

# FLOWERING ANNUALS

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Annual flowers, those that complete their life cycle in a single season, are an outstanding way for the home gardener to increase the enjoyment of his garden during the year. Annuals, or bedding plants, are available in a multitude of colors and plant forms that allow them to fit into almost any landscape situation. By selecting flowers carefully to fit the conditions of the site, it is possible to have a beautiful display without an unnecessary amount of work. Annuals are also enjoyed as fresh and dry cut flowers.

## ANNUALS IN THE LANDSCAPE

The purpose of the landscape around the home is to add beauty to the home and to please the owners. Annuals can add beauty to a landscape; however, if used too indiscriminately they can distract from the overall appearance of the scene. Annuals should serve as an accent to the landscape, not a dominant feature in the setting.

The best uses of annuals in the public area (that area in the front of the home) include uses in borders, edgings, hanging baskets, and planters. Annuals used in this area should be low key. They should harmonize with the setting, and there should be a minimum of contrast used. The colors should blend with each other and with the home.

Flower borders should be large enough to appear significant in the setting, but not so large as to dominate it. Beds should not be located in the center of the lawn area, but should be adjacent to either the home, a fence, or shrubbery. An attempt should be made to provide a uniform neutral background for annuals so that they will stand out better. Beds and borders are easier to maintain if they are not more than 5 feet deep.

When selecting annuals for beds and borders, it is best to limit the choice to as few kinds as possible. The most attractive displays are usually created when only one kind of plant is used. Usually plant height in the public area of the landscape should be limited to one foot tall.

Annuals for edging walks and shrubbery should be carefully selected so that they are neat and compact all season and have a long blooming

period. Plants selected as color accents should be striking in appearance, yet neat in appearance, and showy all season.

As a general rule, elaborate annual displays are best relegated to the backyard of the property. These displays, though very appealing to the homeowner, are usually too distracting for the public area of the landscape. Whether the annuals are located in the public area or the backyard, it is important that the annuals be kept attractive all season. As soon as the annuals are not longer attractive, they should be removed.

## PREPARING THE SITE

Annual planting sites should be prepared at least a month in advance of planting. If the planting area is large or problems have been noted in previous years, a soil sample should be taken to the local county Extension office. Soil test results serve as guidelines for planting. Allow at least 3 weeks for test results.

Well-drained planting sites should be selected and then spaded or tilled at least 6 inches deep. Lime, if called for by the soil test, should be applied at this time. Do not apply lime unless soil test results specifically call for it. Fertilizer, such as 10-20-10 or 12-12-12, can be applied at the rate of 1 pound (1 pint) per 100 square feet of bed space. Rake and smooth the beds and allow them to settle prior to planting.

## SELECTING ANNUALS

Selecting the correct annual for the location is the easiest way to guarantee success with these flowers. In addition to matching the environmental requirements of the site, one must also consider plant size, length of blooming season, and the color of the blooms. To help select the correct annual for various situations, consult Table 1.

## STARTING ANNUALS

It is possible to grow one's own annuals if a few of the basic principles are understood. Annuals may be either sown in place or they

may be grown indoors and transplanted to the final growing location.

If the plants are to be grown in place, the seeds should be sown in well-prepared soil after the danger of frost is past. Large-seeded annuals such as zinnias and marigolds should be planted two to three seeds per location. The planting locations should be placed 12 to 18 inches apart, depending on the space requirement of the plant. Fine-seeded plants such as petunia or portulaca should be broadcast on the soil surface. It is often helpful to mix the seeds with a spoonful of sand. This allows for even sowing of the seed in the area.

After the seeds are sown, it is important that the soil remain moist during germination. Seeds germinate much faster if the soil has warmed prior to planting or the location is in a sheltered area.

When the seeds have germinated, it is time to thin the plants to the final spacing. Most plants should be thinned to 8 to 12 inches apart. It is usually possible to transplant some of the seedlings rather than destroy them.

Seeds can be started indoors 6 to 8 weeks before frost if a bright window or coldframe is available. The seeds should be sown in sterile soil in an appropriate container. Small seeds should be sown on the soil surface, while larger seeds should be covered. Keep the soil moist, but not wet, until the seeds have germinated.

When the seedlings are large enough to transplant they should be carefully lifted from the soil. The seedlings should be handled by the leaves and transplanted to a sterile growing media. The plant should be positioned at the same level it was growing in the seedling flat. Water the plants as required and fertilize with a house plant fertilizer on a weekly basis. If at least four hours of sun cannot be provided, one should not attempt growing annuals indoors.

If plants are purchased, one should not be in an undue hurry. Plants will grow poorly if the temperature of the soil is too cold; therefore, plant the plants only after the danger of frost is past. This varies from early April in south Arkansas to early May in north Arkansas.

Select annual plants that have clean foliage and that are not excessively tall and leggy. Selecting plants that are not yet in bloom is a good way to ensure rapid establishment. Avoid plants that have off-color foliage or that show other signs of neglect.

## PLANTING AND MAINTENANCE

If plants are tall and spindly, they should be pinched back halfway. Pinching off the blooms at planting time produces more attractive plants and more blooms. Spacing should be based on the vigor of the plant. Consult Table 1 for spacing recommendations. If the plants are in peat pots, the top should be peeled off. If this is not done, the pot will dry out and roots will not grow through the side of the pot. Position the plant so that the top of the pot is just at the ground level.

Water the plants in after planting. If the annuals do not receive at least 1/2 inch of rain each week, water them. Fertilize with 1/2 pound complete fertilizer in mid-June and again around the first of August.

Old blooms should be removed as soon as they have withered. This will prevent the plant from producing seed, which reduces the number of blooms produced.

Weeds should be controlled either by hand wetting or mulching. A 3-inch mulch of some organic material such as pine bark will eliminate weeds and conserve soil moisture.

If the annuals have stopped flowering during the summer, they can usually be induced to bloom again either by severely cutting the plant back or by making an application of fertilizer.

## INSECT CONTROL

The easiest way to protect against serious insect or disease problems is to closely observe the plants. Early detection is important because if often is possible to stop a severe problem.

Most insect problems on annuals are caused by aphids, spider mites, white flies, or caterpillars. Aphids are small, soft-bodied insects usually found on the stems and the underside of plant foliage. The most common aphid on annual flowers is light green in color with wings present only at certain times of the year on the adult insects. Aphids feed by sucking sap from the stems and leaves of infested plants and can cause heavy loss in certain situations. Aphids may be controlled by spraying with malathion, diazinon, or other registered insecticides on a weekly basis until the population has been controlled.

Spider mites are tiny relatives of insects usually only visible with a hand lens. These tiny creatures suck the sap from the plant and congregate on the lower leaf structure. Under heavy infestation, leaves will have a whitish

cast. Webbing may occur in severe infestations. Spider mites may be controlled with weekly sprays of kelthane, malathion, or diazinon.

White flies are tiny white flying insects that usually are found on plants in sheltered areas or in greenhouses. These difficult-to-control insects may cause some losses outside, but are more commonly a problem in greenhouses. Diazinon and malathion applications on a five-day schedule will help reduce the population.

Caterpillars of various kinds chew holes in and consume the foliage of many plants. These are usually easily controlled with sevin or malathion sprays.

## ANNUAL DISEASES

Controlling diseases of annuals is much easier if one plans in advance and anticipates the problems that might occur. The most common problem for annuals grown from seed is damping off, a disease that causes the seedling to rot at the base and then fall over. This disease is caused by several fungi which are present in contaminated soil. Thus, loss from damping off is easily avoided by planting seeds in sterilized soil. It is often impractical to sterilize outside beds; but if seedlings are started outdoors, sterile potting soil can be purchased or a small volume of soil can be sterilized by baking moist soil in an oven at 250 degrees for two hours.

Outdoors, avoid locations that have been problem spots in the past and sow the seeds only after the soil has warmed in the spring. Cold soils slow seedling growth and make them more likely targets for disease attack. For added insurance, drench the seedlings with a fungicide such as Captan or Benlate at 1 tablespoon per gallon.

After plants are established they are still not immune to disease attack. The major diseases of annuals can be grouped as those that attack the flowers and foliage and those that cause the plant to wilt and die.

The diseases that attack the flowers and foliage can usually be reduced by planting in areas that get sun early in the morning so that the foliage will dry quickly and by providing adequate spacing to ensure air circulation around the plants. The most serious leaf diseases are various leaf spot diseases and powdery mildew. The leaf spots cause irregular dead blotches on leaves and are most commonly seen on petunias and zinnias. Powdery mildew starts as a white coating on leaves and flowers. This is usually followed by the death of the leaves. Powdery mildew is common on zinnias and black-eye susans. Chemical control of powdery mildew is possible by using fungicides such as Benlate or Karathane every 10 days to 2 weeks. Leaf spot diseases are controlled by Benlate, zineb, or maneb application.

Root rot diseases are those that kill the roots of plants while the wilt diseases plug the vascular system of the plants. Roots on plants infected by wilt diseases appear healthy; however, there may be a brownish discoloration on the inside of the stem.

Wilt and root rot diseases are difficult to control and care should be taken to avoid planting unhealthy infected plants. If these disease problems have been observed in previous years, a new planting site should be selected. Chemical control is possible but impractical for most homeowners. Rotating planting sites, quickly removing infected plants, and starting with disease-free plants are the best ways to reduce damage from these diseases.

**Table 1**  
**ANNUALS FOR EVERY LOCATION**

<b>Annual</b>	<b>Flower Color</b>	<b>Exposure</b>	<b>Spacing (inches)</b>	<b>Plant Height (inches)</b>
Ageratum	Blue	Sun	12	6-18
Asters	Blue, White	Sun	12	12-14
Amaranthus	Red <sup>1</sup>	Sun	14	24-36
Bachelor's Buttons <sup>2</sup>	All	Sun	10	16-24
Balsam	Red	Sun—semi-shade	10	16-24
Bells of Ireland <sup>2</sup>	Green	Sun	12	16-24
Black-Eyed Susan	Yellow	Sun	14	12-18
Calendula	Yellow	Sun	12	10-18
Celosia (cockscomb) <sup>2</sup>	Red-yellow	Sun	14	12-24
Coleus	All <sup>1</sup>	Semi-shade	12	12-24
Cosmos	Pink	Sun	16	30-48
Dahlia	Red-yellow	Sun	12	12-48
Dianthus	Pink-red	Sun	10	10-12
Dusty Miller	Gray	Sun	10	12-18
Flowering Tobacco	All	Sun	12	16-24
Four O'Clock	All	Sun	14	24-36
Gaillardia	Yellow	Sun	12	12-18
Geranium	Red, pink	Sun	14	16-30
Globe Amaranth <sup>2</sup>	Purple	Sun	12	14-18
Impatiens (sultana)	Red, pink, white	Semi-shade	12	8-24
Lantana	Yellow, red	Sun	12	12-16
Larkspur	Blue, pink	Sun	8	18-36
Marigold (French)	Yellow	Sun	12	8-14
Marigold (African)	Yellow	Sun	18	24-36
Morning Glory	All	Sun	18	Vine
Nasturtium	Orange	Sun—semi-shade	8	10-18
Pansy <sup>3</sup>	All	Sun	10	10-14
Periwinkle (vinca)	White, pink	Sun—semi-shade	12	8-24
Petunia	All	Sun	12	12-18
Phlox	All	Sun	10	8-14
Poppy (Iceland) <sup>3</sup>	All	Sun	10	18-24
Portulaca (Moss Rose)	All	Sun	8	6-10
Salvia (Scarlet Sage)	Red	Sun	12	14-30
Scabiosa Daisy	Purple	Sun	10	14-18
Snapdragon	All	Sun	10	8-24
Spider Plant (cleome)	Pink, white	Sun	16	30-36
Strawflower <sup>2</sup>	All	Sun	12	16-24
Sweet Alyssum	Purple, white	Sun—semi-shade	8	6-8
Sweet Pea	All	Sun	8	Vine
Thunbergia	Yellow	Sun	10	Vine
Verbena	All	Sun	12	10-14
Wax Begonia	Red, pink, white	Semi-shade	10	10-16
Zinnia (Thumbelina)	All	Sun	10	10-12
Zinnia (cactus flowered)	All	Sun	16	18-36

<sup>1</sup>Grown for its colorful foliage.

<sup>2</sup>Can be dried for winter arrangements.

<sup>3</sup>Should be planted in the fall or late winter.