

HERBACEOUS PERENNIALS FOR WYOMING



Iris

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Herbaceous perennials are non-woody plants which live more than two years and usually die back to the ground every fall. They are important in Wyoming gardens and landscapes because of their diversity in flowering time, foliage color and texture, flower color and size, and winter interest. Perennial blossoms are usually quite attractive, and some may bloom early in the season before annuals can even be planted. There are literally thousands of species, many of which will thrive in Wyoming.

Herbaceous perennial gardens require planning and care. A perennial garden by nature is quite different from an annual flower garden. Annuals bloom all summer long. But with perennials, each species blooms for a short period of time during different weeks of the growing season. If a garden is planned carefully, it can have perennial flowers of different types blooming during the entire summer. However, care (usually in the form of water) is often needed during the winter months to keep the plants alive. Sometimes weeds can be difficult to manage in a perennial bed.

Wyoming's climate can be stressful for many plants. Low rainfall, low humidity, high wind, cold winters, and rapid temperature changes can combine to kill many plants during the winter. A short growing season often limits growth. Local soils almost always need improvement to support the long-term growth of most herbaceous perennials.

SOIL AND BED PREPARATION

Since perennials will be in the ground for several years, pre-plant soil preparation is critical. Most herbaceous perennials grow best in moderately fertile, well-drained soil. Wyoming soils are often low in organic matter, nitrogen and phosphorus. Some have poor drainage and high soluble salts. These problems need to be corrected before planting. The work involved in proper soil preparation will pay dividends many times over because perennials often occupy the same site for many years.

Have a soil test done. Contact the local county office of the University of Wyoming Extension (UWE) for assistance. A test will report the soil texture, organic matter percentage, available phosphorus and nitrogen, pH, soluble salt level and lime content. Recommendations will be included for fertilizer applications if needed along with other soil modifications.

Most Wyoming soils are heavy clay, but occasionally sandy types occur. The best method for improving

Be cautious about the type of organic matter used in a perennial garden. Compost varies dramatically from batch to batch and location to location. Any compost used should be well aged, and there should be no identifiable individual components in the compost. Sometimes lawn clippings are composted. This is acceptable as long as there are no herbicide residues in the clippings. Herbicide residues may not break down quickly and can heavily damage herbaceous perennials and other plants. Avoid mountain peat; use Canadian sphagnum peat instead. Mountain peat is mined from natural bogs in mountain areas. It is frequently heavy, does not drain well, and often contains high levels of soluble salts. It is best left in the mountains.



either clay or sandy soil is to add a good quality organic matter. This can be well-aged compost, peat moss, or any clean, well-composted organic material. The usual recommendation is to add a layer 2 to 3 inches thick on the top of the garden bed and then spade or till it in to a depth of about 6 inches. Add more organic matter each year around existing perennial plants. Never add sand as a soil amendment. Fertilization may or may not be necessary, depending on the results of the soil test.

PLANTING

Usually a plan should be developed before plants are purchased. Some planning on paper may be beneficial. Always consider the mature height, spread, flower color, foliage color, blooming season, water needs and light requirements of plants. Groups of odd numbers of one species planted together usually look better than individual plants scattered throughout the bed.

When purchasing plant material, buy from reputable retailers. Make sure the plants have been properly cared for by the retailer. Foliage should be healthy and green. Check for signs of insect or disease damage. Also look to see if the roots are healthy and white and that the plant is rooted to the bottom of the container. Look for signs of stress including leaf tip burning or wilting which may indicate inadequate watering. Many types of plants are available online. Once again, try to make sure the seller is reputable. Check to see that the plant material is adapted to Wyoming's climate.

Always purchase plants with proper labels on them. Labeling should include a plant's Latin name, picture, USDA hardiness zone, height and width at maturity, planting spacing, exposure needs, fertilizer needs, water requirements, and any other important information specific to that plant. If a label is not present, choose something else.

Perennials can usually be planted from late spring until early fall. Carefully remove each plant from its container and plant it no deeper than it was in the original pot. Lightly firm the soil around the plant. After all perennials have been planted, water each plant carefully. This does two things: it provides water for the plant in its new home, and it settles the soil around the root system, minimizing air pockets.

WATERING

Regular irrigation is usually recommended for the best performance of most perennials. This is especially true during the first year or two while a plant is becoming acclimated and established in the garden. There are no hard and fast rules of thumb for irrigating perennials simply because of their great diversity. Some may require little or no extra irrigation during the growing season while others may require almost daily attention. If in doubt, carefully dig down 6 to 8 inches in a perennial bed to determine how dry the soil is. If it is moist on top, wait a day or two. If it is dry all the way down, it's time to irrigate thoroughly. Infrequent, thorough watering is always preferred over frequent, shallow irrigations.

It is important to plant perennials with similar water requirements together in zones. Those requiring little additional water should be planted together, those requiring moderate moisture should be in the same zone, and those with high water requirements should be in their own zone. This makes it much easier to water plants according to their needs, especially if an automated system is used.

Watering can be accomplished in several ways. The most inefficient is probably by hand, but many municipalities require this method during periods of drought. The reason is that gardeners won't accidentally forget to turn the sprinkler off if they are the sprinkler.

Setting a hose and sprinkler out for a specified amount of time is also acceptable but can lead to over- or under-irrigation. Automatic sprinkler systems set up for turf areas may also work, but care must be taken to make sure the garden area is covered. Unfortunately, this type of watering is usually on a schedule rather than based on plant needs. Learn how to set or reset the timer as needed throughout the growing season.

An excellent option is drip irrigation. Many types are available today that will afford thorough coverage with little evaporation. A drip system requires maintenance, however, as emitters will sometimes clog. Replacement is usually necessary after a few years because the tubing will break down over time with Wyoming's high solar radiation and rapid temperature fluctuations. Soaker hoses are another good option. These can be hidden under mulch and may last somewhat longer than drip hoses.

MULCHING

Using mulches during the growing season will slow the loss of water, prevent soil drying and cracking, reduce weak plant growth, prevent soil splashing, and provide a neat and well-kept appearance. Many kinds of mulch are available including organic types such as bark chunks, pine needles, ground corn cobs, wood chips or compost. Organic mulches are beneficial in that they return nutrients to the soil as they break down. Be aware that some, like pine needles or any small organic matter, may blow away in high winds. Mulch must allow water and oxygen to penetrate into the soil below, and it should decompose slowly. A layer 2 inches thick is ideal.

The concept of xeriscape deserves some attention. It often brings to mind images of gravel and cactus. Nothing could be further from the truth. Xeriscaping or water-wise gardening refers to grouping plants according to their water needs. There are seven basic steps:

1. Plan and design before planting.
2. Limit turf areas. (This does not imply eliminate turf areas.)
3. Select and zone plants according to water needs, soil conditions, slope, and wind and sun exposure.
4. Improve the soil before planting.
5. Mulch, mulch, mulch.
6. Irrigate efficiently. Water by need, not by schedule.
7. Do appropriate maintenance.

For further information see UW Extension Bulletin B-1143R, *Landscaping: Water-Wise Wyoming Gardens*, bit.ly/Water-Wise-Wyo.



There are disadvantages to organic mulches. In some locations in Wyoming, the soil may stay too cool under a mulch. With cool soil, root growth may be inhibited, which in turn limits shoot growth. If cool soils are a problem, wait until the sun has warmed the soil in late spring to apply mulch. Also, certain pests like slugs may hide in some mulches.

Inorganic mulches are also available but are not as highly recommended. These are permanent unless moved, will not decompose, and may impede water and oxygen penetration into the root zone underneath. Inorganic mulches include crushed rock, marble chips, and various sizes of gravel. Plastics are not recommended because they do not allow water or oxygen to penetrate down to plant roots. Even landscape fabrics are not recommended by some landscapers. Although they do allow water and oxygen to penetrate into the soil and also minimize weed problems early on, fabrics make it difficult to plant or replant. Often their purpose is defeated as soil and other organic matter ends up on top, leading to weed problems later.

FERTILIZING

Perennials differ widely in their fertilization needs. The label on a plant should state the fertilizer needs of the plant in the container. A soil test will provide the information necessary to determine if the flower bed needs any nutrients. If fertilizer is needed, there are



Ribbon grass

many on the market that are acceptable. Always read and follow label directions and be careful not to over fertilize. Too much fertilizer leads to spindly, weak, tender plant growth that will not hold up in Wyoming's climate. If in doubt, don't fertilize or at least use minimal amounts.

Some of the types available in retail stores include liquid or dry concentrates, liquid ready-to-use, granular and slow release. Dry or liquid mix-your-own kinds tend to be the least expensive and are the easiest to over apply. More is definitely not better. Slow-release types are more expensive but generally one application in the spring is sufficient until the following spring.

Many organic fertilizers are available but tend to be lower in nutrient content. Manures and composts can be used. Manure, if not aged properly, can be very high in soluble salts, leading to burned plant roots. Composts decompose and an additional nitrogen source may be required for perennial plants to thrive. This is because microbes decomposing the organic matter can easily use up any available soil nitrogen, leaving little to none for the plants.

STAKING

Sometimes herbaceous perennial plants become top-heavy and benefit from staking. It's easiest to put stakes in early in the season before they're needed.

Use stakes 6 to 12 inches shorter than the full-grown stems. Use several stakes around the plants. Always use soft cotton cord, jute, or wide plastic, never wire. Tie one end of the cord to a stake and then surround the plant until it is encircled by the cord, thus holding the plant up.

DEADHEADING

Deadheading is the process of removing spent flowers. It helps keep plants looking neat and also diverts energy to new blooms. Annuals tend to send their energy to seed production as their flowers fade. If deadheading is done regularly, the plants redirect their energy back into producing more flowers. Use clean, sharp scissors or shears and cut just below the spent flowers, making sure not to remove more than 1/3 of the plant at any one time.

PESTS

Weeds can be managed by starting with clean soil and weed-free plant material. Regular cultivation and hand weeding will usually be needed through the growing

season. Using a good layer of mulch often minimizes weed problems, as does placing plants close together. Both of these strategies minimize sunlight penetration to weed seeds which in turn keeps them from germinating and growing. Sometimes using mulches such as straw, manure and hay can aggravate weed problems because weed seeds are often found in them. If possible, avoid using these materials if weeds are problems.

Sometimes insect pests can gather in large enough numbers to injure perennials. In a well-watered and well-tended garden, some insects may thrive. The best defense is actually a good offense—keeping herbaceous perennials healthy in the first place. Plants are like people in this respect. If they are stressed by too much or too little water, fertilizer, sun, or shade, they are much more susceptible to injury from insects and diseases. For this reason, proper fertilizing, watering and spacing are very important.

Simply by scouting and monitoring the plants in a garden frequently one can find many insect pests and begin proper treatments. Be aware that many insects in the garden are actually beneficial. Few of them create problems for perennials. For this reason, proper identification of an insect is crucial, and remedies may or may not be warranted. Contact a local UW Extension office for insect diagnostic assistance.

Diseases in the perennial garden can be minimized by proper watering, fertilizing, spacing, plant selection and sanitation. Occasional outbreaks of diseases can frequently be managed through changes in watering or other cultural practices. There are many types of diseases caused by fungi, bacteria and viruses. Viruses cannot be managed other than by removing and destroying an affected plant. Any suspected plant disease should be checked by a knowledgeable diagnostician. Contact a local UW Extension office for further diagnostic help. Never compost diseased plant materials because the causal organisms may not be killed by the process.

FALL CLEAN-UP

By removing the tops of perennials in the fall when foliage dies back, many diseases and insects can be minimized. Sometimes they overwinter on upper plant parts. By removing these in the fall, the chances of reinfection the next growing season will be less. Also, removing the tops of herbaceous perennial plants after

the fall die-back minimizes the trash and leaf-collecting capabilities of these plants. They tend to look much neater.

WINTER CARE

Mulching and watering are excellent methods of ensuring herbaceous perennials will survive the winter. They are especially important for young plants and newly transplanted ones. Plants should be watered well in the fall and then periodically during the winter if the ground is not frozen and there is no snow cover. In many areas of Wyoming, snow cover cannot be counted on during the whole winter. Snow itself is beneficial, so when shoveling the driveway, toss the snow on the garden bed instead of in the street.

Keeping a layer of organic mulch on perennials during the winter keeps root zones moist, keeps plants from emerging too soon in the spring, and keeps the soil cool to slow plant growth. Late spring frosts in the Rockies can doom some perennials to a premature death.



Iceland poppy

SUGGESTED HERBACEOUS PERENNIALS

The following table includes plants that have survived and thrived in Wyoming.

Latin name	Common name	USDA cold hardiness zone	Elevation limit	Comments
<i>Achillea</i> ‘Moonshine’, ‘Coronation Gold’	Yarrow	3	9,000	Bright yellow flowers in summer
<i>Ajuga reptans</i>	Carpet bugle	3	10,000	Low growing, blue flowers
<i>Alcea rosea</i>	Hollyhock	3	8,000	Tall stalks, many colors and sizes available
<i>Anemone multifida</i>	Windflower	3	10,000	Blue flowers in spring, delicate seed heads
<i>Antennaria dioica</i>	Pussytoes	3	10,000	Drought tolerant, gray foliage, pink flowers, native
<i>Aquilegia</i> spp.	Columbine	4	8,500	Various colors, bloom early summer
<i>Artemisia frigida</i> , <i>A. schmidtiana</i>	Fringed sage, silver mound sage	4	8,500	Native, drought tolerant, dense silver foliage
<i>Baptisia australis</i>	False indigo	4	7,500	Indigo blue flowers in late spring
<i>Bergenia cordifolia</i>	Pigsqueak, redleaf	3	8,000	Large, reddish leaves, almost evergreen
<i>Callirhoe involucrata</i>	Winecups	4	7,500	Magenta flowers in mid-summer, low growing
<i>Catananche caerulea</i>	Cupid’s dart	4	7,000	Papery blue flowers; long, slender stems
<i>Cerastium tomentosum</i>	Snow-in-summer	3	10,000	White flowers in spring, very drought tolerant
<i>Chrysanthemum</i> spp. (<i>Dendranthema</i>)	Hardy mums, garden mums	5	6,500	Fall bloomers, large variety available
<i>Clematis ligusticifolia</i>	Clematis	3	10,000	Vine, creamy white flowers
<i>Coreopsis verticillata</i>	Coreopsis	4	8,000	Pale yellow flowers in late summer, drought tolerant
<i>Delphinium</i> spp.	Delphinium	3	9,000	Tall spikes in summer; white, blue, lavender, pink flowers
<i>Dianthus</i> spp.	Dianthus	4	8,000	Low, mounded growth; various species and cultivars available
<i>Dicentra spectabilis</i>	Bleeding heart	4	9,000	Shade plant, pink flowers in spring
<i>Digitalis ambigua</i> , <i>D. x mertonensis</i>	Foxglove	4	7,500	Flower in summer, <i>D. ambigua</i> flowers are yellow, <i>D. mertonensis</i> flowers are coppery rose
<i>Echinacea purpurea</i>	Purple coneflower	4	8,500	Purple, daisy-like flowers
<i>Eriogonum umbellatum</i>	Sulfur flower	3	10,000	Native, yellow flowers in early summer
<i>Fragaria americana</i>	Wild strawberry	3	10,000	White flowers in spring, low growing
<i>Gaillardia aristata</i> , <i>G. x grandiflora</i>	Blanket flower	4	8,500	Yellow-brown flowers in summer, drought tolerant

Latin name	Common name	USDA cold hardiness zone	Elevation limit	Comments
<i>Galium odoratum</i>	Sweet woodruff	4	8,000	White flowers in early summer, ground cover, can invade
<i>Gazania linearis</i>	Gazania	4	7,500	Bright golden flowers all summer, re-seeds
<i>Geranium</i> spp.	Wild geranium, cranesbill	4	Most to 8,000	Various colors, bloom in summer
<i>Glechoma hederacea</i>	Ground ivy	4	8,000	Low growing, ground cover
<i>Helianthemum nummularium</i>	Sunrose	4	8,000	Drought tolerant, red-orange flowers in summer
<i>Hemerocallis</i> spp.	Daylily	4	Most to at least 8,000	Huge variety of flower colors and plant sizes available, drought tolerant
<i>Heuchera</i> spp.	Coralbells	4	8,000	Large variety of flower and foliage colors
<i>Hosta</i> spp.	Plantain lily	4	Most to 8,000	Require shade, many with variegated foliage
<i>Iberis sempervirens</i>	Candytuft	4	8,000	White flowers in spring, almost evergreen
<i>Iris</i> spp.	Iris	4	Most to 8,000	Many species and cultivars available
<i>Lamium maculatum</i>	Dead nettle	4	7,500	Variegated varieties available, ground cover, requires shade
<i>Lavandula angustifolia</i>	Lavender	5	6,500	Fragrant herb, blue flowers in summer
<i>Leucanthemum x superbum</i>	Shasta daisy	4	8,500	White flowers in summer
<i>Liatris spicata</i>	Gayfeather	4	8,500	Lavender, pink, white flower spikes in late summer
<i>Ligularia stenocephala</i>	Narrow-spiked ligularia, rocket	5	6,000	Require shade, yellow flowers in summer, heart-shaped foliage
<i>Lilium</i> spp.	Hardy lily	4	Most to 8,000	Many colors, varieties available
<i>Limonium latifolium</i>	Statice, sea lavender	4	8,000	Small lavender flowers in summer
<i>Linum perenne</i>	Blue flax	4	8,500	Blue flowers in summer, drought tolerant, re-seeds
<i>Lonicera</i> spp.	Honeysuckle	4	Most to 8,000	Many species and varieties available
<i>Lupinus</i> spp.	Lupine	4	8,500	Many species and varieties available
<i>Lychnis coronaria</i> , <i>L. chalcedonica</i>	Roe campion, Maltese cross	4	8,000	Red or scarlet flowers in summer, re-seeds
<i>Lysimachia nummularia</i>	Moneywort	4	7,500	Ground cover, yellow flowers in early summer

Latin name	Common name	USDA cold hardiness zone	Elevation limit	Comments
<i>Malva</i> spp.	Mallow	4	7,000	Various flower colors and plant sizes available
<i>Monarda didyma</i>	Bee-balm	4	8,500	Several varieties and flower colors available, can spread
<i>Nepeta x faassenii</i>	Catmint	4	8,500	Drought tolerant, lavender flowers all summer
<i>Oenothera missouriensis</i>	Evening primrose	4	8,000	Cup-shaped flowers in summer, various colors available, drought tolerant
<i>Paeonia lactifolia</i>	Peony	4	8,000	Various flower colors available, early summer bloom
<i>Papaver nudicaule</i> , <i>P. orientale</i>	Iceland poppy, Oriental poppy	3	9,000	Adaptable plants, various flower colors available
<i>Penstemon</i> spp.	Beardtongue	4	Most to 8,500	Numerous species and cultivars available, many natives
<i>Perovskia atriplicifolia</i>	Russian sage	4	8,500	Blue flowers in late summer, very hardy, bee favorite
<i>Phlox</i> spp.	Phlox	4	Most to at least 7,000	Numerous flower colors and plant forms available
<i>Physostegia virginiana</i>	Obedient plant	4	8,000	White, rose, or pink flowers in late summer
<i>Polygonum aubertii</i>	Silver lace vine	3	9,000	Vine, small white flowers in late summer, drought tolerant
<i>Prunella laciniata</i>	Self-heal	4	7,000	Drought tolerant, pink flowers in summer
<i>Pulmonaria saccharinum</i>	Lungwort	4	7,500	Foliage spotted white, at least partial shade
<i>Pulsatilla vulgaris</i>	Pasqueflower	3	9,000	Various color flowers in spring
<i>Ratibida columnifera</i>	Prairie coneflower	4	8,000	Drought tolerant, yellow or red flowers in late summer
<i>Rudbeckia fulgida</i>	Black-eyed Susan	4	8,000	Drought tolerant, bright yellow flowers in late summer
<i>Salvia</i> spp.	Salvia	4	Most to 8,000	Drought tolerant, flowers shades of rose or blue, numerous varieties and species available
<i>Santolina chamaecyparissus</i> , <i>S. rosmarinifolia</i>	Lavender cotton	4	8,000	Drought tolerant, yellow flowers in summer
<i>Scabiosa caucasica</i>	Pincushion flower	4	8,000	Blue or white flowers in summer
<i>Sedum</i> spp.	Sedum, stonecrop	4	8,000	Succulent, drought tolerant, species and flower colors vary
<i>Sempervivum</i> spp.	Hen and chicks	3	10,000	Succulent, drought tolerant, spreading
<i>Solidago</i> spp.	Goldenrod	4	7,500	Numerous species and cultivars available, yellow flowers in summer

Latin name	Common name	USDA cold hardiness zone	Elevation limit	Comments
<i>Stachys byzantina</i>	Lamb's ears	4	8,000	Velvety silver foliage, drought tolerant
<i>Tanacetum x coccineum</i>	Painted daisy	4	8,500	Flowers in shades of red and pink in early summer
<i>Thymus praecox pseudolanuginosus</i>	Creeping thyme	4	8,500	Drought tolerant, low growing, fragrant
<i>Teucrium chamaedrys (x lucidrys)</i>	Germander	4	7,000	Glossy evergreen foliage, pink flowers bloom in summer
<i>Tiarella wherryi</i>	Foamflower	4	7,000	Shade plant, white flowers in early summer
<i>Verbascum</i> spp.	Mullein	4	7,000	Summer bloomers, tall flower spikes, various colors and varieties available
<i>Veronica</i> spp.	Speedwell	4	Most to 8,000	Many species and varieties available; pink, red, or blue flowers
<i>Vinca minor</i>	Periwinkle	4	8,000	Ground cover, dark blue flowers in summer, almost evergreen
<i>Viola cornuta</i>	Hardy pansy	3	9,000	Blue flowers in summer, drought tolerant

ORNAMENTAL GRASSES

Latin name	Common name	USDA cold hardiness zone	Elevation limit	Comments
<i>Andropogon gerardii</i> or <i>A. saccharoides</i>	Big bluestem or silver bluestem	4	6,500	Native, drought tolerant
<i>Bouteloua gracilis</i>	Blue gramma	4	6,500	Native, drought tolerant
<i>Calamagrostis acutiflora</i>	Feather reed grass	4	6,500	Some with variegated foliage
<i>Chasmanthium latifolium</i>	Northern sea oats	4	6,500	Loose spikes of oat-like flowers and seedheads
<i>Festuca glauca</i>	Blue fescue	4	8,500	Drought tolerant, bluish foliage
<i>Helictotrichon sempervirens</i>	Blue avena grass	4	8,500	Drought tolerant, bluish foliage
<i>Miscanthus</i> spp.	Maiden grass	5	6,500	Some with variegated foliage, late summer bloom
<i>Oryzopsis hymenoides</i>	Indian rice grass	3	9,500	Drought tolerant, grown for foliage
<i>Panicum virgatum</i>	Switchgrass	4	7,000	Pinkish flowers in fall, foliage blue
<i>Phalaris arundinacea</i>	Ribbon grass	4	8,000	Foliage striped green and white
<i>Saccharum ravennae</i>	Plume grass	4	8,000	Drought tolerant; silky, silvery white flowers
<i>Schyzachyrium scoparium</i>	Little bluestem	5	6,500	Drought tolerant, native, blue-gray foliage
<i>Sorghastrum nutans</i>	Indian grass	5	6,500	Drought tolerant, powder blue foliage



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