



# ANNUAL FLOWERS FOR NORTHERN ARIZONA ABOVE 6,000 FOOT ELEVATIONS

*Hattie Braun and Tom DeGomez*

## NORTHERN ARIZONA HORTICULTURE

Annual flowers are plants that grow, flower, set seed and die in one growing season. Their single goal is to reproduce often resulting in an abundance of flowers. Annuals therefore offer a quick easy way to add color and excitement to the landscape. You can select from a wide range of flower color, size, shape and bloom period. Not only do many annuals provide color for weeks or even months, some have showy foliage that provides contrast to bright flowers.

Annuals are often separated into three groups based on their cold tolerance. Knowing which group an annual falls into helps the gardener determine when they can safely plant. The first group includes the frost resistant, cool weather types; the most common of these hardy annuals are pansies. These plants can tolerate a few degrees of freezing. They are usually planted in early spring for late spring color. A second group, known as half-hardy annuals, can handle just a touch of frost. Most annuals fall into this category. It may be possible to set these plants out before the last spring frost but a severe frost will damage the foliage unless they are covered. The third group includes the frost sensitive, heat tolerant annuals and perennials; these are usually called tender annuals. These are planted after the last spring frost and may not be suitable for cooler locations because they usually perform poorly under cold conditions. They bloom in the summer and fall until killed by frost.

Many plants grown as annuals are actually tender perennials that in milder climates will over winter and survive for many years. As long as these tender perennials flower in the first year, they make suitable annuals for colder climates. Biennials can also be grown as annuals and many have very attractive flowers. These plants require two years to mature, producing foliage the first season and flowering the second season.

The short growing season and late spring frosts experienced by much of northern Arizona makes careful plant selection a must. Choosing the hardiest plants for early planting and waiting until late spring or early summer to plant the more tender annuals may afford a more successful gardening experience.

## Ways to use annuals

Probably the greatest use of annuals is in individual flowerbeds and borders. If possible, locate the garden against a background such as a fence, wall, or shrub planting. This shows off the colors of annuals most effectively.

Dwarf and low-growing annuals make excellent groundcovers, borders, or edging plants. For a continuous supply of fresh flowers for use in the home, plant a row or two of the cutting varieties in your vegetable garden or as a border in a perennial flower bed. Some kinds are also useful when dried. Annuals are also invaluable for starting a new garden or for filling in gaps until perennials and shrubs can mature.

Most annuals grow well in containers and may be used in hanging plants. Many water conscious gardeners limit their annuals to containers so that they can carefully control the amount of water they use. Growing annuals in containers also allows northern Arizona gardeners to extend the short growing season; plants that can be placed near buildings may have enough protection to survive late spring and early fall frosts.

## Planning the garden

Plan the garden on paper before you plant. This will help you select the right location for each kind of annual and the number of plants needed. Choose varieties that are best suited to the soil and sun light that your garden has to offer. Many gardeners return home from the nursery with more plants than suitable places to plant them. This limits your success and perpetuates the notion that it is too hard to garden in cold climates.

Height is an important consideration. Use the tallest varieties at the back of the bed and dwarf or low growing types toward the front of the planting. A minimum of five or more hours of sunlight per day is essential to successfully grow most types and varieties of annual flowers. The choice of flower colors and color combinations is largely a matter of personal taste. Small gardens are most attractive when only a few colors or shades of one color are used.

The larger the garden the wider the range of colors that may be successfully combined. Regardless of size, a garden will have its greatest visual impact when each kind of annual is grouped for a mass effect. A good rule is to plant in groups of three, five, seven or more depending on the size of the plant. Combining just a few plants of many kinds of annuals each with a different flower color often results in a confused disorganized garden picture.

Consider the microclimate of the site and the plant's cultural requirements when selecting a garden location. South facing walls and under east and west overhangs are generally the warmest spring and fall locations. In summer, a garden planted in front of a west wall will be subjected to high heat and high light intensities. Against an east wall, however, a summer garden will be protected from afternoon heat and light reflection. North walls are the coolest and shadiest year round.

Give some thought to maintenance when you decide how large your garden will be. How much time and energy are you willing to commit to garden maintenance? You will enjoy your flower garden most if garden chores are a pleasure rather than an unending tedious job.

## **Soil Preparation**

Annuals grow best in a well-drained soil rich in plant nutrients. If the soil is rocky or is a heavy clay, remove it to a depth of 1 ½ to 2 ft. and replace with good soil.

Organic matter should be added to the flowerbed every year. Spread a 2 to 4 inch layer of wood residue material, compost, or well-rotted manure over the garden area and about 1 lb. of ammonium phosphate (16-20-0) per 1,000 square feet. A complete lawn and garden fertilizer may be used in place of the ammonium phosphate if desired. Thoroughly mix these materials into the soil 1 to 2 feet deep. (For alternative fertilizers contact your county Extension office.)

## **Planting**

Water the garden area 2 or 3 days in advance of planting so the soil will be moist but not too wet when annuals are set out. Harden-off the plants prior to planting. Harden-off annuals by slowly exposing them to the environment where they will be planted. Water the plants several hours before planting to prevent sudden wilting once they are removed from containers.

If the weather is hot, plant late in the day so that the transplants will be less subject to moisture stress. If the plants are in a grow-pack or nursery flat, gently separate the root clump of each plant with your fingers. This causes less transplant shock and injury than using a knife or trowel to separate plant root clumps.

Transplants can dry out quickly so be sure to water them shortly after planting. Annuals need watering daily until established, especially if the weather is hot or windy. As the plants begin to grow, water less often but apply more water each time to promote deeper rooting.

## **Care of established beds and borders**

Established annuals should be watered at 3 to 6 day intervals depending on soil characteristics and weather conditions. More frequent watering is necessary on sandy soils that do not retain much water, and during dry hot weather regardless of soil type. To determine when it's time to irrigate check the moisture content of the soil an inch deep and watch plants for the first sign of wilting.

Because of the abundance of flowers produced, most annuals benefit from additional application of fertilizer. Monthly applications of about 1 pound of ammonium phosphate (16-20-0) or similar analysis fertilizers per 1,000 square feet of bed area should maintain adequate growth and promote flowering.

Organic mulch material helps conserve soil moisture, prevents soil crusting and helps control weeds. In small beds and borders and in containers, remove faded flowers to encourage continued flowering. Insect pests or diseases may become a problem in planting annual flowers. Contact the nearest Cooperative Extension office for current control recommendations.

The following Tables describe many of the common annual plants that perform well at the high elevations in Arizona.

Table 1. Frost Resistant Hardy And Half-Hardy Annuals And Perennials Grown As Annuals.

NAME	HEIGHT in inches	SPREAD in inches	FLOWER COLOR	REMARKS
<b>Ageratum</b> <i>Ageratum houstonianum</i>	6 - 18	6 - 8	Shades of lavender, blue, violet, pink, or white.	Half-hardy annual that forms tidy clumps of color. Ideal for edging of containers. Long flowering period. Requires high organic matter in soil. Many dwarf varieties available. Full sun to partial shade.
<b>Snapdragon</b> <i>Antirrhinum majus</i>	8 - 36 depends on variety	8 - 18	Almost every color except blue.	Tender perennial often grown as a half-hardy annual. Many heights available. Blooms spring, summer, or fall. Excellent for cutting. Likes even moisture. Full sun.
<b>Swan River Daisy</b> <i>Brachycome iberidifolia</i>	12 - 18	12 - 18	Blue, purple, pink, or white with black or yellow centers.	Half-hardy annual with small daisy-like flowers. Good for edging paths and beds, and its sprawling habit is ideal for hanging baskets. Flowers for a month in summer in full sun, longer with a little afternoon shade.
<b>Ornamental Cabbage and Kale</b> <i>Brassica oleracea</i>	12 - 18	12 - 18	Grown for its colorful white, pink, or purple foliage.	Biennial grown for its rosette of foliage and not for flowers. Excellent for fall color, leaves become more colorful as the temperature drops. Full sun to light shade.
<b>Pot Marigold or Calendula</b> <i>Calendula officinalis</i>	12 - 30	12 - 18	Cream, yellow or orange.	Easy to grow hardy annual that provides blooms from summer to fall. Dead-head regularly to extend bloom. Excellent for borders. Makes a good cut flower. Full sun to partial shade.
<b>Wallflower</b> <i>Cheiranthus cheiri</i>	12 - 24	To 12	Shades of yellow, orange, mahogany, purple, red, pink, or creamy white.	Perennial grown as a half-hardy annual. Good for early spring color in flower beds. Can self-seed. Likes cool climates. Full sun or partial shade.
<b>Rocket Larkspur</b> <i>Consolida ambigua</i>	12 - 60	12 - 18	Purple, rose, pink, or white.	Hardy annual grown for its showy flowers that appear from late spring through summer. Works well mixed with perennials in beds and at the back of borders. Many dwarf varieties are available. Full sun.
<b>Cosmos</b> <i>Cosmos bipinnatus</i>	36 - 48	18 - 24	White, pink, rose, or crimson.	Half-hardy annual with colorful blooms and fern-like foliage. Makes a good cut flower. Easy to grow from seed. May re-seed itself. Full sun to light shade.
<b>Yellow Cosmos</b> <i>Cosmos sulphureus</i>	18 - 48	18 - 24	Yellow, orange, or scarlet.	Half-hardy annual with bright, semi-double flowers. Easy to grow from seed. Good for fall flowers. Full sun.
<b>California Poppy</b> <i>Eschscholzia californica</i>	12 - 18	6 - 12	Usually orange but can be found in shades of yellow, pink, or red.	Tender perennial grown as hardy annual. Transplants poorly but will re-seed itself. Blooms early summer through fall. Excellent for meadows. Drought tolerant. Full sun.
<b>Sunflower</b> <i>Helianthus annuus</i>	18 - 120 or more	12 - 24	Brown center with yellow, bronze, or orange petals.	Easy to grow hardy annual with large sturdy stalks. Many cultivars available. Best to grow directly from seed. Full sun.
<b>Strawflower</b> <i>Helichrysum bracteatum</i>	18 - 36	To 12	White, pink, rose, red, orange, or yellow.	Half-hardy annual grown for its long lasting blooms. Flowers from mid-summer until frost. Great for dried flowers. Full sun.
<b>Annual Candytuft</b> <i>Iberis umbellata</i>	8 - 18	8 - 12	White, pink, purple, rose, or bi-colored.	Hardy annual that provides spring color. Good with spring bulbs, for massing or edging and as a filler. Full sun to partial shade.
<b>Annual Sweet Pea</b> <i>Lathyrus odoratus</i>	48 - 60 climbing	36 - 60,	White, or bright or pastel shades of pink, red, or purple.	Old-fashioned hardy annual that produces vines. Older varieties are very fragrant. Needs lot of organic matter and constant moisture. Fails under hot conditions. Full sun to light shade.
<b>Annual Statice</b> <i>Limonium sinuatum</i>	12 - 24	12 - 24	White, pink, red, peach, orange, yellow, purple, or blue.	Tender perennial grown as a half-hardy annual. Often grown for fresh or dried arrangements. Do not over water. Full sun.

NAME	HEIGHT in inches	SPREAD in inches	FLOWER COLOR	REMARKS
<b>Lobelia</b> <i>Lobelia erinus</i>	6 - 8	6 - 10	White, blue, purple, or pinkish red; some have contrasting eye.	Tender perennial grown as a half-hardy annual. Great for edging beds and as a filler. Cascading types work well in hanging baskets. Full sun to partial shade.
<b>Sweet Alyssum</b> <i>Lobularia maritima</i>	4 - 8	10 - 12	White, pink, or purple.	Easy to grow half-hardy annual. Blooms best in cool weather. Excellent for edging and as filler, or in containers. Full sun to partial shade.
<b>Common Stock</b> <i>Matthiola incana</i>	12 - 24	To 12	Pink, red, purple, or yellow.	Short-lived perennial usually grown as a hardy annual. Wonderful fragrance and widely used in arrangements. Works well in beds or borders. Full sun.
<b>Four-O'clock</b> <i>Mirabilis jalapa</i>	24 - 36	To 12	White, pink, purple, or red.	Tender perennial grown as a half-hardy annual. White-flowered types are grown for their fragrance. Other colors may have some fragrance. Compact types can be used in containers. Full sun to partial shade.
<b>Nierembergia</b> <i>Nierembergia hybrids</i>	6 - 12	4 - 6	Violet-blue or white.	Tender perennial grown as a half-hardy annual. Cup-shaped flowers appear over a long period. Good for borders, edging, and containers. Full sun to partial shade.
<b>Petunia</b> <i>Petunia x hybrida</i>	6 - 12	12 - 24	Every color of the rainbow except orange, many with stripes or streaks.	Popular half-hardy annual used in beds, borders, and containers. Many types are available. Dead-head regularly and water thoroughly to extend bloom. Full sun to light shade.
<b>Annual Phlox</b> <i>Phlox drummondii</i>	6 - 18	6 - 8	White, pink, red, salmon, pale yellow, blue, or purple.	Hardy annual that blooms from mid-summer until fall. Excellent filler for flower beds. Compact varieties are good in containers. Use tall types for cutting. Drawf varieties are available. Full sun.
<b>Gloriosa Daisy or Blackeyed Susan</b> <i>Rudbeckia hirta</i>	24 - 36	12 - 24	Yellow or bicolor yellow, gold, orange or bronze with a brown center.	Short lived perennials grown as a hardy annual. Good for borders, flower beds, meadows and cut flowers. Can handle some drought. Full sun to light shade.
<b>Blue Salvia</b> <i>Salvia farinacea</i>	18 - 24	To 12	Blue	Tender perennial grown as a half-hardy annual. Very versatile, works in beds, borders, and containers. Can be mixed with annuals or perennials. Drought tolerant but water extends bloom. Full sun.
<b>Scarlet Sage</b> <i>Salvia splendens</i>	12 - 24	to 12	Usually red but can be found in shades of pink, salmon, purple, or white.	Popular half-hardy annual that provides bright color for edging or filler for beds and borders. Blooms from summer to first frost. Likes enriched soil. Full sun to light shade. Dead head to extend bloom.
<b>Dusty Miller</b> <i>Senecio cineraria</i>	8 - 24	12 - 24	Grown for its silvery or whitish foliage.	Bushy, half-hardy annual used for edging and as an accent in flower beds and containers. Full sun.
<b>Marigolds</b> <i>Tagetes spp.</i>	6 - 36 depends on type and variety	6 - 18	Yellow, orange, or bi-color.	Half-hardy annual grown for their bright. 1 - 4 inch wide flowers that comes in a wide variety of types. Easy to grow from seed. Heat tolerant. Full sun.
<b>Nasturtium</b> <i>Tropaeolum majus</i>	12 - 24	6 - 24, some trailing	Cream, rose, red, orange, yellow, white or pink.	Annual that comes in many sizes. Some are short and bushy, and others are trailing and vine-like. Attractive for edging and as ground covers. Grow from seed; they do not transplant well. Full sun.
<b>Pansy</b> <i>Viola spp.</i>	6 - 8	8 - 12	White, cream, pink, red, blue, yellow, purple, and even black.	Short-lived perennials usually grown as hardy annuals. Provides early color in flower beds. Follow them with a summer flowering annual. Full sun to partial shade.

NAME	HEIGHT in inches	SPREAD in inches	FLOWER COLOR	REMARKS
<b>Wax Begonia</b> <i>Begonia x semperflorenscultorum</i>	6 - 12	6 - 15	Red, pink, or white. (Leaves are purple, green, or bronze.)	A tender annual with succulent stems. Ideal edging plants that bloom throughout the summer. Morning sun with afternoon shade is best.
<b>Tuberous Begonia</b> <i>Begonia x tuberhybrida</i>	To 18	To 18	Most colors except blue and purple.	Tender perennials grown from tubers that produce an abundance of camellia-like flowers. Blooms summer through fall. Tubers can be dug up and over-wintered. Requires even moisture. Partial shade.
<b>China Aster</b> <i>Callistephus chinensis</i>	12 - 24	12 - 18	White, cream, red, pink, purple, or blue. Some have yellow centers.	Tender annual with daisy-like or pom-pom flowers. Blooms late summer to fall. Good in beds, borders, or containers. Likes soils high in organic matter. Full sun.
<b>Madagascar Periwinkle or Vinca</b> <i>Catharanthus roseus</i>	12 - 18	12 - 18	White, pink, rose, or red.	Tender perennial that works well for edging and borders. Easy to grow. Drought and heat tolerant. Full sun to partial shade.
<b>Celosia</b> <i>Celosia argentea</i>	12 - 24	To 12	Red, pink, orange, yellow, or gold.	Tender perennial with feathery flower spikes bloom from summer until frost. Good for drying. Does not transplant well. Full sun.
<b>Cleome</b> <i>Cleome hassleriana</i>	36 - 48	18 - 24	White and pink	Fast growing annual with spidery flowers. Great for butterfly gardens and for the back of cottage gardens. Easy to grow from seed. Full sun.
<b>Coleus</b> <i>Coleus x hybridus</i>	6 - 24	8 - 12	Leaves have splashes of orange, yellow, pink, red and cream.	Tender perennial grown for its colorful foliage. Pinch off flowers to promote more leaf growth. Good for adding color to beds, borders, and containers. Partial shade.
<b>Dahlia</b> Dahlia hybrids	12 - 60 height depends on variety	12 - 48	Almost every color except blue with many bicolor varieties.	Tender plants that are grown from tuberous roots. Many types ranging from short bedding types to tall varieties used for cutting. Dig up roots in the fall and store for replanting in spring. Full sun. Can be grown from seed.
<b>Globe Amaranth</b> <i>Gomphrena globosa</i>	8 - 18	8 - 12	Pink, purple, orange, or creamy white.	Tender annual grown for its long-lasting flower heads. Popular dried flower. Full sun.
<b>Common Heliotrope</b> <i>Heliotropium arborescens</i>	12 - 18	12 - 18	Violet, purple-blue, or white.	Tender perennial grown as a tender annual. Forms shrubby clumps for beds, borders, and containers. Full sun but tolerates afternoon shade.
<b>New Guinea Impatiens</b> <i>Impatiens New Guinea hybrids</i>	12 - 24	12 - 18	Vibrant pink, red, orange, purple, or white with colorful foliage.	Easy to grow hardy annual with large sturdy stalks. Best to grow directly from seed. Full sun.
<b>Impatiens</b> <i>Impatiens walleriana</i>	6 - 24	6 - 24	White, pink, red, orange, purple, or lavender, some with a contrasting eye.	Tender perennial usually grown as tender annuals. Blooms throughout the summer. Great in containers. Like added organic matter and regular water. Partial to full shade.
<b>Morning Glory</b> <i>Ipomea tricolor</i>	96 - 120	Up to 36, climber	White, pink, red, purple, and blue.	Fast-growing tender perennial vine. Best grown on a trellis or other sturdy support. Flowers only last one day but appear all summer long. Likes summer heat. Full sun.
<b>Zonal Geranium</b> <i>Pelargonium x hortorum</i>	12 - 24	12 - 18	White, shades of pink, salmon, red, or bi-colored. Some have variegated foliage.	Tender perennial grown as a tender annual. Can over-winter in a sunny window. Easy to grow from cuttings. Great in beds and containers. Full sun to light shade.
<b>Rose Moss</b> <i>Portulaca grandiflora</i>	4 - 8	6 - 24	Vibrant colors in white, pink, red, orange, yellow, or magenta.	Low-growing tender annual that forms a mat of succulent stems. Blooms early summer until fall. Great ground cover for drier slopes. Good for edging beds. Full sun.

NAME	HEIGHT in inches	SPREAD in inches	FLOWER COLOR	REMARKS
<b>Fan Flower</b> <i>Scaevola aemula</i>	10 - 12	To 12	Blue and lavender.	Trailing annual that blooms early summer until fall. Popular in containers. Full sun to light shade.
<b>Dahlberg Daisy</b> <i>Thymophylla tenuiloba</i>	6 - 12	6 - 12	Yellow.	Daisy-like flowers of this tender annual bloom non-stop during the hottest parts of the summer. Water sparingly. Full sun.
<b>Verbena</b> <i>Verbena x hybrida</i>	12 - 20	12 - 20	White, cream, pink, red, blue, or purple. Some have a contrasting eye.	Tender perennial grown as a tender annual. Difficult to grow from seed. Excellent for edging or as a filler. Trailing types can be used as a groundcover or in hanging baskets. Likes a well drained soil. Full sun.
<b>Narrowleaf Zinna</b> <i>Zinna angustifolia</i>	12 - 24	12 - 18	White, gold, or orange.	Tender annual that flowers in summer. Ideal ground cover and in borders or in containers. Drought resistant. Full sun.
<b>Zinna</b> <i>Zinna elegans</i>	6 - 36	12 - 24	Almost every color but blue.	Tender annual that flowers in summer. Good for replacing early-blooming annuals. Many flower forms for almost any garden setting. Many dwarf varieties available. Full sun.



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THE UNIVERSITY OF ARIZONA  
COLLEGE OF AGRICULTURE AND LIFE SCIENCES  
TUCSON, ARIZONA 85721

**TOM DEGOMEZ**  
Regional Specialist and Area Agent, Agriculture and Natural Resources

**HATTIE BRAUN**  
Instructional Specialist Coordinator, Horticulture

CONTACT:  
**TOM DEGOMEZ**  
[degomez@cals.arizona.edu](mailto:degomez@cals.arizona.edu)

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