feet, depending on the size of your area. Then proceed with the following steps:

1. Locate existing structures, walls, fences, walks, etc.
2. Locate existing plants, such as trees or shrubs. Take into consideration their mature size. These larger plants can be focal points in the garden.

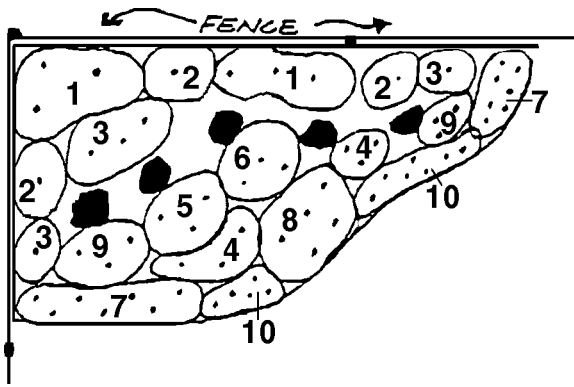


Figure 1: Two-sided planting. Each dot = 1 plant.

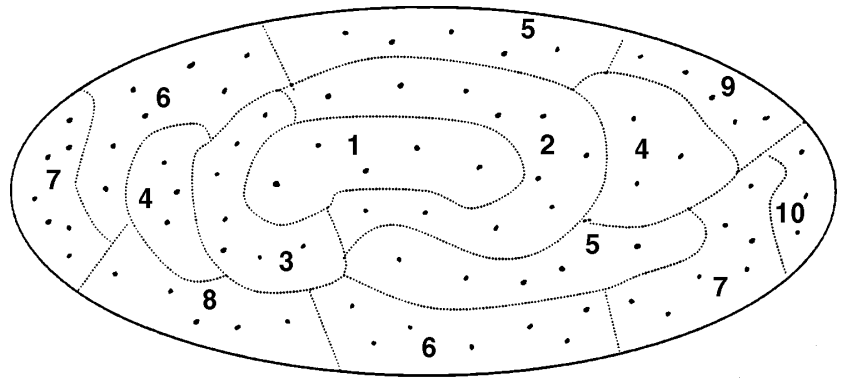


Figure 2: Island planting. Each dot = 1 plant.

Table 1: Suggested plants for two-sided and island plantings.

Two-sided planting				
Key	Botanical name	Common name	No. plants needed	Size
1	<i>Delphinium</i> hybrid	Delphinium 'Pacific giant'	6	#1 pot
2	<i>Paeonia</i> hybrid	Peony (pink)	3	#1 pot
3	<i>Dendranthema x grandiflorum</i>	Shasta daisy	5	#1 pot
4	<i>Aquilegia</i> hybrids	Columbine 'Songbird' (blue)	6	#1 pot
5	<i>Leucanthemum</i> hybrids	Hardy fall mum	3	#1 pot
6	<i>Hemerocallis</i> hybrids	Daylily	3	#1 pot
7	<i>Saponaria ocymoides</i>	Rock soapwort	14	2 ¼ in.
8	<i>Oenothera macrocarpa</i>	Ozark sundrop	5	#1 pot
9	<i>Geranium sanguineum</i>	Bloodred cranesbill	6	#1 pot
10	<i>Iberis sempervirens</i>	Candytuft	12	#1 pot
Island planting				
1	<i>Heliopsis helianthoides scabra</i>	False sunflower	5	#1 pot
2	<i>Salvia x superba</i>	Salvia 'Blue Queen'	11	#1 pot
3	<i>Scabiosa caucasica</i>	Pincushion flower (blue)	7	#1 pot
4	<i>Aquilegia</i> hybrids	Columbine 'Songbird' (blue)	6	#1 pot
5	<i>Oenothera macrocarpa</i>	Ozark sundrop	10	#1 pot
6	<i>Nepeta faassenii</i>	Catmint	14	2 ¼ in.
7	<i>Armeria maritima</i>	Sea pink	14	2 ¼ in.
8	<i>Artemisia schmidtiana</i>	Silver mound sage	5	#1 pot
9	<i>Iberis sempervirens</i>	Candytuft	5	#1 pot
10	<i>Hemerocallis</i> hybrids	Daylily	3	#1 pot

- Sketch the desired outline of the bed. It is often helpful to place a garden hose around the area to visualize the shape. Measure the line from known reference points to put it on the plan.
After deciding on the space, follow basic design principles:
 - Place like plants in groups of three, five or seven (odd numbers) of each type to increase the effect of color and texture.
 - Repeat groups of the same plant type two or three times throughout the space, to give it unity and create harmony.
 - Use tall plants at the back of a one-sided garden or in the middle of an island bed.
 - Complement tall plants by gradually placing shorter plants towards the outer perimeter, ending with low border plants at the edge of the bed. This gives a smooth transition from tall heights to the border plants. Bring occasional plants forward from their height line to increase variation.
 - Use various colors, textures and forms to add interest to the garden. Too much variety, however, will overstimulate the viewer. Consider using more plants of fewer varieties for a simpler, more pleasing effect. Don't overuse one type of perennial.

- Consider bloom time and interesting foliage to create a succession of color and interest throughout the season.
- Complement perennials with annuals and bulbs for bright focal points and accents during low bloom periods.
- Leave room for plant growth and allow for individual plant growth habits. In general, plant tall perennials 18 to 36 inches apart, intermediates 12 to 18 inches apart, and dwarfs 6 to 12 inches apart. Don't place plants in straight rows — use a scattered or triangular spacing so one mass blends into another.

For more information, see these fact sheets:

2.903, Nonchemical Disease Control

5.547, Insect Control: Soaps and Detergents

5.550, Beneficial Insects and Other Arthropods

7.211, Fall and Winter Watering

7.214, Mulches for Home Grounds

7.222, Soil: The Key to Successful Gardening

7.235, Choosing a Soil Amendment

7.405, Herbaceous Perennials

Site and Soil Preparation

A beautiful, healthy flower garden must have a soil that provides good drainage and aeration. Get a soil test to measure the fertility and texture before proceeding.

Prepare the site by removing any existing turf and plant material in the designated bed. Install edging to prevent encroachment of lawn grasses. It also gives the bed form. Next, incorporate organic matter (compost, sphagnum peat, or aged manure) 12 inches deep. A general recommendation is 3 cubic yards of organic matter to every 1,000 square feet. This is the equivalent of a 1-inch layer over 1,000 square feet.

Phosphorus fertilizer is best mixed into soils prior to planting. Use a superphosphate (0-20-0) if phosphorus is deficient at the site. Perennials need a balance of several elements, including nitrogen, phosphorus and potassium, along with several trace elements. A general purpose mix (5-10-5) can be used annually in spring. Don't get fertilizer on leaves. Water it in well after application. Always follow manufacturer's recommendations when applying fertilizers.

Plant Selection

The list of possible perennial plants is long. Many new, improved varieties are introduced annually that are adapted to our climate. Choose plants for flower color, bloom period, height and light requirements. Compile a chart, organizing this information in an easily viewed manner. Bloom times may vary with weather, soil conditions and elevation. At higher elevations, bloom times are later. Tall perennials, such as delphinium, foxglove and hollyhock, often require staking in windy sites. Consider dwarf varieties in windy areas or when stakes are undesirable.

The most important consideration in selecting plants for a perennial garden is to group them according to their environmental and cultural requirements. A drought-tolerant plant may not thrive in moist conditions.

Other plant characteristics to consider for easier maintenance include: cold hardiness, heat and drought tolerance, insect and disease resistance, cultural requirements (staking, pruning, fertilizing, deadheading, frequent division), and invasiveness.

Planting

Perennials grown in containers may be planted any time during the growing season. Plant them so they can become established before dormancy and the onset of winter. In Colorado, bare root perennials are best planted in the spring.

Inspect plants prior to purchase. Look for plants whose new roots are creamy white, not root bound, and whose foliage is not leggy. Remove the container before planting. If the soil ball is entangled with masses of roots around the outer edge, carefully make shallow cuts (1/2 inch or less) in several

places on the outside of the root ball to encourage roots to grow into the surrounding soil.

To minimize root drying, don't remove plants from their containers until just before planting. Store plants in a cool, shady area until planting time. Place them at the same soil level as they were in the container. Avoid deep planting. Plants often suffocate when planted too deep. Once plants have been placed in the hole, backfill around the soil ball. Water well, watching for holes and soil settling. Fill spaces as needed after initial watering.

Perennials may require control of diseases and insects. Minimize these pests through proper cultural practices:

- *Select disease-resistant plants adapted to Colorado.*
- *Avoid bringing diseased or insect-infested plants into the garden.*
- *Remove old debris and diseased plant parts on a regular basis.*
- *Space plants far enough apart to allow air movement and rapid drying after wet periods.*
- *Inspect plants for infestations on a regular basis to avoid major outbreaks.*

Culture and Maintenance

Watering frequency varies with sun and wind exposure, temperature, soil type, and the plants' water needs. The water needs of a perennial garden are different from turf; water them separately. Drooping leaves and stems and blossom drop often are signs that watering needs to be increased. Plantings in full sun often need water every two days the first few weeks or so after planting, depending on weather conditions. Progress to longer intervals between watering (four to six days) to encourage roots to expand into surrounding soil. Mulched plants will not dry out as quickly. Adjust watering frequency accordingly.

Maintenance during the growing season consists of periodic weeding, removal of spent blossoms (deadheading), staking if necessary, and insect and disease control. Depending on species, early spring or fall maintenance consists of trimming and removing old leaves and stems. Ornamental grasses are generally trimmed in early spring. After three to five growing seasons, some perennials may need to be divided to prevent overcrowding. Overcrowded perennials often bloom poorly or not at all.

Division of perennials may be necessary when the side shoots or runners become crowded by other plants. Aggressive varieties, such as shasta daisy, Oriental poppy and aster, often need dividing every three years. Others can go longer before division is necessary. Spring and early-summer blooming perennials, such as peonies and poppies, are usually divided in the fall or when foliage dies (mid-September through mid-October). Plants that flower in mid- to late summer and fall, such as chrysanthemums and asters, should be divided in the spring before growth begins. Iris and daylilies usually are divided immediately after flowering.

Use a spade, shovel or fork to dig around and under the entire plant and lift it out of the soil. Remove most of the soil from the roots by hand or by washing with a hose. Use pruning shears or a sharp knife to cut apart the healthiest part of the plant, often on the outside. Most clumps can be divided into four or five smaller clumps, after dead and discolored parts are removed. Replant divisions as soon as possible after improving the soil. Protect with mulch (maximum 3-inch depth) in late summer and fall. Water as necessary.

Mulching is one way to reduce weed growth and conserve water. Many mulches are available, both organic and inorganic. Watering during the winter is very important, depending on weather conditions. Colorado winters characteristically have dry air and low soil moisture. These conditions, along with little or no snow cover from October through February, can damage plants, especially new plantings. Water only when temperatures are above freezing, during the early part of the day.

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