



FLOWERS

Perennial Gardening

no. 07.402

by D. Waltman, J.E. Klett and R.A. Cox ¹ (Revised 12/09)

Quick Facts...

Choose your garden location before designing it.

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

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 most 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 optimal 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 such as powdery mildew to develop. See fact sheet 2.902, *Powdery Mildews*, for more information. 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 allow easy access through the garden space and to prevent soil compaction.

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.

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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.
3. 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 plants of the same variety in groups of three, five or seven (odd numbers) 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 continuity and create harmony.
- Use tall plants at the back of a two-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 down 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 over-stimulate the viewer. Consider using more plants of fewer varieties for a simpler, more pleasing effect. However, don't overuse one type of perennial.
- Consider bloom time and foliage (color and texture) to create a succession of interest throughout the seasons.
- 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.

Site and Soil Preparation

A beautiful, healthy perennial garden must have a soil that provides good drainage and aeration. Have a soil test completed to measure the fertility and texture before proceeding. See fact sheet 0.507, *Soil, Water and Plant Testing* for more information.

Prepare the site by removing any existing grass or other plant material in the designated bed. Install edging to prevent encroachment of lawn grasses. This 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. See fact sheet 7.235, *Choosing a Soil Amendment*, for more information.

Phosphorus fertilizer is best mixed into soils prior to planting. Use a superphosphate (0-20-0) if the soil test indicates that phosphorus is deficient at the site. Perennials need a balance of minerals including nitrogen, phosphorus and potassium, along with several trace elements. A general purpose mix (5-10-5) can be used annually in spring. Water it in well after application. Always follow manufacturer's recommendations when applying fertilizers

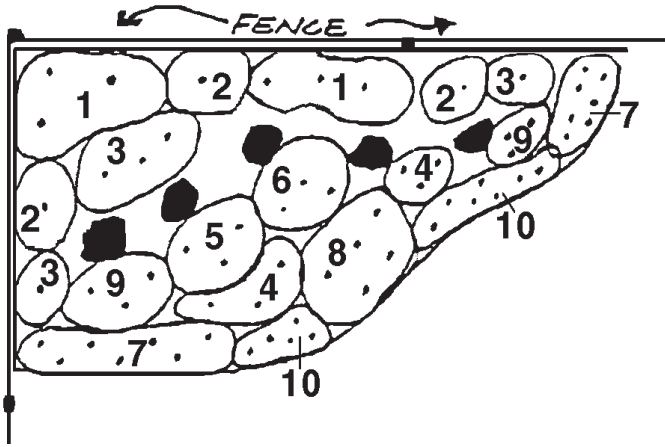


Figure 1: An example of two-sided planting. Each dot = 1 plant.

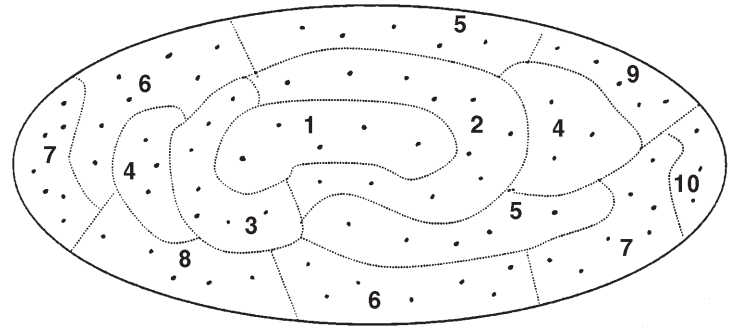


Figure 2: An example of island planting. Each dot = 1 plant.

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

Key	Botanical name	Common name	No. plants needed	Size
Two-sided planting				
1	<i>Delphinium</i> hybrid	Delphinium 'Pacific Giant'	6	#1 pot
2	<i>Paeonia</i> hybrid	Peony (numerous colors)	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 x 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

Plant Selection

The list of possible perennial plants is long. See fact sheet 7.405, *Herbaceous Perennials*, for a listing of species. 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. See fact sheet 7.406, *Flowers for Mountain Communities*, for more information on gardening at higher elevations.

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. For example, place drought-tolerant plants together at the top of

Planting

Perennials grown in containers may be planted any time during the growing season. Ideally, 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 fleshy and creamy white, not root bound or discolored, and whose stems are 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 ($\frac{1}{2}$ inch or less) in several places along the outside of the root ball to encourage roots to grow out 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 because plant roots often suffocate when planted too deeply. Once plants have been placed in the hole, backfill around the soil ball. Water well, watching for soil settling. Fill spaces as needed after initial watering.

¹ D. Waltman, Colorado State University agriculture graduate student; J.E. Klett, Colorado State University Extension landscape horticulture specialist and professor, horticulture and landscape architecture; and R.A. Cox, Extension horticulture agent, Arapahoe County.

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a slope and moisture-loving plants in a swale or low spot where runoff collects. This is called hydrozoning.

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

Culture and Maintenance

Watering frequency varies with sun and wind exposure, temperature, soil type and individual plant water needs. Drooping leaves or stems and blossom drop often are signs that irrigation needs to be increased. New 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.

The water needs of a perennial garden are different from turf so water them separately. However, automatic irrigation systems can still be utilized in perennial gardens. See 7.239, *Operating and Maintaining a Home Irrigation System*, for more information.

Maintenance during the growing season consists of periodic weeding, removal of spent blossoms (deadheading), staking if necessary and pest 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 division 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 (2- to 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. For more information on the attributes of organic and inorganic mulches, see fact sheet 7.214, *Mulches for Home Grounds*.

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. Some perennials prefer well drained dryer soil in winter to survive. See fact sheet 7.211, *Fall and Winter Watering*, for more information.