

Growing Annual Flowers



MontGuide

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Planning flower gardens, starting plants indoors and caring for a garden. Includes diagrams and table of ornamental and cultural characteristics of 73 common flowers.

ANNUAL FLOWERS MAY SOLVE many landscape problems. No other plants provide such continuous bloom. They fill voids in permanent plantings while young woody plants grow, and provide inexpensive color and cut flowers in almost any soil.

Annuals are used in perennial plant beds to continue interest following early blooming bulbs and perennials. They can be transplanted or direct-seeded into the spot where tulip and daffodil blooms have faded, or planted in front of woody flowering shrubs to provide further interest through the season.

If you want plenty of cut flowers, devote a separate area of the garden to annuals, but be sure to coordinate it with the overall landscape plan.

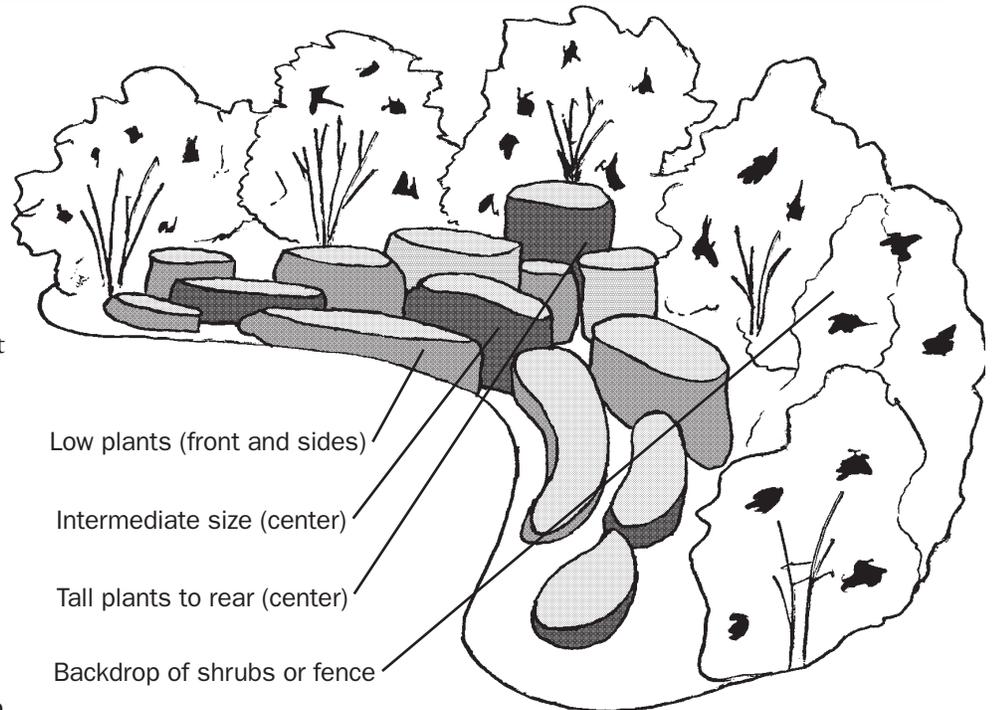


FIGURE 1. Color and size transition. Blocks of each annual planted in “drifts.”

Planning the Flower Border

The annual flower border can be an attractive element in the overall landscape if you follow a few simple guidelines. Curve the bed lines of an informal planting and plant masses of individual flowers in “drifts” which gradually melt into each other (Figure 1). Formal plantings have angular bed lines. When annual beds include perennials, mass the annuals together to simplify management. Graduate plant heights from front to back, and use low perennials in front.

Make the bed at least 3 feet but no more than 5 feet deep to allow for working the bed from its border. If it must be deeper than 5 feet, plan stepping stones or a small path to allow access to the interior of the bed.

To be effective, each flower mass should be large enough to be clearly seen from a distance. Use the “warm” or advancing colors (red, orange, yellow) in smaller masses to subordinate them; use “cool” or receding colors (blue, violet, green) in larger masses to contrast with the warm ones. The color wheel (Figure 2) will help you understand color use. Each cool color opposes a warm color. Colors across the wheel from each other are complementary and provide strong contrast. Adjacent colors are analogous and provide subtle color transitions. If you don’t want strong accent, don’t arrange flowers with warm colors next to those with cool colors.

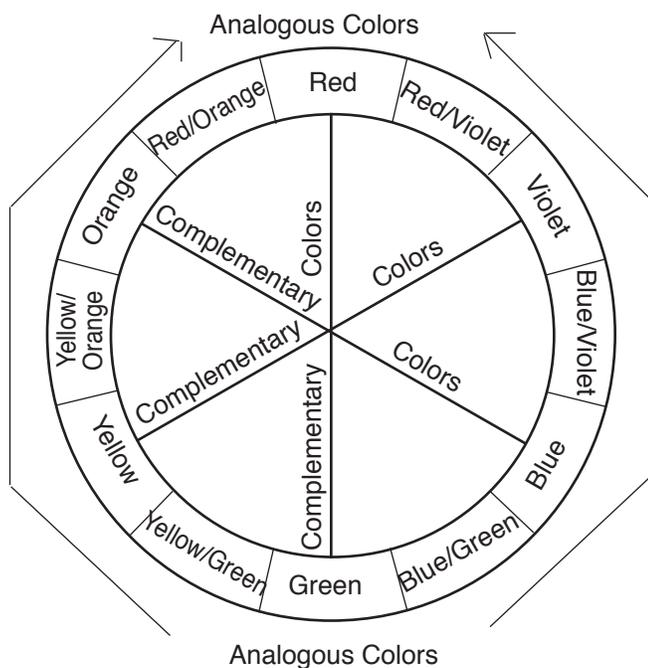


FIGURE 2. Color Wheel

Color creates moods. Warm colors exhilarate and stimulate while cool colors relax the viewer. Let cool colors predominate in areas devoted to rest and relaxation. Warm colors command and direct attention to specific areas in the landscape.

You'll find an example of an annual flower border with proper size and choice of plants in Figure 3. All flower borders, whether annual or perennial, are most attractive against a fence of neutral color or against a shrub background (Figure 1).

Starting Plants Indoors

Many annuals perform better if started indoors and transplanted into the garden. You can determine indoor planting time by finding the number of days from seed to flower on the seed packet. Table 1 includes some general information about planting dates for inside or outside sowing.

Many people plant seeds too early. This results in an oversized, leggy transplant that is susceptible to damping-off disease. Legginess is often caused by low indoor light levels and/or by too high a temperature. Let an electric fan blow air across your plants—the plant movement will help form stocky plants. You must coordinate the date of sowing with the average date of last frost in your location. For much of western Montana, seed about April 1 since the date of last frost is often close to June 1. March 15 may be a better date in much of eastern Montana. The right time to start seedlings also depends upon the species. Trial and error is the only way to determine a more precise time for your specific location and flower species.

Use a soilless potting mix containing peat moss and perlite. Or, you can use a mix containing 50 percent loam

soil, 25 percent peat moss, and 25 percent washed sand to start your seeds indoors. If you use the soil mix be sure to sterilize it to reduce the chances of seedling damping-off. Place moist soil into shallow trays and put these into a household oven at 180°F for 30 minutes. Use a probe-type thermometer to determine when all soil has reached the desired temperature. You can also use microwave ovens to sterilize soil. Determine the amount of time required by monitoring soil temperatures as described above for the regular oven. Soilless mixes usually need no sterilization.

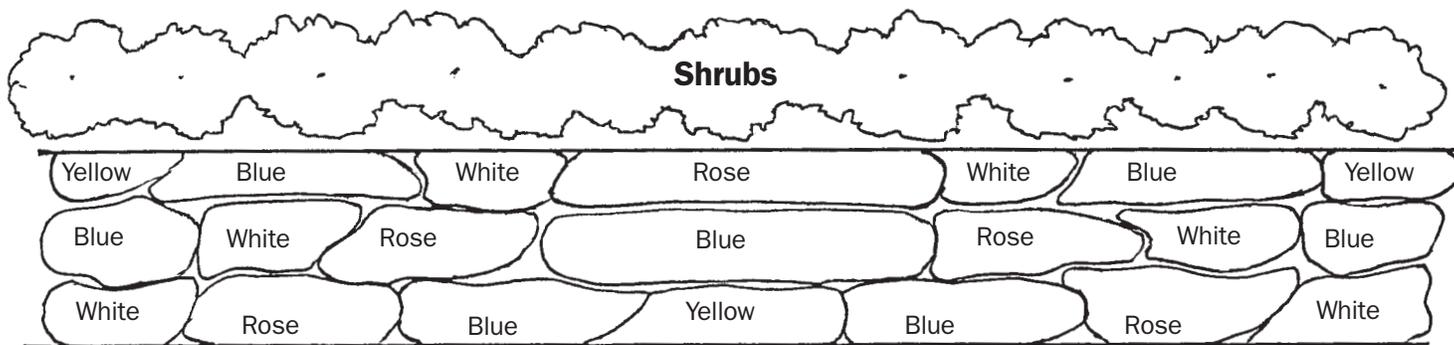
Screen the soil or mix to a fine texture, fill pots or trays, and firm and moisten it before planting. Scatter small seeds over the surface and cover them with mix to a depth equivalent to twice their largest diameter. Label the seeded flats to maintain plant identity. Cover seeded containers with a plastic sheet to maintain relatively high humidity, and with newspaper to shade the media surface unless the seed trays are kept out of direct sun. Most seeds germinate well at temperatures between 50° and 80°F. Spider flower (*Cleome*) and petunia (*Petunia*) germinate better at warm temperatures (70°-80°F). Seeds of species that prefer cooler temperatures include African daisy (*Arctotis*), candy tuft (*Iberis*), bachelor button (*Centaurea*), clarkia (*Clarkia*), godetia (*Clarkia* sp.), and larkspur (*Delphinium*). Remove the newspaper after the seeds germinate.

Bottom-water the seeded flats or pots by placing the containers in shallow trays of water and allowing water to move up through the mix. Watering from above can disturb or damage the fine seeds or small seedlings.

Transplant the seedlings to flats or individual containers when they have reached the 2-3 leaf stage. Peat pots are popular but styrofoam cups with holes punched in the bottom work well also. Place the transplants in a greenhouse or a hot bed if you can. A south-facing window with added "grow" lights will do if other facilities are not available. Be sure to harden-off the plants before you transplant them to the garden by gradually exposing them to cooler nights over a 1 to 2 week period.

Setting out the Plants

Most annuals don't require very rich soil but they do need an adequate supply of nutrients. Work into your bed area a complete fertilizer at the rate ¼ pound of actual nitrogen per 100 square feet. Using 5-10-10 fertilizer, 5 pounds of fertilizer per 100 square feet is the right amount. Also work in organic matter such as peat moss, compost or well-decayed manure to improve soil structure. Most annuals grow best at a soil pH of between 6.5 and 7.5. Attention to fertility now will help produce vigorous, healthy plants and blooms later on.



SUGGESTED ANNUALS FOR THE ABOVE DESIGN

Row/Height	Color	Suggested plants in... Sun	Shade*
A (18")	Yellow	Marigold, Zinnia	Monkey Flower, *China Aster, *Cosmos
	Blue	Larkspur, Verbena, Scabiosa	Forget-me-not, *Lupine, *Verbena
	White	Nicotiana, Zinnia, Lavender	Balsam, Sweet Sultan
	Red	Celosia, Zinnia	*Celosia, *Painted Daisy, *Verbena
B (12")	Blue	Ageratum, Centaurea, Petunia, Salvia	*Bellflower, *Petunia
	White	Stocks, Phlox, Dimorphotheca	*Wax Begonia
	Rose	Phlox, Petunia, Zinnia	*Wax Begonia
C (8")	White	Alyssum, Petunia	Lobelia, *Dianthus, *Alyssum
	Rose	Verbena, Moss rose, pansy	*Dianthus, Impatiens
	Blue	Ageratum, Lobelia, Pansy	Pansy, *Lobelia, *Moss rose
	Yellow	Marigold, Pansy	Pansy

*Adapted to light shade only

FIGURE 3. Color sequences and size considerations in an annual flower border.

Plant outdoors late in the afternoon on a cloudy day when soil is moist to help reduce transplant shock. Spacing depends upon the species. Plant giant zinnias 18 inches apart, but alyssum only 6 inches apart.

Annuals that are direct-seeded will need thinning before they become crowded. Failure to do this will result in overcrowding and spindly plants with few flowers.

Pinching

Some annuals require pinching during the thinning or transplanting process. Pinching increases the number of blooms and forms a more stocky plant. *Ageratum*, *Browallia*, *Calendula*, *Chrysanthemum*, *Petunia*, *Phlox*, *Dianthus*, *Salpiglossis*, *Schizanthus*, *Antirrhinum*, *Verbena* and *Zinnia* all benefit from having their tips pinched. DO NOT pinch impatiens, cockscomb, everlastings, poppies or stocks.

Aftercare

Hoe weeds to keep them from competing with your flowers for water and nutrients. A mulch of fine bark will decrease weed competition, conserve soil moisture, and lower high summer soil temperatures for better plant growth.

Water your plants during warm dry periods to assure continuous plant development. *Infrequent, deep*

waterings are better than light, frequent ones. At least the top 6 inches of soil should feel moist and cool. Use drip irrigation during flowering to prevent browning of the blooms by water puddling on them.

Remove spent blossoms (“deadhead”) to force a longer continuous bloom period and fertilize your plants weekly with a liquid fertilizer.

Fall Clean-up

Remove all annual plants after fall freeze to reduce the chances that disease organisms will be carried over into the next season. Till or turn the soil to remove weeds and leave it in good condition for spring planting. If it needs more organic matter, add it during fall tilling.

Annuals that reseed

Some annual species reseed themselves. If you want this to happen, leave the plants in place until the seeds have shed, then clean up the spent leaves and stems. *Browallia*, California poppy, calliopsis, cornflower, *Cosmos*, four-o’clock, *Gypsophila*, rocket larkspur, morning-glory, *Petunia*, pot marigold, rose moss, mealycup sage, snapdragon, snow-on-the-mountain, spider flower, summer cypress and sweet alyssum are some species that will reseed in your garden.

TABLE 1. ORNAMENTAL AND CULTURAL CHARACTERISTICS OF COMMON ANNUAL FLOWERS.

Plant Name	Uses	Color	Height	Bloom Period	Exposure	Planting Time	How Propagated	Limitations	Remarks
African Daisy <i>Arctotis</i> spp.	General	White, orange & steel blue	12"-30"	July, August	Full sun	After frost	Seed or transplants	Will not flower well during hot nights	Has woolly leaves
Ageratum <i>Ageratum</i> spp	General, edging, planters	Lavender blue, white, pinkish	3"-10"	July to September	Partial shade	After frost	Transplants	Prefers warm climate	Deer resistant
Alyssum (Sweet) <i>Lobularia maritima</i>	Borders, edgings,	White, purple, pinkish	9"	June to September	Partial shade	After frost	Seed or transplants, cuttings	Widely adapted	Will re-seed itself
Baby Blue Eyes <i>Nemophila menziesii</i>	Borders, pot plants	Sky blue with white centers	6"-8"	May to September	Sunny to partial shade	Sow in flats in March	Seed indoors, plant outdoors after frost	Cut flowers do not last long	
Bachelor Button (Corn Flower) <i>Centaurea cyanus</i>	Cut flowers	Blue, rose, white, mauve, purple	12"-18"	Late spring, early summer	Full sun	Early spring	Seed	Cool nights needed for flowering	Often re-seeds itself
Balsam (See Impatiens)									
Basket Flower <i>Centaurea americana</i>	Cut flowers and borders	Pink, purplish to white	24"-60"	Late spring, early summer	Sunny	Early spring	Seed	Cool nights needed for flowering	
Wax Begonia <i>Begonia semperflorens</i>	Bedding plants, planters	White, Pink, Red	12-18"	Continuous	Partial shade	After frost	Transplants		Indoor plant, also
Black-eyed Susan (Annual Coneflower) <i>Rudbeckia hirta</i>	General	Golden-yellow petals with dark brown centers	24"-36"	Summer and fall	Full sun	Early spring	Seed	Prefers warm climate	Gloriosa daisies are tetraploid forms of this
Browallia <i>Browallia</i> spp.	General	Blue	9"-30"	Late summer and fall	Full sun	After frost	Cuttings or seeds	Prefers warm climate	Several forms available
Calendula (Pot Marigold) <i>Calendula officinalis</i>	General	Yellow, yellowish to orange	18"-36"	July to autumn	Full sun	Early spring	Seed	Rather dry soil. Does not like hot humid weather	Deer-resistant
California Poppy <i>Eschscholzia californica</i>	General	Yellow, orange orange-red, red	12"-18"	Summer	Full sun	Early spring	Seed	Light, sandy soil	Perpetuates itself by self-sown seeds
Calliopsis (Tickseed) <i>Coreopsis tinctoria</i>	General	Yellow, maroon, crimson	12"-18"	July and August	Full sun	Late April or May	Seed	Lodges in high wind or heavy rain	Drought tolerant
Candytuft <i>Iberis umbellata</i>	Flower borders	White, pink, mauve, purple, crimson, 10"	10"	Summer to fall	Sunny	Spring	Seed	Needs well-drained soil	Good in cool climates
China Aster <i>Callistephus chinensis</i>	General, indoor decoration	Lavender, yellow center; rose, pink, crimson, white	18"-30" Dwarf 6"-12"	August & September	Partial shade	After frost	Seed or transplants	Prefers cool nights	Thrives in fairly alkaline soils
Clarkia <i>Clarkia</i> spp.	General	Crimson, white to purple	12"-36"	June & July	Sunny	Early May	Seed	Prefers cool nights	One species native in western Montana

Name	Uses	Color	Height	Bloom Period	Exposure	Planting Time	How Propagated	Limitations	Remarks
Cleome (Spider Flower) <i>Cleome hassleriana</i>	General	Pink, white, rosy purple, golden yellow	36"-72"	July and August	Sunny	Immediately after frost	Seeds or transplants	Subject to flea beetles	Moist soil tolerant
Cockscomb <i>Celosia cristata</i>	General winter bouquets	Crimson, red, rose	12"-36"	Summer and autumn	Sunny	Spring	Seed or transplants	Cockscomb requires warm climate	Plumosa forms best in mountain valleys
Corn Flower (See Bachelor Button)									
Cosmos <i>Cosmos bipinnatus</i> & <i>Cosmos sulphureus</i>	General, table decorations	White, pink, yellow, crimson, magenta	30"-48"	Summer and early fall	Sunny	After frost	Transplants	Protect from high winds Do not over-fertilize	Drought-tolerant
Dahlia <i>Dahlia</i> hybrids	General	All except blue	Variable	Summer and fall	Sunny; but will tolerate semi-shade	Start inside, transplant after frost	Tubers, cuttings, transplants	Needs well-drained soil	Annual forms may be grown from seed
Delphinium (Annual Larkspur) <i>Cronsolida ambigua</i>	General	Blue, rose, pink, mauve, white	12"-36"	July & August	Sunny	April	Seeds	Adequate moisture, fertile soil	Tolerates alkaline conditions
Forget-me-not <i>Myosotis sylvatica</i>	Edgings, ground cover	Blue	8"-18"	Late spring, early summer	Partial shade	After frost	Transplants	Not drought resistant	Will self-sow
Four O'Clock <i>Marabalis jalapa</i>	Borders	White, red, yellow	3 feet	Mid-summer to frost	Shade tolerant	After frost	Tubers and seed	Very tender	
Foxglove <i>Digitalis purpurea</i>	General (Medicine)	Purple, white	5 feet	June & July	Partial shade		Seed or transplants		Biennial or perennial
Gaillardia (Blanket flower) <i>Gaillardia</i> spp. and hybrids	Cut flowers, borders	Yellow, reddish grays, purple centers	24"	July to frost	Full sun	Spring transplants	Seed or transplants	Well-drained soil	Self-seeds, perennial types
Geranium <i>Pelargonium hortorum</i>	Bedding plants, planters	Red, pink, salmon, white	12-18"	Mid to late summer	Full sun	After frost	Cuttings, transplants		Ivy types for hanging baskets
Gilia <i>Gilia micrantha</i> and <i>Gilia tricolor</i>	Borders	White, light blue, purple, mauve	15"-24"	Mid-summer	Sunny	April	Seed		Many species in western N. America, some annual.
Gladiola <i>Gladiolus hybridus</i>	Cutting	Numerous	15"-45"	Late summer, fall	Sunny	Early spring	Corms	Best as a specialty flower	Store corms in cool, moist place
Globe-Amaranthus <i>Gomphrena globosa</i>	General, drying	Reddish, purple, crimson, white	12"-24"	Summer, fall	Sunny	Early spring or summer	Transplants & direct seeding	Easy to grow	Drought tolerant
Godetia <i>Clarkia amoena</i>	Borders, Cut flowers	Red-white, lilac, purple	12"	Late spring & summer	Sunny	April	Seed or transplants.	Difficult to transplant. Cool nights, dry climate	Sandy soil
Impatiens <i>Impatiens balsamina</i>	General (house plant)	White, yellow, red, pink	18"	Spring to late fall	Partial shade	May	Cuttings, transplants	Not drought resistant	Sandy, moist, rich soil

Plant Name	Uses	Color	Height	Bloom Period	Exposure	Planting Time	How Propagated	Limitations	Remarks
Joseph's Coat <i>Amaranthus tricolor</i>	Novelty	Mixed-carmine red, yellow, dark green (maroon, scarlet leaves)	12" -48"	Mid-summer	Sunny	May or early June	Transplants	Some types are weeds. Needs warm weather.	Grown for foliage color
Larkspur (See Delphinium)									
Lobelia <i>Lobelia erinus</i>	Edging, ground cover	Blue, white, pink	6-8"	Continuous	Sun, partial shade	Late May	Transplants	Not heat resistant	Cut back after first bloom to increase blooming
Lotus (Parrot's Beak) <i>Lotus bertheloti</i>	Hanging baskets cascade over walls, ground cover	Silver-grey foliage, scarlet bloom, ground cover	3' (trailing)	June, July, August	Full sun or slight shade		Seed or transplants	Avoid over-watering	Flowers sweet-pea-shaped. Don't confuse with water plants.
Lupine <i>Lupinus</i> spp. & hybrids	General	Blue, rose, yellow, white	6" -48"	Early summer	Full sun or slight shade	April	Seeds	Susceptible to chlorosis	Perennial forms more common than annual.
Tree Mallow <i>Lavatera</i> sp.	Cut flowers, general	White, pink, red	36"	Mid-summer to frost	Sun	Start inside, set out in late May	Seed or transplants		An annual related to hollyhock. Tolerant of frosts.
Marigold (French) <i>Tagetes patula</i>	General	Yellow, orange, deep red, brownish	6" -36"	Mid-summer to frost	Sunny	After frost	Seed	Some large flowered types too tall at medium to high altitudes.	
Marigold (African) <i>Tagetes erecta</i>	General, edging	Various shades of yellow and brown	24" -48"	Mid-summer to late fall	Full sun	After frost	Seed or transplants		Some varieties are late in flowering
Mignonette <i>Reseda odorata</i>	Grown for its fragrance	Greenish, grayish or yellowish white	1' -1½'	June to October	Sunny, well drained	After frost	Transplants	Place in coolest part of yard	Best in pots
Mirabilis (See Four O'Clock)									
Monkey Flower <i>Mimulus guttatus</i>	Shady rock gardens, streamside	Yellow with red spotted throat	12-18"	June to August	Shade	After frost	Seeds started indoors	Not heat resistant	Needs plenty of moisture
Moss rose (See Portulaca)									
Common Nasturtium <i>Tropaeolum majus</i> & <i>Tropaeolum minor</i> (dwarf)	General	orange, yellow deep reds	12" -15"	Mid-summer	Partial shade	Spring	Seed or transplants	Too much nitrogen will inhibit flower formation	Edible - Drought tolerant
Pansy <i>Viola wittrockiana</i>	Bedding	Wide range	5" -12"	Early spring, late fall	Partial shade, cool	Early spring	Seed	Best in cool weather	Will reseed itself; tender perennial
Penstemon <i>Penstemon</i> spp.	General, rockeries	Reds, pinks, blue, lavender, purple	6" -24"	Summer & fall	Full sun	Early spring	Seed, cuttings	Well-drained soil	Most species are biennial or perennial
Periwinkle <i>Catharanthus roseus</i>	General	Rose, blue	1'		Shade	Seed early spring, transplant in May	Cuttings, layering	Not too hardy	
Petunia <i>Petunia</i> (hybrids)	General	Numerous	8" -24"	Early summer to late fall	Sunny	Seed early spring, transplant after frost	Seed or transplants	Very adaptable	Types: Multiflora, Grandiflora, Double

Plant Name	Uses	Color	Height	Bloom Period	Exposure	Planting Time	How Propagated	Limitations	Remarks
Phlox, annual <i>Phlox</i> spp.	General, ground cover	Rose, crimson, pink,scarlet, violet, white,pale yellow	12"-15" August	July &	Sunny	After frost	Seed		Showy
Pincushion flower (See Scabiosa)									
LaPinks <i>Dianthus</i> spp.	Borders, rock edgings, general	Pink, rose, red & white combinations	12"	Late spring and summer	Sunny	Early spring	Seed	Needs moisture	Showy
Poppies—Shirley <i>Papaver rhoea</i> & Iceland <i>Papaver nudicaule</i>	General rose, scarlet	Red (black), pink,	12"	Late spring	Sunny	Early spring	Seed	Needs moisture	Reseeds itself
Portulaca (moss rose or rose moss) <i>Portulaca grandiflora</i>	Borders, rock gardens, edges, bare banks	Yellow, red, white, (pink stems)	4" -8"	Late spring to frost	Sunny	Early spring	Seed	Drought tolerant	Reseeds itself
Rudbeckia (See Black-eyed Susan)									
Salpiglossis (Painted Tongue) <i>S. sinuata</i>	General	Many (rich velvety)	12"-24"	Summer	Partial shade	After frost	Seed (plant very shallow)	Do not over fertilize	Should be grown more
Scabiosa (Pincushion) <i>S. atropurpurea</i>	General	Blue, maroon, white, yellow pink,rose, red,	24"	Mid-late summer	Sunny	May	Seed or transplants		Good for cutting(Deer Resistant)
Scarlet Sage <i>Salvia splendens</i>	General	Scarlet red	Variable	Late summer	Sunny	Early spring	Seed or transplants	Warm	Shrubby
Snadragon <i>Anthrinum</i> sp.	General, cutting	White, yellow pink, red	12"-24"	July to frost	Sunny transplants	After frost	Seed or transplants	Plants may be half hardy. May break in wind	Best Varieties F ₁ Hybrids
Spider Plants (See Cleome)									
Statice (Sea Lavender) <i>Limonium</i> spp.	Drying	Rose, purple, pink, lavender	12"-20"	Mid-summer, autumn	Sunny	Early spring	Seed or transplants		Good in winter bouquets
Stock <i>Matthiola incana</i>	General, cutting	Numerous	10"-15"	Early summer	Sunny	Early spring	Seed or transplants	Coarse texture	Very fragrant
Strawflower <i>Helichrysum bracteatum</i>	Drying, general	Yellow, red, pink, orange, white	24"-36"	Mid-summer, fall	Sunny	After frost	Seed or transplants	Best grown in cutting garden	Good for dried bouquets

Plant Name	Uses	Color	Height	Bloom Period	Exposure	Planting Time	How Propagated	Limitations	Remarks
Sunflower <i>Helianthus</i> spp. & hybrids	Background	Yellow rays, brown centers; orange chestnut-red	16" - 15'	Mid-summer until frost	Sunny	Early spring	Seed	Grow dwarf forms where wind is a problem	Great diversity of form
Sweet Alyssum (See Alyssum)									
Sweet Pea <i>Lathyrus odoratus</i>	Bouquets, arbors, fences	White, red, pink blue, purple, yellow dwarf 24"	48"	Early summer and fall	Sunny	Early spring	Seed	Subject to root-rot disease in many gardens	Cool, moist climate needed
Sweet Sultan <i>Centaurea moschata</i>	Cut flowers	Purple, white, yellow	1 1/2' - 2'	July to September	Sunny	After frost	Seed indoors	Not frost tolerant	Very fragrant
Tidy Tips <i>Layia platyglossa</i>	Cut flowers, beds, borders, rock gardens	Yellow with white tips	1' - 1 1/2'	June to October	Open, sunny	After frost danger	Seed or transplants		
Verbena <i>Verbena</i> (hybrids)	Beds, borders, boxes, cutting, rockeries	White, pink, scarlet, blue	Creeping	June to late fall	Sunny	Seed or Early spring	transplants	Requires warm climate	Deer resistant
Winged everlasting <i>Ammobium alatum</i>	Drying	White	18" - 24"	Fall	Sunny	Spring	Seed or transplants	Grow in cutting garden	
Zinnia <i>Zinnia elegans</i>	General	Many mixed	18" - 48"	Early summer to late fall	Full sun	Early spring	Seed or transplants	Breaks in wind	Hybrids are best Deer-resistant



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