Cooperative Extension Service
Virginia Polytechnic Institute and
State University
Extension Division

GROWING ANNUAL FLOWERS

by Wesley P. Judkins

MH 56
Reprinted March 1978

Annual flowers can be useful as colorful plants in the landscape, and to provide cut flowers for arrangements in homes. They are economical, and easy to grow in the home garden or flower border.

Selecting Annuals to Plant

Some of the more popular annual flowers are listed in the table on page 4, which contains information on their height, relative hardiness, color range, and brief notes on the best growing conditions and uses.

Select the varieties and species which you like best, and which will produce the desired landscape effect, or supply cut flowers for the home. Be sure to include All America Selections which are the award winners after careful testing in all parts of the U.S. Consult seed catalogs from which you can secure reliable information on new varieties and cultural suggestions.

Location of the Annual Flower Garden

Annuals which are intended for use as cut flowers for arrangements should be planted in rows like a vegetable garden. Although some flowers may be cut from a bed or border, most of the blooms should be left for their landscape effect. Flowers for exhibition purposes should also be raised in rows in a special garden, where they may receive the extra care and attention necessary to produce large specimen blooms.

Most annual flowering plants will make the best growth, and produce the most flowers, when they are planted in a location where they are in the sun for most of the day. Some will tolerate partial shade with less than 8 hours of sunlight per day. These include ageratum, arctotis, begonia, browallia, impatiens, marigold, and vinca.

Soils and Fertilization

Annual flowers will grow best on a well drained fertile loam soil, with a pH of 6.0 to 6.5. If you have an infertile sandy soil, or a heavy clay, it should be improved with organic matter. This can be done by plowing or roto-tilling an organic mulch into the soil when it is prepared for planting. Use about one inch of fresh sawdust, finely shredded fresh bark or wood chips, peat moss, pine needles, or leaves. If your soil is poorly drained you may have better results by planting your flowers on raised beds.

Annual flowers require moderate amounts of fertilizer to promote good growth and flower production. Excessive applications may cause succulent vegetative growth and few flowers. For most soils use about 4 pounds of 5-10-5 fertilizer or 2 pounds of 10-10-10 per 100 square feet, broadcast over the entire area before the ground is rototilled, harrowed, or spaded prior to planting. Use only half as much on rich, loamy soils.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. W. R. Van Dresser, Dean, Extension Division, Cooperative Extension Service, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.

Planting Dates and Hardiness

The planting dates for annual flowers should be determined by their relative hardiness as indicated in the table on page 4. Hardy species may be planted in early spring about 3 or 4 weeks before the average date of the last frost in your area.

Seeds of half-hardy species may be planted about a week before the average date of the last spring frost. Seedling plants which are properly hardened, may be set out at about the time of the last frost.

The seeds of tender species should not be planted until the soil has warmed up about one week after the average last frost date. Seedling plants may be set out at the same time.

Planting Procedure

The rows in the flower garden should be far enough apart to allow space for walking and caring for the plants. Low growing species with a height of 12 to 15 inches may have a minimum distance of 18 inches between rows. For medium & large sized plants the spacing should be 24 to 36 inches.

The seeds should be scattered thinly in a shallow furrow in finely prepared soil. They should be covered to a depth equal to about 5 times their lateral dimension. In sandy or loose loam soil they may be planted twice as deep. If the soil is a heavy silt or clay, the seeds should be covered lightly with soil, and then with 1/4 inch layer of fresh sawdust, sand, or vermiculite. This will help reduce crusting, conserve moisture, and promote germination and easy emergence. During late spring or summer, when the soil becomes quite dry and warm, the seeds may be planted deeper.

Setting Seedling Plants

When setting plants which have been grown in peat pots, it is usually advisable to peel off the pot from the root ball. Unless the pot has been kept continually moist, the roots will have difficulty growing through it. It is not necessary to remove the nylon net covering of Jiffy-7 cubes. If the seedling plants have been grown in an undivided flat or tray, cut the roots and soil carefully between plants to reduce root damage to a minimum. Set plants deeper than they grew previously, and cover the root ball with about one inch of soil.

Water newly set plants with a cupful of starter solution to promote rapid recovery. Use a soluble starter solution fertilizer, following the dilution instruction on the package. If such material is not available, use a 5-10-5 fertilizer at the rate of 1 cupful in 3 gallons of water. Stir vigorously several times to promote as complete dissolving as possible. Because of filler and insoluble materials, some residue will usually remain.

Apply repeat applications of 1 cupful of starter solution each day for several days after setting seedling plants. Apply additional water as needed to reduce wilting.

Thinning and Spacing Plants

The distance between plants in a flower garden or border depends on the form of the individual plants, and the effect which is desired in the garden or landscape. Allow adequate space between plants. Thin young seedling plants when they are about 2 inches tall, and set bedding plants at the distances suggested below.

Tall spiked flowers such as hollyhock and rocket snapdragons should be spaced about 1/4 as far apart as their mature height. Tall bushy plants may be spaced about 1/2 as far apart as their mature height. The rounded bushy types should be spaced about as far apart as their mature height. The creeping, ground cover plants may be spaced about twice as far apart as their mature height. If individual plants are to be more conspicuous as specimens, or if large exhibition size flowers are desired, the distances should be increased.

Culture, Mulching and Watering

Apply a 1 inch mulch of fresh sawdust, fine shredded fresh bark or wood chips, peat moss, pine needles, leaves, or similar material. This will conserve soil moisture. Some weeds may grow up through the mulch but can be pulled easily when the soil is moist after a rain. The organic matter may be plowed, rototilled, or spaded into the ground when the soil is prepared for planting in the spring.

If mulching materials are too expensive or difficult to secure, the garden may be clean cultivated to control weeds. The hoeing or cultivating should be shallow to avoid damage to the roots of your flowers.

During periods of dry weather, your garden may need supplemental irrigation to maintain satisfactory growth. Plants need about 1 inch of water each week. It is much better to give the garden a good soaking about once a week during dry periods, than to apply a light sprinkling at more frequent intervals. Rotary or oscillating sprinklers, or perforated plastic hose may be used for applying the water.

Training and Staking

When the young plants are about 4 inches tall and have 3 or 4 sets of leaves, pinch out about an inch of the top just above a set of leaves. This will cause side branches to develop and produce a more spreading shape.

Tall plants may be staked to reduce breakage by wind. Any small but strong wood stakes are suitable for this purpose. The stems should be tied loosely to the stake with twine, tape, or twist-type wire. The part of the stake that extends into the ground should be painted with copper naphthenate wood preservative to prevent decay. Do not use creosote or pentachlorophenol which may damage tender plants.

Old flowers should be removed as they fade. They are unsightly if left on the plant, and will reduce flowering during the remainder of the season.

Disbudding

When long stemmed exhibition flowers are desired, only a limited number of stems should be allowed to grow. As these elongate, the buds which form along the side of the stem, should be removed. This will cause a large specimen bloom to develop.

* * * * * * * * * *

Annual Flowering and Foliage Plants

Name	Height inches	Hardiness	Flower color	Growing conditions and use
Ageratum--Floss Flower	6-12	HH	WPBV	Edging with abundant bloom.
Alyssum, Sweet--Lobularia	6-10	H	WPV	Needs moist soil to tolerate heat. Fragrant flowers.
Aster, China--Callistephus	15-30	H	WPRV	Select wilt & yellows resistant vars.
Babysbreath--Gypsophila	12-28	HH	WPR	Filler in arrangements, fresh or dry.
Begonia semperflorens	6-12	T	WPR	Rich moist, soil, partial shade. Bedding.
Browallia--Sapphire Flower	12-28	T	WB	Partial shade. Bedding. House Plant.
Calendula--Pot Marigold	12-20	H	YO	Cool. Bedding & cut flowers.
Celosia--Cockscomb	10-24	H	YOR	Crested & plumed. Bedding. Use fresh or dry.
Centaurea--Bachelor's Buttons	12-30	H	WRBV	Use for bedding & cut flowers. Tolerate heat & drouth.
Cosmos--Garden Cosmos	24-28	H	WYOR	Sandy soil. Long lasting cut flowers.
Dahlia--pinnata hybrids	24-48	T	ALL	Rich moist loam. Fine cut flowers.
Dianthus--Annual Pink	8-15	H	WPR	Needs well drained alkaline soil. Tolerates drouth.
Gaillardia--Indian Blanket	15-24	HH	YOR	Tolerates drouth. Cut flowers.
Geranium--Carefree	18-24	HH	WPR	Excellent bedding plant.
Gloriosa Daisy--Rudbeckia	24-30	HH	YOR	Tolerate heat & drouth. Cut flowers.
Gomphrena--Globe Amaranth	15-30	HH	WYPV	Tolerate heat & drouth. Use fresh or dry.
Hollyhock--Althaea	36-60	HH	WYPR	Accent & background plants. Annual & biennial.
Impatiens--Patient Lucy	6-15	T	WPRV	Select rich, moist soil. Partial shade.
Larkspur--Rocket Larkspur	18-48	H	WPBV	Cool. Excellent spikes for cut flowers.
Marigold--Tagetes spp.	12-48	HH	YOR	Easily grown for bedding & cut flowers.
Petunia--Garden Petunia	8-15	HH	WPB	Attractive in garden or as cut flower.
Phlox--Drummond Phlox	12-18	HH	WPRB	Tolerates heat. Bedding, edging, or cutting.
Portulaca--Rose Moss	4-6	H	WYRV	Tolerates heat & drouth. Prostrate ground cover.
Salvia--Scarlet Sage	8-30	T	WRBV	Excellent bright bedding plant.
Snapdragon--Antirrhinum	12-36	H	WYOR	Cool. Cut low for repeat blooms.
Strawflower--Helichrysum	18-24	HH	WYOR	Avoid wet soil. Dry young flowers in air.
Sweet Pea--Lathyrus	12-72	H	WPRBV	Cool. Moist rich loam. Fragrant cut flowers.
Verbena--Garden Verbena	8-12	HH	WPRBV	Ground cover, bedding, & window box.
Vinca--Periwinkle	6-18	HH	WPR	Tolerate heat, drouth, & partial shade.
Zinnia--Youth-and-old-age	8-32	HH	WYORG	Tolerate heat. Spray for mildew. Cut flowers.

Hardiness: H = Hardy, HH = Half-hardy, T = Tender

Flower Color: W = White, Y = Yellow, O = Orange, P = Pink, R = Red, G = Green, B = Blue, V = Violet