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Perennials for Northern Arizona Above 6,000 Foot Elevations

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NORTHERN ARIZONA HORTICULTURE

Perennials are a favorite for many gardeners but particularly for those gardeners in northern areas where the selection of shrubs is limited. Literally hundreds of different species and cultivars of perennials can be grown above 6,000 feet. Perennials provide a wide range of shapes and forms, flower color, bloom time, foliage type, and cultural and environmental requirements. Some perennials bloom for more than a month in a blaze of color, others may flower for only a week or two. Still others are grown more for their attractive foliage than for their colorful flowers.

Perennials are those plants that persist in the garden for two years or more. They differ from shrubs in that they are usually nonwoody. Most are herbaceous meaning that they die back to the ground in the fall. Some may retain a woody base from which growth will emerge in the spring. Almost all perennials at the high elevations of northern Arizona will have the above ground part of the plant die back during the winter. Unlike annuals, the root system of perennials will live through the cold winter months. It is from this surviving root system that new growth will arise each spring.

Perennials can be used in various garden settings. The most common way to use perennials is in the herbaceous border. Perennials can also be successfully used in island flowerbeds, with or without annuals, in rock gardens, in cottage gardens, mixed with bulbs, in mixed borders with shrubs, as a ground cover and even as a specimen plant. The uses for perennial are endless, with only your imagination limiting your design. Matching the perennial to the environmental conditions of the garden is one important ingredient to success. With the sometimes harsh conditions of northern Arizona, many gardeners achieve success by carefully evaluating their site and then selecting those perennials best suited to those conditions. Planting a long-blooming, sun-loving plant in the shade will only give disappointing results.

General planting instructions

Soil Preparation — Proper soil preparation is essential for successful perennial flower gardening. Many perennials require a good garden soil or one that is porous, drains

well yet retains moisture. Organic matter improves the quality and fertility of soil. The addition of organic matter also helps to break up heavy clay soils. Unfortunately, most western soils are low in organic matter. And since the establishment of a new perennial bed is only done once, unlike an annual bed or a vegetable garden, soil preparation is fundamental. You will never again have the opportunity to add significant amounts of organic matter to the entire bed.

The best addition for improving soil is homemade compost, but many similar products such as commercially prepared compost, manure and wood products can be purchased. Work 4 to 6 inches of compost or other additives into the soil to a depth of 8 to 12 inches. The addition of phosphate fertilizer when working in the organic matter can also be beneficial. Add two pounds of bone meal or superphosphate (0-18-0) per 100 square feet at this time.

Some plants take exception to a good garden soil. Many native or xeric plants such as penstemons and succulents dislike the addition of compost. Too much organic material may cause these plants to rot in the winter. The addition of superphosphate, however, is still beneficial.

Care of established plantings

Plant division — Perennials may be long-lived but division is essential to maintain this longevity. Basically plant division is nothing more than digging up an established plant and cutting or pulling it apart to make new plants. Each of these sections can then be replanted to create a new plant. The amount of time between division really depends on the perennial and the site. In general, many perennials in a bed or border should be lifted and divided every three to five years. Signs that a perennial requires division include die back in the center, smaller flowers or fewer flowers than the previous year, and excessive crowding.

The time to divide perennials is when they are growing vegetatively but not yet flowering. Most perennials follow this general rule: divide summer and fall blooming perennials in early spring and divide spring bloomers in late summer. Keys to successful transplanting include preparing the new site for divisions before dividing takes

place, digging plants from the ground before dividing them, removing ½ the foliage before replanting and replanting as soon as possible. Provide new transplants with a thick mulch in the fall to help them survive their first winter.

Deadheading — Deadheading is just a morbid term for a necessary horticultural technique that involves removing spent flowers. Deadheading extends the bloom season, keeps plants looking attractive, prevents invasive perennials from self-sowing, and diverts energy from seed production to flower, shoot and root growth.

Irrigation — The amount of watering required by perennials really depends on the individual species, the site, and soil preparation (see table 1 for water requirements for individual plant species). In general, new plantings, even those containing low water users, need to be watered daily for about two weeks. After the first two weeks, the time between watering should be increased slowly so that within 4 to 6 weeks moderate water users are being watered weekly. As time between watering is increased so should the amount of water applied increase. In other words, water deeper but less often as the plant's root system grows.

Most established perennials respond well to deep infrequent watering. Group plants with like water requirements so that water needs can be precisely met. Drip irrigation is ideal for perennials because it can easily be added without disturbing existing plants. Perennials will benefit from allowing the foliage to remain dry during watering, therefore eliminating potential disease problems and ensuring that water goes right where it is needed most, to the root zone.

Mulching — After good soil, the annual addition of organic mulch provides the greatest benefit for perennials. Mulches conserve soil moisture, improve soil structure, suppress weed growth, help to limit runoff, and protect plant roots from temperature extremes. Good mulches include compost, shredded leaves, shredded newspaper, pine needles, straw, and wood or bark chips. Avoid using sawdust or peat moss. Inorganic mulches such as rocks or pebbles can be used for plants that require a hotter, drier environment.

Winter mulching is critical to the winter survival of many perennials, particularly in the first few years of establishment. Deep snow is the best winter mulch but can not be planned on every winter. A protective layer of lightweight non-packing mulch, such as straw, pine needles or shredded leaves, placed on the plants in the fall will protect the crowns and roots from freeze-thaw damage during the winter. Pull winter mulch away from plants in the spring so that the soil can warm up. After the plants have begun their spring growth, it can be pushed back in place.

Fertilizers — Some gardeners like to add fertilizer to their perennials on an annual basis. Others rely on a well-prepared garden soil and the annual application of

compost or other organic fertilizer. Some perennials are very heavy feeders and even when grown in an improved soil require the addition of nutrients. The best strategy is to see what your plants require whether it be organic or inorganic and then give it to them.

In general, the time to fertilize is during the period of greatest nutrient need, the beginning of growth in the spring to just before flowering. Choose a fertilizer formula that has 5 to 10 percent of each of the major nutrients such as 5-10-5 or 10-10-10. If you were able to apply bone meal or superphosphate when establishing the bed annual applications of ammonium sulfate (21-0-0) or ammonium nitrate (33-0-0) may suffice. Whether you use a granular or a liquid formula is a matter of personal preference and cost. Follow the label carefully and do not over fertilize. Excess nitrogen causes rapid leggy growth and fewer flowers.

Cutting back perennials – In general perennials should not be cut back until the foliage has died. This is also true for bulb type perennials such as tulip, iris, crocus, etc. The foliage and flowers can be removed in the fall or left on plant over winter especially if the plant is attractive. For some perennials, the stalks can help insulate the plant during winter. Others can provide seeds and shelter for birds.

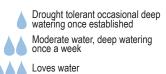
Selecting the right perennials – There are many perennials suited to high elevations. Finding the plant at a local nursery is sometimes the biggest challenge. The following table describes over 79 of the common perennial plants that perform well at the high elevations in Arizona and can be readily found in local nurseries. It includes a key to help you make the best plant choice for your sites and cultural requirements.

Elk and deer resistant plants – Elk and deer can damage plants many different ways. They eat them, pull newly planted ones up by the roots, and rub their antlers on them. Some plants listed in this publication are less attractive to these animals; however, during extreme drought conditions even some of the most resistant plants can be fed upon.

Table 1. Perennials For Northern Arizona

NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
Fernleaf Yarrow Achillea filipendulina	24 - 48" X 24"	**	•	A	E, LB	Large flat clusters of bright yellow flowers on long stems with fern-like leaves. Many hybrids. 'Moonshine' is 18" tall with silver-gray foliage and lemon yellow flowers. 'Coronation Gold' is a 36" tall hybrid that is considered better than the species. Both the species and hybrids are summer bloomers.
Common Yarrow Achillea millefolium	24 - 36" X 24"	**	•	A	E LB, I	Clusters of small white flowers with aromatic, ferny foliage. Many hybrids with flowers in white and shades of cream, pink, yellow and red. Summer bloomer. Likes poor soil. Can become aggressive if conditions are too good. Can be used as a drought tolerant ground cover.
Hollyhock Alcea rosea (formerly Althaea)	48 - 96" X 24 - 36"	**	88		LB	Old-fashioned favorite with large flowers borne along very tall stems. Heartshaped leaves susceptible to rust. Actually a biennial but under favorable conditions will act like a perennial.
Golden Marguerite Anthemis tinctoria	24 - 36" X 24"	**	88	A, L	LB	Abundance of yellow daisy-like flowers above finely cut foliage appear all summer and into the fall. Many cultivars in shades of white and yellow. Avoid heavy clay. Divide every 2 years.
Columbine Aquilegia hybrids and species	18 - 36" X 15 - 18"	*	88		4	Unique five-petaled flowers with back-projecting spurs in a range of colors depending on species and cultivar. Blooms in late May and June. Perfect for cool, shady beds that receive regular water. <i>A. chrysantha</i> is a native with yellow flowers that tolerates sun. <i>A. caerula</i> has blue and white flowers and is the state flower of Colorado.
White Sage Artemisia Iudoviciana	24 - 48" X 24"	**	۵		E, I	Clump-forming perennial grown for its silver-white foliage rather than its small flowers. A good choice for hot, dry locations. Many cultivars but the common species is native to western North America.
Silvermound, Wormwood Artemisia schmidtiana	24 - 48" X 18"	*	۵		R, E	Striking plant used for its dissected silver-gray foliage rather than its flowers. Excellent companion plant to bring out contrasts of leaf color and texture. Good choice for rock garden and borders. "Silver Mound" is a favorite.
Butterfly Weed Asclepias tuberosa	24 - 36" X 24"	*	•			Orange flowers in broad, flat clusters at the end of long stems. Attracts butterflies with mid-summer blossoms. Well adapted to full sun and dry, infertile sites. Has an extensive taproot and is therefore difficult to transplant.
New England Aster Aster novae-angliae	36 - 60" X 36"	**	88	С	E	One of many composites that bloom in early fall. The species has violet flowers but many cultivars are available in white, blue, crimson and lavender, and in different sizes. Excellent cut flower and a good choice for the back of the fall border.











Attracts humminbirds Good for butterflies Can be invasive Elk and deer resistant

Tolerates shallow, alkaline soil Needs good drainage

R Rock gardens **G** Ground cover

NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
New York Aster, Michaelmas Daisy Aster novae-belgii	36 - 48" X 36"	**	88	С	E	Another late blooming composite that provides excellent fall color, Hundreds of cultivars are available. Easy to grow when given sun, regular water and good garden soil.
False Indigo Baptisia australis	36 - 60" X 36 - 48"	**	88	С	E, LB	Lupine-like blue flowers appear in early summer. Black seed pods 2-3" long form in fall. Good specimen plant for the back of border. Carefree plant that doesn't like to be disturbed once established because of its long taproot.
Carpathian Bellflower Campanula carpatica	6 - 12" X 12"	**	88		E, R, LB	Blue bell-shaped flowers occur from June to August. White and purple flowering cultivars are available. Likes good garden soil and regular water. Smallest of the bellflowers, it is a good rock garden plant or for small flower beds. 'Blue Clips' is a long blooming favorite.
Clustered Bellflower Campanula glomerata	12 - 18" X 12"	**	88	L	I	Showy bellflower with a dense cluster of purple flowers atop the stem. Blooms in June but "deadheading" will promote a second "flush". Can be vigorous, forming large clumps.
Peach-leaved Bellflower Campanula persicifolia	24 - 36" X 18"	*	88		LB	Another of the over 300 species of the genus Campanula. Tall bell-shaped perennials with larger blue bells that occur in June and July. Prompt 'deadheading' extends flowering. Leaves are slender, dark green, and shaped like peach leaves. Short-lived. White cultivars are available.
Harebell, Bluebell Campanula rotundifolia	6 - 12" X 12"	**	88		E, LB	Charming native that blooms continuously from early summer on. Flowers are blue, nodding and bell-shaped. Likes good garden soil with regular water.
Mountain Bluet Centaurea montana	18 - 24" X 12"	**	88		I	Vigorous perennial with 2" flowers that are blue with black fringed bracts. Peak flowering is early summer but will bloom again if "deadheaded". Easy to transplant. Looks best when allowed to spread and sprawl.
Red Valerian, Jupiter's Beard Centranthus ruber	18 - 36" X 30"	**	۵	A	LB, I	Showy rose-red flowers are produced from June until frost. Works well in the xeric garden. "Deadhead" to keep it neat. Re-seeds readily. Can be invasive.
Snow-in-Summer Cerastium tomentosum	6" X 24 - 36"	**	۵		G	Low mat-forming ground cover with lots of small white flowers in early summer. Woolly, silvery foliage. Spreads quickly if watered regularly. Looks best in full sun with drier soil that is low in fertility. Shear after flowering.
Painted Daisy, Pyrethrum Chrysanthemum coccineum	12 - 24" X 12"	**	88	L		Colorful daisy-flowered perennial with ferny foliage. Red, rose or pink flowers appear in early summer. Shearing encourages re-bloom. Plant in a rich,moist but well-drained soil. Good cut flower. Source of pyrethrum, an organic insecticide.



Full sun



Drought tolerant occasional deep watering once established Moderate water, deep watering once a week



Tolerates clay







Attracts humminbirds

Tolerates shallow, alkaline soil Needs good drainage

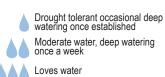
R Rock gardens **G** Ground cover





NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
Hardy Chrysanthemum Chrysanthemum x morifolium	12 - 36" X 12 - 36"	**	88			Hardy mums are the "backbone" perennial of the fall garden. Flowering occurs from late August until frost. Numerous cultivars provide various colors and sizes. Flowering depends on the length of night. Heavy feeders that require winter mulch.
Shasta Daisy Chrysanthemum maximun	24 - 36" X 24 - 36"	**	88	L	E	Easy to grow daisy-flowering plant that is useful in the herbaceous border and for cut flowers. White flowers with yellow centers appear in early summer. Many cultivars available.
Coreopsis Coreopsis grandifolia	12 - 24" X 12"	**	۵	L	LB	Large, bright yellow flowers on erect stems in the summer. May need support but compact cultivars are available. Good plant for borders, cut flowers and naturalized areas. Drought tolerant but flowers best with regular water. Often listed under the related species <i>C. lanceolata</i> .
Threadleaf coreopsis Coreopsis verticillata	12 - 24" X 15 - 24"	**	44		LB	Clear yellow flowers appear summer through fall on plants with finely divided, narrow leaves. 'Zagreb', with deep golden yellow flowers, is the preferred cultivar for colder climates.
Delphinium Delphinium elatum and hybrids	36 - 96" X 36"	**	88	L	LB	Tall plants grown for their showy flower spikes that appear in summer. Usually in shades of blue but red, pink, white, violet and yellow cultivars are available. Grow in a moist, fertile, well-drained soil, and protect from high winds.
Dwarf Chinese Delphinium Delphinium grandiflorum	12 - 24" X 15"	**	88		LB	A floriferous compact species with deep blue flowers and narrow foliage. Blooms continously throughout the summer. Not bothered by high winds like its larger relatives.
Sweet William Dianthus barbatus	10 - 18" X 12"	**	44	L	R	White, pink, purple or bicolored flowers form a flat-top cluster in late spring on these short-lived perennials. Good for the front of a border or bed or as a filler in rock gardens.
Pinks, Dianthus Dianthus species	18 - 24" X 12"	**	88	L	R	Over 300 species of dianthus are known. <i>D. plumarius</i> and <i>D. deltoides</i> are two of the common species grown here as is <i>D. barbatus</i> described above. Fragrant carnation-like flowers appear in late spring and can be pink, red, white or bi-colored. The foliage is evergreen with long, narrow leaves. Many cultivars are available.
Bleeding Heart Dicentra spectabilis	24 - 36" X 24 - 36"	*	44	С	E	Pink heart-shaped flowers hang down from arching stems. Flowers in late spring. Old-fashioned favorite that grows best when provided shade, moisture and organic matter. Other species include <i>D. exima</i> and <i>D. formosa</i> .





C Tolerates clay

E Easy care

LB Long bloomer

Can be invasive



NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
Purple Coneflower Echinacea purpurea	24 - 36" X 24"	**	•	С	LB	Favorite wildflower that has purple daisy-like flowers that appear throughout the summer. Good cut flower and good back-of-the-border plant. 'White Swan' is a white cultivar. Drought tolerant but flowers best with regular water.
Fleabane Erigeron speciosus and hybrids	12 - 24" X 24"	**	88	L	LB	The species has purple aster-like flowers but hybrids come in white, pink, rose, blue, and violet. Blooms appear all summer. Extend bloom by "deadheading". Needs well-drained soil.
Blanket Flower Gaillardia x grandiflora	24 - 36" X 18"	**	۵	A, L	LB	Bright yellow/orange flowers that 'blanket' the plant all summer. Hybrids are compact and easy to grow but not as long-lived as the species. Drought tolerant but flowers best with regular moisture.
SweetWoodruff Galium odoratum	6 - 8" X 12"	*	44		G	Tiny white flowers appear in May on fragrant foliage that forms whorls shaped like miniature parasols. Spreads quickly when given lots of moisture. Good ground cover for shaded areas under trees. Used in May wine.
Cranesbill, Hardy Geranium Geranium species	6 - 36" X 12 - 24"	**	88	A, L	R, LB	Mounding long-lived perennial with white or pink flowers that are nestled among the leaves. Summer bloomer. Cut back after bloom for a second "flush" of flowers. Many cultivars and species are available choose those which are cold tolerant. Flower color, plant size, and habit depend on the species.
Geum, Avens Geum hybrids	12 - 24" X 12 - 18"	**	88	L		Tough, hardy plants with brightly colored flowers that appear in late spring to early summer. Many colors are available. Likes a cool location, good drainage and a moisture retentive soil with lots of organic matter. <i>G. triflorum</i> or prairie smoke is a western native that has fuzzy, pinkish plumes.
Perennial Baby's Breath Gypsophila paniculata	24 - 36" X 24 - 36"	**	88	L	E, LB	Small, white flowers bloom in early summer and last for 6 weeks. Excellent plant for cut or dried flowers. Good plant for a display garden and as a filler. Likes a low nutrient, alkaline soil.
Creeping Baby's Breath Gypsophila repens	3 - 6" X 12"	**	88	L	G, R, LB	Beautiful ground cover; plant is covered with small white flowers from late spring until frost. A pink cultivar is available. Valuable plant for rock gardens and dry walls.
Sunrose, Rock Rose Helianthemum nummularium	12 - 24" X 24"	**	•	A,L	G	Low semi-evergreen plant is smothered in bright colored blossoms in May and June. Flower can be white, cream, pink, red to yellow. Long-lived. Deep taproot enables it to tolerate drought.
Sunflower Helianthus decapetalus	36 - 60" X 36"	**	44			Light yellow flowers 2-3" across are borne on long slender stems from July to September. Many cultivars have been derived from this species. Flowers best with lots of water and a fertile, alkaline soil. Use in the perennial border, wildflower garden, or naturalized area.

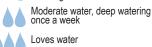


Full sun





Drought tolerant occasional deep watering once established

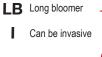








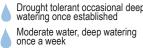






NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
Maximilian's Sunflower Helianthus maximiliani	24 - 96" X 36"	**	۵		LB	Yellow daisy-like flowers cover tall flowering spikes in early fall. Not for small gardens as it is aggressive and will crowd out weaker plants. Plant next to a wall or fence, at the back of the border or with tall grasses. Plant in your warmest site as flowers may be affected by early fall frosts.
Daylily Hemerocallis species and hybrids	12 - 48" X 24 - 36"	*	44	С	E, LB	Lily-like flowers in open or branched clusters at the end of leafless stems. Forms large clumps with arching, sword-shaped leaves. Wide variety of flower colors and hundreds of cultivars to choose from. Bloom is from June to September depending on cultivar or species. Best growth with lots of organic matter in soil. Can tolerate dry sites once established.
Coral Bells Heuchera sanguinea and hybrids	12 -24" X 12 - 15"	**	**	L	R	White, pink, or red flowers bloom on long stems in late spring and persist for several weeks. Many hybrids are available. "Deadheading" extends the bloom for weeks. Requires good drainage and afternoon shade. Good for front border. Common species are native to New Mexico and Arizona.
Evergreen Candytuft Iberis sempervirens	6 - 12" X 24"	* * *	44		G	Low evergreen mounds with bright white flowers in mid-spring. Excellent as an edging plant. Plants should be sheared off after blooming. May turn brown in the winter.
Bearded Iris Iris hybrids	24 - 36" X 18"	**	88	A, L		Classic Dutch-iris flower with three standards (inner petals) and three falls (outer petals). Flowering starts in late May and continues through June. Comes in many colors and hundreds of cultivars are available. Rigid sword-shaped leaves provide interesting foliage after flowers fade.
Siberian Iris Iris sibirica	24 - 40" X 18"	**	444		E	Dutch-type iris flower but more slender and delicate than bearded iris. Flowers are blue, purple or white. Grass-like foliage. Blooms after bearded iris has faded. Does not like to be moved.
Red-hot Poker, Torch Lily Kniphofia uvaria	36 - 48" X 24 - 34"	**	•	A, L		Unusual spikes of orange and yellow flowers rise above clumps of narrow gray-green leaves. Flowers open from the bottom of the spikes to the top, fading to yellow as they age. Summer bloomer in our area.
Perennial Sweet Pea Lathyrus latifolius	48 - 96" X 48"	**	44	А	LB	A perennial favorite of the past that bears large, pea-like flowers in pink or purple on strong-growing vines. Blooms from June to September if not allowed to go to seed. Blooms best with water. Plants require little care.Good on a trellis or fence, as a bank cover or trailing over rocks.
English Lavender Lavandula angustifolia	12 - 36" X 36"	**	•	L	LB	Fragrant lavender or purple flowers are borne on long- stalked spikes. Flowers in the summer. Plant height depends on cultivar. A good choice for xeric gardens and for edging paths, perennial borders or herb gardens. Avoid heavy clay.





Loves water

A Tolerates shallow, alkaline soilL Needs good drainage

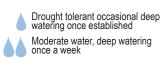
R Rock gardensG Ground cover

Can be invasive

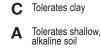
NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
Spiked Gayfeather Liatris spicata	36" X 24"	**	۵	L	7	A member of the daisy family but very undaisy-like in appearance. Rose to lavender flowers are spike-like and bloom in August. Has recently become a favorite cut flower. Likes water but tolerates drought. Needs a well-drained soil. <i>L. punctata</i> is a smaller, mid-western native.
Asiatic Lily Lilium hybrids	18 - 24" X 12"	**	44	L		Floriferous late-spring bloomers in shades of yellow, red, pinks, purples, and white. While there are literally hundreds of Lilium species and cultivars, asiatic lilies are among the easiest to grow in our area. Good cut flower.
Blue Flax Linum perenne	18 - 24" X 18"	**	•		E, LB	Profuse small blue flowers appear all summer in light shade with moderate moisture. Has an upright habit with arching stems. Good for the border but will re-seed itself. Excellent choice for dry meadows.
Cardinal flower Lobelia cardinalis	24 - 36" X 24"	**		С		One of the perennial lobelias, brilliant red flowers bloom mid-summer for 2 - 3 weeks. Rich, organic soils are a must along with ample moisture. Late afternoon shade is best.
Lupine Lupinus hybrids	15 - 36" X 24"	**	88	L		Dense flower spikes that come in blue, purple, yellow, red, pink, and bi-colored appear in late spring and summer. Likes a moist, nutrient rich soil. Good choice for the summer border. Hybrids will not tolerate dry winds.
Rose Campion Lychnis coronaria	24 - 36" X 18"	**	88	L		One of the showiest of the Lychnis genus with bright rose- colored flowers that contrast dramatically with the silver- green foliage. Often short-lived but readily re-seeds itself. Excess plants are easy to weed.
Beebalm, Monarda Monarda didyma	36 - 48" X 18"	*	88	С	LB	Whorls of tube-shaped flowers are borne at the top of aromatic foliage June through August. Flower color depends on cultivar. Plant where spreading is not a problem. Likes a rich, well-drained soil. Avoid excessive winter moisture and drought. Loved by butterflies and hummingbirds.
Catmint Nepeta x faassenii	12 -36" X 18"	**	۵		LB, R	Pale blue flowers are held in loose spikes over gray, hairy foliage. Often grown as an edging plant as it tends to cascade. Shear foliage 8" from ground in early summer for late summer bloom. Good addition to the xeric garden.
Missouri Evening Primrose Oenothera macrocarpa	6 - 10" X 36"	**	•	L	R, LB	Large (4 to 5" across), cup-shaped yellow flowers bloom from June to August. Allow soil to occasionally dry out for best results. Suitable for the border front, rock gardens and cascading over walls.
Full sun	Drought tolerant of watering once es			Tolerates (clay	E Easy care LB Long bloomer Attracts humminbirds
Part shade (morning sun, afternoon shade is best)	Moderate water, of once a week	deep watering	A	Tolerates s alkaline so	oil '	R Rock gardens Can be invasive Good for butterflies
Shade	Loves water		L	Needs goo drainage	DC (G Ground cover Elk and deer resistant

NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
Showy Pink Evening Primrose Oenothera speciosa	10 - 18" X 18"	**	•	L	I, LB	Clear pink flowers bloom all summer long. Has stoloniferous rootstock and spreads rapidly in hot weather. Likes sun, drought, and heat. Use near pavement or along south and west facing areas. Can act like an annual in colder parts of town. If planted in too rich a soil, it will become rampant.
Peony Paeonia hybrids	24 - 36" X 36"	**	88			Large single, semi-double or double flowers in white, cream, pink, and red make a spectacular show in late May and June. Use as a specimen plant or for cut flowers. Hundreds of cultivars are available with different colors, flower type, and flowering times. Plant in a deep, fertile soil. Feed periodically. Too much shade inhibits flowering.
Iceland Poppy Papaver nudicaule	12 - 18" X 12"	**	88	L	R	Crepe-paper like flowers come in many colors and appear in early spring to early summer. Short-lived. Requires a well-drained soil and regular moisture.
Oriental Poppy Papaver orientale	18 - 36" X 24"	*	88	A, L	E	Orange-red, white, or pink flowers with a mound of black pollen-bearing stamens in the center bloom in June. The foliage dies back so other perennials should be planted to fill in. Wait until dormant to divide.
Penstemon, Beardtongue Penstemon species	4 - 60" X 15 - 24"	*	•	L	R, G (shorter cultivars)	Large group of plants that have a showy bloom of tubular flowers. Purple and reds are the common flower color but whites, pinks, and purple are also available. The genus comes in a wide range of heights depending on species and cultivar. <i>P. barbatus</i> is a native here with rose-red to red-purple flowers. Very useful for the xeric garden. Good drainage is a must.
Russian Sage Perovskia atriplicifolia	36 - 48" X 36 - 48"	**	•	A, L,	LB	Hardy Eurasian native that has aromatic silver-gray foliage topped with silvery-blue flower spikes. Blooms start in late summer and may persist for months. Shrub-like semi-woody plant. Thrives in the harshest environment.
Garden Phlox Phlox paniculata	36 - 48" X 24"	**	88			Most magnificent and popular of the upright phlox. Flowers mid-summer in shades of pink, lilac, red,blue, and white. "Deadheading" prolongs display. Many cultivars and colors are available. Likes a rich, high organic matter soil and benefits from the application of fertilizer.
Moss Phlox, Creeping Phlox Phlox subulata	3 - 6" X 24"	*	88	L	R, G	Pink, white, or purple flowers provide a carpet of color in early spring. Foliage is semi-evergreen with leaves being narrow, stiff and almost prickly. Effective ground cover in a sunny, well-drained site. Good for rock gardens.
Black-eyed Susan Rudbeckia fulgida	24 - 36" X 24"	**	88	С	E, LB	Short-lived perennial with yellow or orange daisy-like flowers with black eyes from summer to fall. May behave like an annual but re-seeds itself and blooms from seeds the first year. 'Goldstrum' is a yellow favorite that blooms for many weeks in late summer and is a true perennial.





Loves water



Needs good drainage



R Rock gardens

G Ground cover

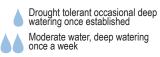


Can be invasive



NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
Perennial Salvia Salvia x superba	18 - 24" X 24"	**	•	A, L	E, LB	Blue or purple flowers are borne on long spikes. Prompt "deadheading" and regular watering keep the flowers coming all summer. Excellent in the border in combination with bright yellow flowers.
Gray Santolina, Lavender Cotton Santolina chamaecyparissus	18" X 36"	**	•	A,L		Yellow button flowers bloom in summer atop silver-gray foliage. Prune hard after flowering to keep plants looking neat and bushy. <i>S. virens</i> has green foliage and is not quite as hardy as the gray. Grows best in a sandy soil.
Soapwort Saponaria ocymoides	10" X 24"	**	•	A	G	Easy to grow compact plant that produces a profusion of flowers in late spring and summer. Flowers usually pink but 'Alba' is a white flowered cultivar. Attains full size in a year or two. Best cascading over rock walls, as a ground cover, or in the front of the perennial border.
Pincushion Flower Scabiosa caucasica	15 - 24" X 18"	**	44	L	LB	Old-fashioned perennial with broad flat flower heads, usually about 2" wide and soft-blue. Two popular hybrids are 'Butterfly Blue' and 'Pink Mist'. Both bloom from late spring through the summer into fall. Easy to grow if given regular water and a humus-rich soil.
Stonecrop Sedum species	2 - 8" X 12 - 18" depending on species	**	•	A, L,	R, G	Dozens of low-growing sedum species are available. All are succulent, easy to grow and like a well-drained soil. 'Dragon's Blood' is one of the most popular with its rosered flowers in late summer and red-tinted leaves.
Showy Stonecrop Sedum telephium (syn. S. spectabile)	15 - 24" X 15"	**	44	L	E	Upright sedum with large pink to red flower clusters and succulent, fleshy leaves. Blooms late summer. The flower heads turn a rich bronze color in the fall. Excellent plant for the fall border. All parts are mildly poisonous.
Goldenrod Solidago hybrids	24 - 36" X 24"	***	88	С		Golden plume of yellow flowers topping leafy stems bloom in late summer. Does not cause hay fever despite popular belief. Easy to grow in a good garden soil with regular water but can handle poorer sites. The native species are drought tolerant.
Lamb's Ear Stachys byzantina (syn. S. lantana)	12 - 18" X 12 - 36"	**	•		G	Vigorous, carefree ground cover with woolly white leaves that form a dense mat. Tall flower spikes have hundreds of small lilac flowers. 'Silver Carpet' is a non-flowering cultivar. Good plant for edging and in front of the border.
Common Thyme Thymus vulgaris	6 - 12" X 12"	**	•	A	R	Shrubby perennial herb with lilac flowers in June and July. Use for edging flower beds and gardens. The variety 'Argenteus' or silver thyme has silver variegated leaves.
Veronica Veronica pectinata	4" X 24"	**	•	L	G	A vigorous prostrate ground cover with dense woolly gray-green foliage. Four-inch spikes of deep blue flowers appear in spring. Most drought tolerant of the creeping veronicas.





Tolerates clay

R Rock gardens

E Easy care



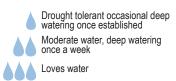
LB Long bloomer Can be invasive



Loves water

NAME	HEIGHT & SPREAD	SUN	WATER	SOIL	OTHER	REMARKS
Veronica Veronica spicata	18 - 24" X 18"	**	44		LB	Tall flower spikes begin in early summer and continue for months if "deadheaded". Many cultivars ranging from white to blue to red and varying in height are available. Likes a humus-rich, well-drained soil, and regular water.
Sweet Violet Viola odorata	6 -12" X 15"	**	88	L		Old-fashioned perennial whose violet flowers appear in spring. Likes a cool, well-drained soil high in organic matter. May require winter protection.









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