



A Guide to
**GARDEN
FLOWERS**

**ILLUSTRATED
IN COLOR**

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A GUIDE TO
Garden Flowers

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Illustrated in Full Color by RUDOLF FREUND



A Companion Book to

Two Guides to Wild Flowers

FIELD FLOWERS—WOODLAND FLOWERS



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FOREWORD

GARDENING as a hobby is rapidly gaining in popularity among Americans; it appeals to young and old, men and women, boys and girls. This is a healthy trend, for contact with the soil and experience with growing things bring us closer to nature and make us better citizens.

The number of attractive flowering plants that can be grown in American gardens is vast, so vast that in no one garden is it possible to accommodate all of them. These plants have literally been brought to us from the four corners of the earth. All countries and all climes have made their contributions, and in our gardens are to be found some of the most popular and successful of our immigrants.

We present in this book a selection of worth-while Garden Flowers. They include annuals, biennials, and perennials, kinds that bloom in spring, in summer, in fall, and even in winter. The majority of the plants

offered here can be successfully grown in any garden in the United States or Canada. As is to be expected when dealing with an area as large as this, cultural needs vary somewhat in different localities. The directions given in the text are based on conditions in the great northeastern and northcentral sections of the territory. Elsewhere it may be necessary to adjust practices slightly to meet local conditions, but it must be emphasized that the basic principles of good gardening remain the same everywhere. Thorough preparation of the soil, the planting of none but strong healthy stock, early control of diseases and pests, and understanding care at all times cannot fail to bring good results. The good gardener is a keen observer and does the right thing at the right time. He truly loves gardening for, as the famous English rosarian, Dean Hole, wrote long ago, "He who would have roses in his garden must have roses in his heart."

T. H. EVERETT

SNOWFLAKE, GRAPE HYACINTH, AND SIBERIAN SQUILL

(*Leucojum vernum*, *Muscari botryoides*,
and *Scilla sibirica*)

HARDY, spring-flowering, bulbous perennials, 3 to 6 in. high. *Leucojum* with nodding, green-tipped white flowers resembling Snowdrops is a native of Europe. The true *Leucojum vernum* is rare in cultivation. The plant frequently sold under this name is the taller-growing *L. aestivum* (Summer Snowflake). *Muscari*, with numerous small blue flowers arranged in dense spikes, comes from Southern Europe. *Scilla* has deep blue, nodding flowers and is a native of Russia and Asia Minor.

USES: In rock gardens, wild gardens, and at front of shrubberies, *Muscari* and *Scilla* for naturalizing in grass. SITUATION: Sunny or lightly shaded, rather sheltered. SOIL: Porous, well-drained. CULTURE: Plant bulbs 3 or 4 in. deep and 2 or 3 in. apart in fall. Space bulbs irregularly for natural effects. In rock gardens plant among Thymes, Mazus and other low-growing creepers. Grape Hyacinth and Squills often multiply rapidly by self-sowing. Replant bulbs every few years. PROPAGATION: By offsets, by seed.

VARIETIES: Several varieties of each are available.





CROCUS

(Hybrids of *Crocus vernus*, *C. maesiacus*, and other species)

HARDY, spring-flowering perennials, about 4 in. high. Few grasslike leaves dying away in early summer. Flowers comparatively large; yellow, lavender, purple, white, or striped. Garden varieties are hybrids of species native to the Mediterranean region.

USES: In rock gardens, at front of shrubberies, for naturalizing in lawns. **SITUATION**: Sunny. **SOIL**: Well-drained, ordinary. **CULTURE**: Plant corms (bulbs) 3 in. deep in September or October. Space corms irregularly but not less than 3 in. apart. Do not mow grass in which Crocuses are planted until foliage has turned completely yellow. Fertilize annually with light dressings of bone meal and rotted manure applied in fall. In some gardens Crocuses increase naturally; in others they tend to "run out," and replanting is necessary every few years. **PROPAGATION**: By natural increase of the corms, more rarely by seed.

VARIETIES: Innocence (white), Yellow Mammoth (yellow), *purpurea grandiflora* (purple), Striped Beauty (blue and white), Striped Queen (lavender and white).

DAFFODIL AND POET'S NARCISSUS

(*Narcissus Pseudo-Narcissus* and *N. poeticus*)

HARDY, spring-blooming, bulbous perennials, 1 ft. to 18 in. high. Leaves sword-shaped, dying away in early summer. Flowers large, showy, those of the daffodil yellow (rarely white or pale pink), with a conspicuous trumpet; those of the Poet's Narcissus white with a small cup-shaped yellow and red crown in place of the conspicuous trumpet of the daffodil, fragrant. Natives of Europe.

USES: For naturalizing, for cut flowers. **SITUATION**: Lightly shaded, sheltered from strong winds. **SOIL**: Ordinary, well-drained. **CULTURE**: Plant bulbs 6 or 7 in. deep and at least 3 in. apart in early fall. Common varieties suitable for naturalizing in grass; choicer kinds often need special care in cultivating, watering, fertilizing. Lift and replant in late summer every third or fourth year. Avoid cutting foliage until it has turned yellow. **PROPAGATION**: By offsets. New varieties are raised from seed.

VARIETIES: King Alfred (yellow), Empress (yellow and white), Beersheba (white), *poeticus ornatus* (white), *poeticus* Homer (white).





CALLA LILY (*Zantedeschia aethiopica*)

TENDER, winter-blooming, herbaceous perennial, 2 to 3 ft. high. Leaves handsome, long stalked, heart-shaped, dark green, arising from a thick underground tuber. Flower stalks stout, erect, overtopping the foliage; each terminates in a large trumpet-shaped inflorescence that consists of a central yellow column (spadix) encircled by a conspicuous white bract (spathe). The true flowers are minute and are crowded together along the spadix. Native of South Africa.

USES: For cut flowers, as pot plants, in warmer sections of the country as garden perennials. SITUATION: Sunny. SOIL: Rich, moist. CULTURE: Plant tubers in August, one in a 6-in. or three in a 9-in. pot. Water sparingly at first, freely after leaves develop. Grow in greenhouse or sunny window in temperature 55 to 60 degrees. When roots have filled pots, fertilize at weekly intervals. Rest plants by withholding water completely from mid-June to mid-August. PROPAGATION: By division of tubers.

VARIETIES: *Godefroyana*, *devoniensis*, *minor*, (all low-growing kinds).

LILY OF THE VALLEY (*Convallaria majalis*)

HARDY, spring-flowering, herbaceous perennial, about 9 in. high. Rootstock spreading and bearing numerous pips (buds) from each of which develop 2 broad leaves. Flowers fragrant, small, white, nodding, bell-like, in erect one-sided racemes. Native of Europe, Asia, and the mountains of Eastern North America.

USES: In rock gardens and wild gardens, as a ground cover, as a cut flower. The dried rhizomes and roots are used in medicine as a heart tonic but are poisonous in large amounts. SITUATION: Shady or partially shady. SOIL: Fairly moist, ordinary. CULTURE: Plant divisions of the rootstock 6 in. apart in fall or early spring with the pips just beneath the soil surface. Fertilize annually by applying a two- or three-inch layer of rotted manure in fall. Lift and replant every 5 or 6 years. If this is not done, sparse flowering may result. PROPAGATION: By division.

VARIETIES: Horticultural forms include a variety with pale pink flowers, a variety with double flowers, and one with variegated foliage. The variety *Fortunei* has flowers larger than those of the common type.





FORGET-ME-NOT (*Myosotis scorpioides*)

HARDY, herbaceous, spring- and summer-flowering perennial, 8 to 15 in. high. Stems rather lax, branched, arising from slender, creeping, horizontal rootstocks. Flowers numerous, small, in loose, one-sided racemes, blue or white with yellow eye. Native of Europe and Asia.

USES: In beds and borders, in rock gardens, beside streams and ponds, as cut flowers. **SITUATION**: Partly shaded or sunny. **SOIL**: Reasonably moist or even wet. **CULTURE**: Sow from May to August. Shade seedbed. Transplant seedlings when they begin to crowd each other so that they stand 6 in. apart in cold frames or outdoor nursery beds. Cultivate to control weeds and encourage growth. In cold climates give light winter protection. Set plants out where they are to bloom in early spring allowing about 8 in. between individuals. **PROPAGATION**: By seed, by dividing old plants, by cuttings in summer.

VARIETIES: *Semperflorens* (dwarf, long-blooming), *alba* (white-flowered).

PANSY (*Viola tricolor hortensis*)

HARDY biennial, or short-lived perennial, 6 to 8 in. high. Flowers large, flat, of velvety texture, white, yellow, lavender, blue, purple, red, and various attractive combinations. Garden Pansies are derivatives of the European *Viola tricolor*.

USES: For beds, borders, and window boxes, for cut flowers. **SITUATION**: Sunny. **SOIL**: Cool, moist, well-drained. **CULTURE**: Sow seeds in carefully prepared, shaded bed in cold frame or outdoors in early August. When second pair of leaves has formed, transplant seedlings 6 in. apart in nursery bed well enriched with humus. Encourage growth by keeping surface soil loose and watering when needed. In cold climates protect with frame sash or other covering during winter. Set plants in blooming quarters in early spring. Pick off dead flowers, water, and cultivate. Mulch ground around plants before severe hot weather begins. **PROPAGATION**: By seed, occasionally by cuttings.

VARIETIES: Pansy seed is usually offered in mixture. Be sure to obtain a good strain of seeds.





TULIP (*Tulipa Gesneriana*)

HARDY, spring-flowering, bulbous perennial, 1 to 3 ft. high. Leaves broad, green, or bluish-green. Flowers stately, on stiff, erect stems, white, yellow, pink, red, purple, intermediate shades, and various combinations. The origin of garden Tulips is unknown. Modern varieties form several distinct classes as Darwins, Breeders, Cottage Tulips, etc. Wild Tulips are found in the Mediterranean Region, Asia Minor, Siberia, and the Far East.

USES: In beds and borders, for cut flowers. **SITUATION**: Sunny or lightly shaded. **SOIL**: Fertile, deep, well-drained. **CULTURE**: Plant bulbs in fall with their noses 5 or 6 in. below surface. For uniform flowering, bulbs should be of one size and should be set at the same depth. After ground has frozen, mulch with strawy manure or similar material. Remove this gradually in spring. Bulbs should be lifted every 3 or 4 years after foliage has died down, graded, and re-planted. **PROPAGATION**: By offsets.

VARIETIES: Clara Butt (pink), King George V (red), Zwanenburg (white), Mrs. Moon (yellow), Bronze Queen (bronze), Louis XIV (purple).

BLEEDING HEART (*Dicentra spectabilis*)

HARDY, herbaceous perennial, 2 to 3 ft. high. Roots fleshy. Leaves much divided, light green, attractive, becoming yellow and dying down in early summer. Flowers heart-shaped, pink or white, freely borne along gracefully arching stems. Native of Japan.

USES: In borders, for cut flowers. **SITUATION**: Sunny or lightly shaded, sheltered from strong winds. **SOIL**: Deep, well-drained, ordinary. **CULTURE**: Plant in early spring just as growth begins and before new stems are more than 2 in. high. Make wide planting holes, set plant so that crown is 1 or 2 in. below surface, spread roots carefully to avoid breakage, and work soil between them with fingers. Water freely if drought occurs during active growing season but not after foliage has died down. Be very careful when forking or hoeing near Bleeding Hearts, as their spreading, fleshy roots are easily damaged. **PROPAGATION**: By root cuttings, more slowly by division, occasionally by seed.

VARIETIES: *Alba* (flowers white).





COLUMBINE (*Aquilegia hybrida*)

HARDY, spring-flowering perennial, 2 to 3 ft. high. Foliage elegant, green or bluish-green. Flowers are white, yellow, blue, purple, and intermediate shades, daintily poised on slender branching stems. Each has 5 spurs that are especially conspicuous in the popular Long-Spurred Hybrids. The name *Aquilegia hybrida* is applied to the mixed progeny of several distinct species.

USES : In beds and borders, for cut flowers. **SITUATION** : Lightly shaded or sunny, sheltered from strong winds. **SOIL** : Well-drained, sandy. **CULTURE** : Sow in cold frame or outdoors in May. When large enough to handle, transplant to nursery beds, allowing 12 in. between rows, 6 in. between plants in rows. Keep surface soil stirred during summer. In spring move plants to flowering quarters spacing them 15 to 18 in. apart. Columbines are short-lived. Frequent replacement is necessary. **PROPAGATION** : By seed, by division in spring.

VARIETIES : Varieties do not come true from seed. Obtain a good strain of seeds such as the Scott Elliott strain.

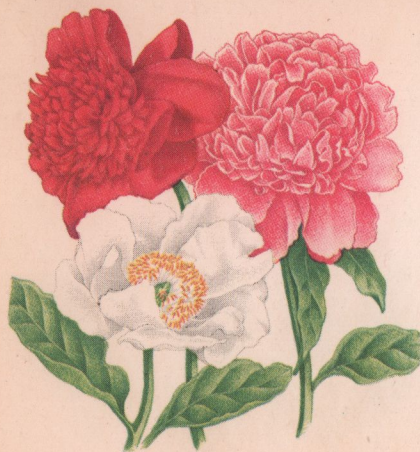
SWEET WILLIAM (*Dianthus barbatus*)

HERBACEOUS, spring-blooming perennial, 2 ft. high, often grown as a biennial. Not hardy in severe climates but will stand some frost. Stems erect, branching, terminating in flattened, densely-clustered flower heads. Flowers single or double, fragrant, white, pink, red, maroon, black-purple, and various combinations. Native of Asia and Europe.

USES : In borders or beds, for cut flowers. **SITUATION** : Sunny or lightly shaded. **SOIL** : Ordinary. **CULTURE** : Sow in June or July. When second pair of leaves has developed, set young plants 6 or 8 in. apart in outdoor beds or in cold frames. Cultivate frequently between plants. In harsh climates provide light winter covering. Transplant to flowering quarters in early spring, allowing 9 to 12 in. between plants. In mild climates Sweet Williams may be kept as perennials. If this is done, fork a top dressing of manure or fertilizer shallowly into the ground in spring. **PROPAGATION** : By seed, more rarely by cuttings.

VARIETIES : Newport Pink (pink), Crimson Beauty (crimson), Scarlet Beauty (scarlet).





PEONY

(*Paeonia albiflora*, *P. officinalis*)

HARDY, herbaceous perennials, blooming in late spring, 2 to 3 ft. high. Roots fleshy. Foliage attractive. Flowers large, often fragrant, white, pink, red, or variegated, single, double, or anemone-flowered. The ancestors of the herbaceous Peonies are natives of Asia and Southern Europe.

USES: In beds and borders, for cut flowers. **SITUATION**: Sunny or lightly shaded. **SOIL**: Ordinary, deep. **CULTURE**: Plant in early fall with crown of plant 2 in. below surface. Fertilize established plants each spring with well-rotted manure or bone meal. Water freely during dry periods. Support flower stems with inconspicuous stakes. Disbud, leaving only terminal bud on each stem if large blooms are desired. Peonies will thrive for many years without transplanting. **PROPAGATION**: By division in early fall, occasionally by grafting. New varieties are raised from seed.

VARIETIES: Albert Crousse (salmon), *festiva maxima* (white and crimson), Le Cygne (white), *officinalis rubra* (red), *officinalis rosea* (pink), Geanne Lapandry (single white), Mikado (single red).

COTTAGE PINK

(*Dianthus plumarius*)

TUFTED, spring-blooming perennial, 1 to 1½ ft. high. Foliage grass-like, bluish. Flower stems taller than leaves, usually branched. Flowers fragrant, single or double, white, pink, red, lavender, or variegated. Native of region from Austria to Siberia.

USES: In rock gardens, for beds and borders, for cut flowers. **SITUATION**: Sunny. **SOIL**: Warm, well-drained. **CULTURE**: Plant in flowering positions in early fall or spring. Cut all flowering stems off low immediately after blooming. Stir a little lime and bone meal into the soil each spring. Cottage Pinks are short-lived perennials and should be renewed every two or three years. **PROPAGATION**: By seed sown outdoors or in cold frames in early summer, the young plants being transplanted to a nursery bed in rows 12 in. apart with 6 in. between plants in the rows, and left there to grow through the summer; by cuttings in late summer; by layering in late summer.

VARIETIES: Bristol Maid (rose-pink), Bristol Jewel (white flaked crimson), Gladys Cranfield (bright rose), Her Majesty (white), Essex Witch (pink).





IRIS

(*Iris sibirica*, *I. Kaempferi*, *I. japonica*, etc.)

HARDY, herbaceous perennials, 2 to 3 ft. high, flowering in early summer. Leaves sword-shaped or grass-like, arising from horizontal rhizomes. Flower stems erect, bearing several large, showy blooms in white, blue, purple, yellow, or intermediate hues, or varicolored. Siberian Irises are derived from *I. sibirica*, native to Asia and Europe. Japanese Irises are from *I. Kaempferi* and *I. laevigata*, both from China and Japan. Tall bearded Irises are hybrids of *I. germanica*, *I. pallida* and *I. variegata*, all from Europe.

USES: In beds and borders, for cut flowers. **SITUATION**: Sunny. **SOIL**: Ordinary, rather moist for Japanese kinds. **CULTURE**: Plant immediately after blooming or in spring, setting small divisions 9 in. apart, with rhizomes scarcely covered with soil. Lift and replant every third or fourth year. Cut leaves back to within 9 or 12 in. of roots before replanting. **PROPAGATION**: By division, by seed.

VARIETIES: Lord of June (blue), Pluie d'or (yellow), Deput Nomblot (purple), Dorothy Dietz (white and blue), Euphony (copper).

ORIENTAL POPPY

(*Papaver orientale*, *P. bracteatum*)

HARDY, herbaceous perennials, 3 to 4 ft. high, blooming in late spring. Leaves large, deeply lobed, roughly hairy, dying down in summer. Flowers large, satiny, white, pink, orange or red, single or double. Oriental Poppies are derived from two species native to the region from the Mediterranean to Persia.

USES: In beds or borders, for cut flowers. **SITUATION**: Sunny. **SOIL**: Ordinary, well-drained. **CULTURE**: Plant in early fall with crown just beneath surface. In early spring fork rotted manure or bone meal lightly into ground about established plants. Stake carefully before flower buds open. Pick off dead flowers. Do not cultivate near plants when dormant. Oriental Poppies thrive best when undisturbed. Do not transplant unless necessary. **PROPAGATION**: By division in July or August, by root cuttings in August, by seed (named varieties do not come true from seed).

VARIETIES: Toreador (red), Wunderkind (pink), Mary Jane Miller (salmon), Salmon Glow (salmon).





ROSE (*Rosa hybrids*)

HARDY dwarf or climbing shrubs, 2 to 20 ft. high. Flowers profusely borne in summer, white, pink, red, yellow, and intermediate tones, often delightfully fragrant. Garden Roses are of many types of involved hybrid origin.

USES: In beds and borders, for covering pillars, arbors, walls, etc., for cut flowers. **SITUATION:** Sunny. **SOIL:** Deep, fertile, well-drained. **CULTURE:** Plant early in fall or spring, dwarf kinds 1½ ft., climbers 6 ft. apart. Fertilize established plants each spring. Prune hybrid Teas and dwarf Polyanthas in spring, hardy Climbers just after they have finished blooming. In summer keep surface soil shallowly stirred with cultivator, water freely when dry, feed occasionally with diluted fertilizer. Spray to control pests. Remove dead flowers. Keep climbers tied up. In cold climates provide winter protection by hilling soil about bases of plants. **PROPAGATION:** By budding, by cuttings.

VARIETIES: Mrs. Leon Pain (pink), Crimson Glory (red), Mrs. Pierre S. DuPont (yellow), Ellen Poulson (pink), Dr. Huey (red), American Pillar (pink).

FOXGLOVE (*Digitalis purpurea*)

HARDY biennial, 3 to 5 ft. high, with a basal rosette of large, rather coarse leaves from which arises the unbranched, erect, leafy, flowering stems. Flowers numerous, nodding, narrowly bell-shaped, purple to white, more or less spotted in throat, in bold, one-sided, spire-like inflorescences. Native of Northern and Central Europe.

USES: As a border plant, at the fringes of woodlands, in open woodland glades. Various preparations of *Digitalis* are used in medicine. **SITUATION:** Sunny or partially shaded. **SOIL:** Ordinary, moderately moist. **CULTURE:** Sow seed in lightly-shaded beds in cold frame or outdoors in late May or June. Transplant seedlings to a nursery plot when large enough to handle, allowing 12 in. between rows, 9 in. between plants in rows. Cultivate and water as needed throughout summer. In fall or following spring, move the plants to the places where they are to bloom, first spading and fertilizing the soil. **PROPAGATION:** By seed.

VARIETIES: Buy seed in mixture or according to color preferences.





CANTERBURY BELL (*Campanula Medium*)

HARDY biennial, 2 to 4 ft. high. Leaves form large basal rosette from which arises the erect loosely-branched, leafy, flowering stems. Many large flowers, upturned, bell-shaped, pink, lavender, purple, or white. Native of Southern Europe.

USES: In borders or beds, for cut flowers. **SITUATION:** Sunny. **SOIL:** Ordinary. **CULTURE:** Sow seeds in a cold frame or prepared bed outdoors in late May or June. Shade the seedbed until young plants appear above ground. When second pair of leaves has formed, transplant seedlings to a nursery bed, allowing 12 in. between rows, 9 in. between plants in the rows. Water as needed and cultivate between plants frequently through summer. In fall or following spring move the plants to well-spaded and fertile soil in the positions where they are to bloom, space plants 18 in. or 2 ft. apart. In severe climates provide a light winter covering of evergreen branches, salt hay, or other protective material. **PROPAGATION:** By seed.

VARIETIES: Horticultural varieties include attractive double-flowered and cup-and-saucer-flowered forms.

SWEET PEA (*Lathyrus odoratus*)

ANNUAL vine, 6 ft. or higher, climbing by tendrils. Fragrant flowers borne over a long period through the summer, white, cream, pink, red, lavender, blue-purple, and intermediate colors, usually 3 to 5 together on stiff stems from the leaf axils. Native of Italy.

USES: In groups in borders, for cut flowers. **SITUATION:** Sunny. **SOIL:** Deep, rich, moist but well-drained. **CULTURE:** Sow out of doors in spring as soon as the ground is workable or set out in April strong plants that have been raised in pots in a cool greenhouse. Allow 6 in. between plants, 3 in. between seeds; cover seeds $\frac{1}{2}$ in. deep. Provide brushwood stakes, canes, or chicken-wire supports. Water freely through growing season. Fertilize lightly at ten-day intervals after plants are 2 ft. high. Remove flowers as they fade to encourage continuous bloom. Sweet Peas do not thrive in extreme hot weather. **PROPAGATION:** By seed.

VARIETIES: Numerous. Select according to color preferences. The special "early flowering" kinds bloom earlier than the Spencer varieties.





HELIOTROPE

(*Heliotropium arborescens*)

TENDER, shrubby perennial, up to 6 ft. or more in height, usually less. Flowers small, fragrant, white, pink, or blue-lavender, in flat-topped, rather loose clusters, freely borne throughout the summer. Native of Peru.

USES: As a border or bedding plant, as a pot plant. SITUATION: Sun or light shade. SOIL: Ordinary. CULTURE: Set plants from pots into well-spaded and fertilized soil 9 in. to 1 ft. apart after danger of late frosts has passed. Cultivate shallowly until plants touch each other, pinch tips out of straggly shoots to encourage bushiness. Remove dead flower clusters, water in dry weather. Red spider and mites sometimes attack Heliotrope. To control, spray with nicotine insecticide. PROPAGATION: By cuttings taken in fall or in winter from plants which have been potted and brought indoors, by seed sown indoors in February. Plants raised from seed are not uniform, and are usually inferior to choice varieties grown from cuttings.

VARIETIES: Royal Fragrance (blue-violet), Lilac Queen (reddish-blue), Sweet Blue (lavender-blue).

SNAPDRAGON

(*Antirrhinum majus*)

TENDER perennial, commonly grown as a half-hardy annual, 6 in. to 3 ft. high. Flowers white, yellow, bronze, pink, red, purple, and intermediate colors, in long erect spikes produced freely throughout the summer. Native of the Mediterranean region.

USES: In borders or beds, as cut flowers. SITUATION: Full sun. SOIL: Ordinary. CULTURE: After danger of severe frosts has passed set plants from greenhouse or cold frames into well-prepared, fertile soil out of doors, dwarf varieties 6 in., tall varieties 9 in. apart. Pinch out tips of young plants to induce bushiness. Keep surface soil cultivated; stake neatly. Water in dry weather but avoid wetting foliage late in day as this encourages a parasitic rust disease. If rust appears, burn badly affected plants, spray others with fungicide. PROPAGATION: By seeds sown in cold frame in September, seeds sown indoors in February or March, more rarely in mild climates by cuttings inserted in cold frame in fall.

VARIETIES: Numerous, varying in color and in height of plants.





TICKSEED, or COREOPSIS (*Coreopsis lanceolata*)

HARDY perennial, of rather loose growth, 1½ to 2 ft. high. Flowers large, attractive, bright golden yellow, on long, wiry stems, borne freely throughout the summer. Foliage bright green, of neat appearance. Native of Eastern United States.

USES: In borders, for cut flowers. SITUATION: Sunny. SOIL: Ordinary. CULTURE: Lift plants from nursery beds in early fall or early spring and set them 15 in. apart in groups in the border or in rows 18 in. apart in the cut-flower garden, allowing 1 ft. between plants in the rows. Cultivate and remove dead flowers throughout growing season. Fertilize and lightly fork between plants each spring. Divide and reset established plants every third or fourth year in spring or fall. Tickseed is easily grown and requires no special care. PROPAGATION: By seed or division, the former preferable. Sow seeds in greenhouse in winter, in frame or outdoors in spring. Transplant seedlings to nursery beds when large enough to handle, allowing 6 to 9 in. between plants.

VARIETIES: *Flore-pleno* (yellow, double-flowered), *grandiflora* (yellow).

GERANIUM (*Pelargonium hortorum*)

TENDER perennials, some varieties eventually attaining a height of 10 ft. or more, but usually much lower in gardens. Flowers showy, in large trusses atop stout stems, white, pink, or red, single or double, borne freely throughout summer. Foliage bold and attractive, in some varieties pleasingly variegated. *P. hortorum* represents a group of hybrids of *P. inquinans*, *P. zonale*, and other species native to South Africa.

USES: For beds and window boxes, as pot plants. SITUATION: Sunny. SOIL: Ordinary. CULTURE: Set plants in outdoor garden 9 in. to 15 in. apart in newly spaded and fertilized soil after danger of frost has passed. Throughout summer cultivate, water, and remove dead blooms as needed. Lift plants and bring indoors before hard frosts. PROPAGATION: By cuttings at any time of year. Cuttings taken in August or September make good stock to carry through the winter and set in garden the following year. New varieties are raised from seed.

VARIETIES: *Beauté Poitevine* (pink), *Radio* (scarlet), *Mme. Buchner* (white), *Alphonse Ricard* (red).





PETUNIA (*Petunia hybrida*)

TENDER, compact, or spreading perennial, commonly grown as an annual, 6 in. to 18 in. high. Flowers large, showy, funnel-shaped, white, pink, red, lavender, purple, or striped, freely borne throughout the summer. Garden Petunias are hybrids of South American species.

USES: For edging borders, for summer beds and window boxes. SITUATION: Sunny or lightly shaded. SOIL: Ordinary. CULTURE: Sow seeds indoors in March, transplant seedlings 2 in. apart into light soil in flats or frames and set plants out in open ground after danger of frost has passed, allow 6 in. to 9 in. between plants. Seed may also be sown in the open garden where plants are to bloom as soon as the soil has warmed in spring. Thin out the resulting seedlings to 6 in. apart. Cultivate frequently between young plants and water when needed during summer. PROPAGATION: By seed, more rarely by cuttings.

VARIETIES: Numerous, varying in color and form of flower and in habit of growth. The Balcony kinds are especially adapted for window boxes.

WAX BEGONIA (*Begonia semperflorens*)

TENDER, free-flowering perennial, frequently cultivated as an annual, 6 to 18 in. high. Flowers white, pink, or red, borne continuously throughout summer and indoors during winter. Foliage glossy, green, red, or variegated. Native of Brazil.

USES: For beds, borders and window boxes, as house plants. SITUATION: Sunny or partially shaded. SOIL: Moderately fertile, fairly moist. CULTURE: Transplant young plants singly into small pots or 2 in. apart in shallow boxes in loose, woodsy soil. Grow in 60° to 70° temperature. Set plants in garden 9 in. to 15 in. apart in fertilized soil after all danger of frost has passed. Cultivate throughout the summer, water when needed. Plants may be lifted and potted before fall frosts for winter blooming indoors. PROPAGATION: By seeds sown indoors in February on finely prepared soil surface, seeds to remain uncovered by soil; by cuttings inserted any time, preferably in the spring or fall.

VARIETIES: Indian Maid (scarlet), Vernon (red), White Pearl (white), Prima Donna (pink), Carmen (pink).





CALIFORNIA POPPY (*Eschscholzia californica*)

TENDER, loosely-branched perennial, commonly cultivated as an annual, 6 in. to 1 ft. high. Flowers borne freely throughout summer, saucer-shaped, 2 in. to 3 in. across, cream, yellow, orange, or crimson. Foliage attractive, bluish-green, feathery. Native of the region from California to Oregon.

USES: For summer beds or borders. SITUATION: Sunny. SOIL: Porous and well-drained, of medium fertility. CULTURE: Sow seeds in early spring where plants are to bloom. Before sowing, fork over the seedbed and rake it to a fine surface. When the seedlings are large enough to handle, pull out any surplus so that those that remain stand 4 in. or 5 in. apart. California Poppies do not transplant well, therefore discard the plants pulled out. Keep surface soil loose with cultivator until plants touch each other; remove dead flowers to encourage continuous blooming. *Eschscholzias* do not thrive in hot, humid weather; where such conditions prevail they sometimes die in July or August. PROPAGATION: By seed.

VARIETIES: Golden West (deep yellow), Red Chief (mahogany), Buff Pink (buff), Carmine Queen (crimson-carmine).

HOLLYHOCK (*Althaea rosea*)

HARDY perennial or biennial, 5 ft. to 9 ft. high with stout, erect, spire-like, flower stems. Flowers large, circular, wide-open, white, cream, yellow, pink, red, or maroon, single or double. Leaves large, of rough texture. An old garden favorite. Native of China.

USES: For the rear of herbaceous borders, along fences, against buildings. SITUATION: Sunny. SOIL: Ordinary. CULTURE: Best results obtained when fresh plants are raised each year. Sow seeds in prepared bed outdoors or in cold frame in June. When second pair of leaves develops transplant to fertile nursery plot allowing 12 in. between rows, 9 in. between plants in the rows. Cultivate throughout summer; in fall or following spring set plants into positions where they are to bloom. After blooming, cut flower stems off close to the ground. Very subject to rust disease; if brown pustules appear on under surfaces of leaves, remove and burn affected foliage, spray plants with fungicide. Young plants less susceptible to rust than old plants. PROPAGATION: By seed; doubled-flowered varieties by cuttings.

VARIETIES: Seed is sold according to flower color.





BLANKET FLOWER, or GAILLARDIA (*Gaillardia aristata*)

HARDY, loosely-branched perennial, about 2 ft. high, blooming profusely in early summer, continuing more or less to frost. Flowers large, showy, yellow, coppery, or red. Native of Western North America.

USES: As a border plant, for cut flowers. **SITUATION:** Sunny. **SOIL:** Light, well-drained. In heavy wet soils *Gaillardias* die in winter. **CULTURE:** Set plants in garden about 1 ft. apart in early fall or spring. Little summer care needed other than cultivation and the removal of dead flowers. Fertilize established plants in spring. In severe climates apply light winter covering after ground has frozen. **PROPAGATION:** By seed sown in prepared bed or frame in early summer; by division of old plants in spring or early fall; by cuttings in cold frame, in August or September. Named varieties do not breed true from seeds and should be increased by division or by cuttings. *Gaillardias* are often rather short-lived plants and so should be propagated every two or three years.

VARIETIES: Mr. Sherbrooke (golden), Ruby (ruby-red), Portola hybrids (bronze and yellow).

POT MARIGOLD, or CALENDULA (*Calendula officinalis*)

HARDY, leafy annual, 6 in. to 18 in. high. Flowers large, decorative, pale yellow to deep orange, single or double, on stout, erect stems. Leaves undivided, clammy to the touch. Entire plant possesses distinctive odor. The "Marygold" of Shakespeare. Native of Southern Europe.

USES: In flower beds and borders, as cut flowers, as a pot herb. **SITUATION:** Open, sunny. **SOIL:** Light, well-drained. **CULTURE:** Sow seeds indoors or in cold frames and transplant later to beds or borders, or sow directly in well-prepared soil in spring where plants are to bloom. Allow 6 to 8 in. between plants. Summer care consists chiefly of cultivation and removal of dead blooms. Remove all but the terminal bud from each stem if extra fine cut flowers are desired. Plant lice frequently attack *Calendulas*. Spray with nicotine, pyrethrum, or rotenone insecticide. *Calendulas* do not thrive in hot, humid weather. **PROPAGATION:** By seed.

VARIETIES: Radio (orange), Sensation (orange), Sunshine (canary), Lemon Queen (lemon).





CHINA ASTER (*Callistephus chinensis*)

ERECT, branching annual, 6 in. to 3 ft. high. Flowers chrysanthemum-like, white, pink, red, lavender, or blue, large and decorative. Native of China and Japan.

USES: In bed and borders, for cut flowers. SITUATION: Sunny. SOIL: Light, rich, well-drained. CULTURE: Sow indoors or in cold frames in early spring. Transplant seedlings 3 in. apart in flats or frames, later transfer outdoors, spacing plants 7 in. to 9 in. apart; or sow directly out of doors when ground has warmed in spring, and thin out seedlings 6 to 8 in. apart. Seedlings removed can be transplanted elsewhere. Cultivate, stake, tie, and water as needed. If aphids attack roots stir tobacco dust into soil, spray with contact insecticide to control aphids on foliage. "Aster Yellows," a troublesome virus disease, is transmitted by insects. Destroy affected plants. Where "Yellows" is prevalent, insect-proof houses of special Aster cloth are used to protect the plants. PROPAGATION: By seed.

VARIETIES: Numerous, including single, double, and anemone-flowered forms.

AGERATUM (*Ageratum Houstonianum*)

TENDER, erect, branching perennial frequently grown as an annual, 6 in. to 2 ft. high. Flowers small, blue or occasionally pale pink or white, clustered in dense, fuzzy, irregularly hemispherical heads, freely borne throughout the summer. Native of Mexico.

USES: As a border or bedding plant, for cut flowers. SITUATION: Sunny. SOIL: Ordinary. CULTURE: Set the plants in well-spaded and moderately fertile soil after danger of late frosts has passed, dwarf varieties 6 in., tall varieties 9 in. apart. During the summer cultivate the surface soil shallowly at frequent intervals until the plants touch each other. Water during periods of drought; remove dead flowers. Red spider is sometimes troublesome. To control, spray with nicotine or pyrethrum insecticide. PROPAGATION: By seed sown indoors in March or, if uniform plants are desired, by cuttings taken in March from selected plants that have been overwintered indoors.

VARIETIES: Many garden varieties are offered in seed catalogs.





NASTURTIIUM (*Tropaeolum majus*)

SUCCULENT-STEMMED, compact, or climbing annuals. Circular, pungent leaves, light green, purple-green, or variegated. Flowers large, spurred, funnel-shaped, yellow, orange, red, or mahogany, single or double, sometimes fragrant. Native of South America. Garden varieties may be hybrids.

USES: In beds, borders, window boxes, on trellises, for cut flowers. SITUATION: Sunny. SOIL: Porous, not too rich. CULTURE: Sow seeds outdoors when ground has warmed in spring, thin out or transplant seedlings so that plants stand 6 in. apart, provide support around which tall-growing varieties may twine, keep surface soil stirred with cultivator throughout summer. Early bloom is obtained by starting seeds indoors and later setting plants out in the garden. Black aphids commonly attack Nasturtiums; to control, spray frequently with nicotine insecticide or other contact spray. In a too-rich soil plants produce excessive foliage and few flowers. PROPAGATION: By seeds, more rarely by cuttings.

VARIETIES: Numerous, including dwarfs as well as high-climbing types.

DELPHINIUM (*Delphinium cultorum*)

HARDY, summer-flowering, herbaceous perennial, 4 to 6 ft. or more high. Flowers borne profusely on tall, spire-like stems, white, blue, lavender, purple, and intermediate shades, single or double. A diverse group of garden hybrids between Asiatic and European species.

USES: In beds and borders, for cut flowers. SITUATION: Open, sunny. SOIL: Deep, rich, well-drained. CULTURE: Plant 3 to 4 ft. apart in spring or fall, cultivate regularly, stake and tie as flowering stems develop. After early blooms have passed, cut off flower stems, fertilize, cultivate and water (when needed) to induce second crop. Several insect and fungus pests attack Delphiniums. Use insecticides or fungicides early. Destroy badly-diseased plants. Avoid setting new plants in ground where diseased plants have grown. In severe climates cover lightly through the winter. PROPAGATION: By seeds, sown indoors in winter, outdoors or in cold frames in summer, more rarely by division or cuttings.

VARIETIES: Do not come true from seed. Obtain good strains such as "Pacific" and "Wrexham."





RED HOT POKER, or TORCH LILY (*Kniphofia Uvaria*)

HARDY, herbaceous, summer-blooming perennial, 3 or 4 ft. high. Roots thick. Leaves long, coarse, grass-like, in dense clumps. Flowers tubular, drooping, many together in bold poker-like spikes, upper flowers scarlet, lower ones yellow. Native of South Africa.

USES: In beds or borders, for cut flowers. **SITUATION:** Sheltered, sunny. **SOIL:** Warm, well-drained. **CULTURE:** Plant about 2 ft. apart in spring. Keep weeds down during summer. Remove flower spikes as flowers die. In fall cut away dead foliage. After ground has frozen mulch heavily with loose straw manure or dry leaves. In cold climates lift and store roots over winter in boxes of dry soil in cool cellar and replant in spring. Work a light dressing of fertilizer into the soil about established plants each spring. **PROPAGATION:** By division in spring, by seeds sown indoors in fall or spring. Because Torch Lilies hybridize so freely under cultivation, seedlings may differ from their parents.

VARIETIES: *Floribunda* (early-flowering), *grandiflora* (large-flowered), *grandis* (tall-growing), *Pfitzeri* (long-blooming).

VERBENA (*Verbena hortensis*)

TENDER perennial of spreading habit, commonly grown as a half-hardy annual, 6 to 9 in. high. Flowers small in dense, flattened clusters, white, pink, red, lavender, blue and purple; produced freely throughout the summer. *Verbena hortensis* is a hybrid of South American species.

USES: In beds or borders. **SITUATION:** Sunny. **SOIL:** Ordinary, well-drained. **CULTURE:** Set plants 9 in. apart in garden after danger of frost has passed. In summer attend to surface cultivating, watering, and the prompt removing of dead flowers. Red spider and white fly attack Verbenas especially when grown under unfavorable conditions. To control, spray frequently and forcibly with a fine spray of clear water and occasionally with a contact insecticide. **PROPAGATION:** By seeds sown indoors in February, by cuttings taken in winter or spring from plants lifted in fall and grown indoors.

VARIETIES: Mayflower (pink), Floradale Beauty (pink), Lavender Glory (lavender), Blue Sentinal (violet-blue), Crimson Glow (crimson), Violet Bouquet (violet).





BABY'S-BREATH (*Gypsophila paniculata*)

HARDY, herbaceous perennial, about 3 ft. high. Roots stout. Branches and leaves form diffuse mounds that are covered in summer with airy panicles of small white or pale pink flowers. Native of Europe and Northern Asia.

USES: In borders, particularly next to or among Oriental Poppies or Bleeding Hearts where the Baby's-Breath serves to fill the spaces left by the dying away of the foliage of the earlier bloomers. Baby's-Breath is useful for cutting and particularly for mixing with other flowers. **SITUATION:** Sunny. **SOIL:** Ordinary, well-drained. **CULTURE:** Plant in spring or early fall with crown just beneath surface. Fertilize established plants each spring. Weed and cultivate as necessary through summer. Insert a few inconspicuous stakes to support branches. Baby's-Breath is a lime-lover; on acid soils apply lime every two or three years. **PROPAGATION:** By seeds, by division, double-flowered forms by grafting on roots of the single-flowered type.

VARIETIES: Bristol Fairy (double white), *flore-pleno* (double white), Flamingo (double pale pink).

MORNING GLORY (*Ipomaea*)

ANNUAL vines up to 10 ft. or more high. Stems twining. Leaves heart-shaped, sometimes lobed. Flowers large, trumpet-shaped, white, blue, purple, or red, produced freely throughout the summer. The annual Morning Glories include South American species and their hybrids.

USES: For borders, for screens. **SITUATION:** Sunny. **SOIL:** Ordinary, well-drained, not too rich. **CULTURE:** Sow seeds early indoors in small pots and transplant outdoors later, or sow directly outdoors in late spring after ground has become warm. Soak seed in warm water for 3 or 4 hours before sowing or cut a nick through the hard outer coat of each seed with a file. Provide strings, wires, trellis, brushwood, or other support around which plants may twine. Water freely during dry weather. If aphids attack plants, spray with lathery soapsuds or with a contact insecticide. **PROPAGATION:** By seed.

VARIETIES: Heavenly Blue (blue), Scarlett O'Hara (red), Pearly Gates (white), Japanese mixed (large flowers in a variety of colors).





FUCHSIA

(*Fuchsia speciosa*)

TENDER, perennial shrub, up to 10 ft. or more high, but flowering freely when much smaller. Foliage green or reddish. Flowers borne freely late spring to fall, handsome, pendant, single or double, with calyx or corolla brightly colored, often in contrasting shades of white, pink, red, and purple. Garden Fuchsias are hybrids of species native to Mexico and South America.

USES: For summer bedding, as house plants, in warm parts of country as outdoor shrubs. SITUATION: Sheltered, lightly shaded. SOIL: Rich, well-drained. CULTURE: Keep rather dry and cool from November to January. Prune and repot in February and grow in temperatures of 50° at night and 60° in daytime. Water freely when in active growth. Pinch shoots once or twice to promote bushiness. Apply dilute fertilizer occasionally to healthy plants. For summer beds, plant out when weather is warm and settled. Bring indoors before fall frosts. PROPAGATION: By cuttings in spring or summer.

VARIETIES: Little Beauty (blue and pink), Charmaine (magenta and pink), Schneewitchen (white and pink), Aviator (white and red).

GLADIOLUS

(*Gladiolus hortulanus*)

TENDER, summer-flowering perennials, 2 to 4 ft. high. Leaves erect, sword-shaped. Flowers large, showy, in long, one-sided spikes, white, yellow, orange, red, lavender, purple, and intermediate shades. Garden Gladioli are hybrid progeny of South African species.

USES: In beds and borders, for cut flowers. SITUATION: Open, sunny. SOIL: Deep, fertile, well-drained. CULTURE: Plant corms (bulbs) 4 to 6 in. deep and 4 to 8 in. apart. Make successional plantings every two weeks from time trees leaf out until early July. Cultivate between plants. Water generously when needed. Stake if necessary. When cutting flowers, take no more than two leaves. Lift corms after foliage has died down and before hard freezing. Dry, clean, and store them over winter in a cool, dry place. To control thrips, place moth flakes among corms in storage; in summer spray with solution made from 2 oz. of tartar emetic and 8 oz. of brown sugar in 3 gallons of water. PROPAGATION: By offsets, new varieties raised from seed.

VARIETIES: Mrs. Leon Douglas (pink), Picardy (apricot), Albatross (white), Commander Koehl (red), Pelegrina (purple), Alice Tiplady (orange), Betty Co-ed (pink).





ZINNIA (*Zinnia elegans*)

ERECT, branching annual 6 in. to 3 ft. high. Flowers daisy- or chrysanthemum-like, white, cream, yellow, orange, pink, red, and purple, from 1 to 5 in. in diameter, single or double. Native of Mexico.

USES: In beds and borders, for cut flowers. SITUATION: Sunny. SOIL: Rich, well-drained. CULTURE: Sow seeds in prepared bed outdoors after ground has become warm in spring. Thin seedlings to stand from 9 in. to 1½ ft. apart. Tall-growing varieties need the most room. Seedlings pulled out can be transplanted elsewhere. For early bloom, sow indoors in early spring, transplant seedlings 2 to 3 in. apart in flats or cold frames and set in open garden after all danger of frost has passed. Cultivate surface soil freely until plants touch each other. Water during dry weather but avoid wetting foliage. Moist foliage and poor air circulation favor development of mildew on leaves. To control, dust with finely powdered sulphur. Remove all dead flowers. PROPAGATION: By seed.

VARIETIES: Numerous. Select according to form, size, and color preferred.

PAINTED TONGUE (*Salpiglossis sinuata*)

ERECT, branching annual, 2 to 4 ft. high. Leaves toothed or lobed, softly hairy, clammy to touch. Flowers on long stems, large, funnel-shaped, white, yellow, blue, purple, red, and mahogany, often beautifully marked with more than one color. Native of Chile.

USES: In beds and borders, for cut flowers. SITUATION: Sunny. SOIL: Light, fertile, well-drained. CULTURE: Sow indoors in early spring. When second pair of leaves has formed, transplant seedlings carefully to small pots or to flats, using a light, porous soil. Water carefully to avoid excessive dryness or wetness. Set plants 12 in. apart in well-prepared garden bed after danger from frost has passed and before they become stunted from overcrowding. Cultivate surface soil shallowly. Water thoroughly when needed. Stake neatly. *Salpiglossis* may also be grown from seeds sown outdoors where the plants are to bloom. Make outdoor sowings as soon as ground has become warm in spring. PROPAGATION: By seed.

VARIETIES: Seed is sold according to flower color and in mixture.





HARDY SUMMER PHLOX

(*Phlox paniculata*)

HARDY, herbaceous perennial 3 to 4 ft. high. Stems many, erect, bearing in summer large pyramidal clusters of showy white, lilac, pink, or red flowers. Native of the Southeastern United States. Garden varieties are perhaps hybrids of *P. maculata* from the same region.

USES: In beds and borders, for cut flowers. **SITUATION**: Sunny or partially shaded. **SOIL**: Deep, rich, rather moist. **CULTURE**: Plant divisions (each having 3 to 5 shoots) 1 ft. apart in spring or early fall. Established plants need fertilizing each spring and cultivating, weeding, watering, and staking through the summer. Avoid wetting flowers or foliage when watering. Never let seed form lest self-sown seedlings of inferior types crowd out the choicer varieties. Clear away dead stems after a killing frost. Lift old plants, divide, and reset every third year. **PROPAGATION**: By division, more rarely by cuttings.

VARIETIES: Antonin Mercier (lilac), Rheinlander (pink), Leo Schlageter (red), Mrs. Jenkins (white).

SUNFLOWER

(*Helianthus annuus*)

STOUT, erect annual, 4 to 10 ft. or even more in height. Leaves heart-shaped, large, coarse. Flower heads a foot or more in diameter, yellow, brown or chestnut red, single or double. The heads turn through the day so that they always face the sun. Native of North America.

USES: In borders where bold effects are desired, among shrubbery. In some parts of the world, particularly Russia, the Sunflower is of considerable economic importance. The leaves are used for forage, the seeds for both animal and human food and for oil production, and the flowers yield a yellow dye. **SITUATION**: Sunny. **SOIL**: Ordinary, fairly moist. **CULTURE**: Sow seeds outdoors in spring. Thin seedlings so that plants stand 1½ to 2½ ft. apart. Cultivate between young plants. Water copiously during dry periods. Stake if necessary. **PROPAGATION**: By seed.

VARIETIES: Mammoth Russian (yellow), *californicus* (double), *citrinus* (primrose).





LILY

(*Lilium candidum*, *L. regale* and *L. tigrinum*)

HARDY, summer-flowering, bulbous perennials, 4 to 6 ft. high. *L. candidum* (Madonna Lily) is a native of Southern Europe and Southern Asia and has white, fragrant flowers. *L. regale* (Regal Lily), a native of China, has fragrant white flowers tinged with pink. *L. tigrinum* (Tiger Lily), from Eastern Asia, has black-spotted orange flowers.

USES: In borders, among shrubbery, for cut flowers. SITUATION: Sunny or lightly shaded, sheltered. SOIL: Deep, porous, rich in humus, free from lime except for Madonna Lily. CULTURE: Plant bulbs in fall or spring 1 ft. to 18 in. apart, those of Madonna Lily with top 2 in. beneath surface, those of Regal and Tiger Lilies 6 to 8 in. deep. Place handful of sand under each bulb. Cover with straw, half-rotted leaves or other protective material through winter. Water freely in dry weather, stake if necessary, being careful not to push stake through bulb. Pick off young seed pods. PROPAGATION: By offsets, by bulb scales, by seed.

VARIETIES: A few distinct varieties of the Madonna and the Tiger Lily are sometimes offered.

CANNA

(*Canna generalis*)

TENDER, herbaceous perennial, 3 to 8 ft. high. Rootstocks thick, branched. Stems erect, unbranched. Foliage of bold appearance, green, bronze, or red. Flowers large, in showy terminal clusters, cream, yellow, orange, and red, produced in late summer and fall. Garden Cannas are hybrids of tropical American and Asiatic species.

USES: In beds and borders. SITUATION: Sunny. SOIL: Warm, rich, reasonably moist. CULTURE: In early spring cut old roots into pieces each with one or more strong buds. Plant each in a 4- or 5-in. pot. Water and start into growth in greenhouse, hotbed, or cellar. When weather is warm and settled, set plants in garden about 1 ft. apart. Dig up after fall frost, cut off tops but leave soil clinging to roots. Store through winter in a warm, dry place. PROPAGATION: By division, occasionally by seed.

VARIETIES: Eureka (white), The President (red), Lincroft (yellow spotted with pink), King Humbert (orange-scarlet), Yellow King Humbert (yellow spotted with red).





AFRICAN MARIGOLD

(*Tagetes erecta*)

ERECT, much-branched annual, 2 to 4 ft. high. Leaves much divided, usually strongly and not pleasantly scented. Flowers large, yellow or orange, usually double. Horticultural forms include Carnation-, Chrysanthemum-, Peony- and Cactus-flowered types.

USES: In beds and borders, for cut flowers. SITUATION: Sunny. SOIL: Ordinary, well-drained. CULTURE: Sow seed indoors or in hot beds early in spring. Transplant seedlings 2 to 3 in. apart in flats or frames or plant them singly in small pots. Set plants 1½ to 2½ ft. apart in open garden when danger of frost has passed. If the soil is too rich, sparse flowering may result. Cultivate to encourage growth and keep down weeds. Stake and tie against storm damage. Pick off dead flowers. To control aphids, spray with strong soapsuds or contact insecticide. PROPAGATION: By seed.

VARIETIES: Guinea Gold (orange), Canary Bird (yellow), Orange Ball (orange), Yellow Supreme (lemon). Many new varieties have been developed recently, including some with scentless foliage.

DAHLIA

(*Dahlia pinnata*)

TENDER, tuberous, herbaceous perennial, 2 to 8 ft. high. Stems stout, erect, branched. Leaves large, divided. Flowers of various forms, including singles, doubles, and pompons, 1 to 12 in. in diameter, white, yellow, pink, red, purple, and intermediate shades. Native of Mexico.

USES: In beds or borders, for cut flowers. SITUATION: Sunny. SOIL: Moderately rich, well-drained. CULTURE: Plant tubers when danger of frost has passed, green plants when ground is warmed in the spring. Space tall varieties 4 ft., dwarf varieties 2 ft. apart. Provide stout stakes. Pinch shoots to induce bushiness. Remove surplus shoots. Cultivate freely. Water copiously in dry weather. Disbud large-flowered kinds. Fertilize lightly in late summer. After tops are frosted lift tubers, dry in sun, and store in warm, dry place. PROPAGATION: By division, by cuttings in spring, by seed sown early indoors.

VARIETIES: Jane Cowl (buff), Jersey Beauty (pink), Director Marshall Howe (red), Michigan White (white), Fugi-San (buff), Canary (yellow).





MONKSHOOD (*Aconitum napellus*)

HARDY, herbaceous perennial, 3 to 4 ft. high. Stems erect, bearing in summer many hooded, blue, pink, white, or blue-and-white flowers. Leaves dark green, deeply lobed. Native of Europe. This plant is very poisonous.

USES: In borders, for cut flowers. The drug aconite is obtained from the tuberous roots. **SITUATION**: Sunny or lightly shaded. Flowers last longer in light shade. **SOIL**: Deep, rich. **CULTURE**: Plant in spring or fall about 9 in. apart and with crowns of plants just below soil surface. Summer care consists of watering, staking and tying, and weeding. Take care not to damage roots when cultivating. Fertilize each spring with rotted manure or bone meal. *Aconites* thrive best when well-established and resent root disturbance. Do not transplant them unless absolutely necessary. **PROPAGATION**: By division in spring or fall, by seed. Seedlings bloom in second or third year.

VARIETIES: *Album* (white), *bicolor* (blue and white), *carneum* (pink), *Sparksii* (dark blue).

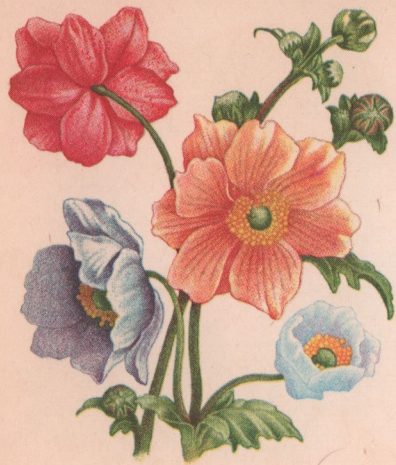
SCARLET SAGE, or SALVIA (*Salvia splendens*)

TENDER, bushy perennial, 2 to 3 ft. high, usually cultivated as an annual. Flowers in erect or half-drooping racemes, red, white, pink, or purple, borne freely throughout the summer. Native of Brazil.

USES: In beds and borders. **SOIL**: Ordinary, well-drained. **SITUATION**: Sunny. Flowers are shown off to best advantage when seen against a background of evergreens. **CULTURE**: Set plants from the frame or greenhouse into an outdoor bed when frost is no longer expected. Do not use much fertilizer or scanty flowering may result. Allow 12 to 15 in. between plants. Cultivate surface soil until plants touch each other. Water only when they are actually suffering from drought. Use contact insecticide if red spider, aphids, or white fly become troublesome. **PROPAGATION**: By seed sown indoors in early spring; by cuttings taken in fall, by cuttings taken in winter or spring from plants overwintered in pots indoors.

VARIETIES: America (dwarf red), Zurich (red), Welwyn Pink (pink), Welwyn White (white).





JAPANESE WINDFLOWER

(*Anemone japonica*)

LATE-FLOWERING, hardy perennial, 2 to 4 ft. high. Stems erect, branched, bearing many large, handsome saucer-shaped flowers in white, pink, or red. Flowers somewhat resemble single or semi-double roses. Native to Eastern Asia.

USES: In beds and borders, for cut flowers. SITUATION: Sunny or lightly shaded, sheltered from strong winds and early frosts. SOIL: Deep, rich, well-drained, fairly moist. CULTURE: Set young, vigorous plants out in the garden in late spring. Space them about 12 in. apart. Keep surface soil stirred with the cultivator through early summer. At the beginning of hot weather, cover ground with 2 or 3 in. of leaf mold or other mulch material. Water copiously during dry periods. Protect plants during winter with light covering of straw, dry leaves, salt hay, or evergreen boughs. PROPAGATION: By division in spring, by root cuttings.

VARIETIES: *Alba* (white), *Alice* (pink), *Marie Manchard* (semi-double white), *Queen Charlotte* (semi-double), *rubra flore-pleno* (double red-pink).

CHRYSANTHEMUM

(*Chrysanthemum morifolium*)

HARDY, herbaceous, fall-blooming perennial, 2 to 4 ft. high. Stems erect, branched. Flowers varying greatly in size and form, white, cream, yellow, bronze, pink, red, and intermediate shades.

USES: In beds and borders, for cut flowers. SITUATION: Sunny. SOIL: Deep, rich, well-drained. CULTURE: Plant 15 to 18 in. apart in spring. Pinch out tips of shoots two or three times before end of July to induce bushy growth. Cultivate, water, stake and tie during growing season and fertilize lightly in late summer. Spray with contact insecticide to kill aphids or other insects. Avoid wetting foliage when watering. Chrysanthemums give the best results when lifted and propagated each year. In cold climates, protect plants left outdoors over winter with a mulch of straw or leaves or a covering of evergreen branches. PROPAGATION: By division, by cuttings, occasionally by seed. Seedlings are very variable.

VARIETIES: *Ruth Hatton* (white), *Barbara Cumming* (bronze), *Jean Treadway* (pink), *Orion* (single yellow), *Judith Anderson* (yellow).





CHRISTMAS ROSE (*Helleborus niger*)

HARDY, herbaceous, winter-flowering perennial, 9 in. to 1½ ft. high. Foliage dark green, attractive. Flowers large, handsome, white or tinged with pink, appearing during mild spells during winter. Native of Europe.

USES: In rock gardens, in borders, for cut flowers. **SITUATION**: Partially shaded. **SOIL**: Deep, rich, moist but well-drained. **CULTURE**: Prepare soil by digging deeply and adding liberal amounts of leaf mold and well-rotted manure. Plant in early fall or spring, setting plants about 1 ft. apart with crowns just beneath the soil surface. Never transplant Christmas Roses unless absolutely necessary. Water freely during dry weather. Mulch each fall with rotted manure. Protect developing flowers by placing a frame sash or a glass-covered box over the plants when the buds appear. **PROPAGATION**: By division in late summer or spring, by freshly gathered seed sown in a woody soil. Seedlings usually begin blooming when three years old.

VARIETIES: *Altifolius* (large-flowered), *preacox* (early-flowered), *angustifolius* (small-flowered).

POINSETTIA (*Euphorbia pulcherrima*)

TENDER, winter-blooming shrub up to 10 ft. or more high. Flowers tiny, greenish, clustered together at the ends of erect shoots and surrounded by large brilliant scarlet, pink, or white bracts (modified leaves) that form the showy part of the inflorescences. Native of Mexico and Central America.

USES: As a pot plant, for cut flowers, in 'warmer parts of country as a garden shrub. **SITUATION**: Sunny. **SOIL**: Rich, moist, well-drained. **CULTURE**: After flowering, rest old plants by withholding water and keeping at 50° until May; then prune, repot, and grow in 60° temperature. Water sparsely at first, freely as growth develops; spray with water on bright days. Young growths used as cuttings usually make best pot plants but if desired, old plants may be kept growing. Repot as often as necessary through summer. Feed with dilute fertilizer when bracts begin to appear. Poinsettias are impatient of drafts and low temperatures. **PROPAGATION**: By cuttings.

VARIETIES: Paul Ecke (red), *alba* (white), *rosea* (pink), *plenissima* (double red).



GLOSSARY OF GARDEN TERMS

Annual—A plant that in its natural state lives for one season only.

Biennial—A plant that normally blooms in its second year and then dies.

Bract—A specialized leaf that develops among the flowers, sometimes colored and petal-like.

Budding—Grafting a single bud on to another plant.

Bulbous—Having bulbs, like a tulip, daffodil, or onion.

Bulb-scales—The thick, fleshy layers that form the bulb of a lily and cover each other like the shingles of a roof.

Calyx—The sepals collectively, usually green and located immediately behind the corolla, or petals.

Cold-frame—An unheated, bottomless box in which plants are grown; it has a removable, sloping glass top.

Corolla—The petals collectively.

Crown—Where stems and roots join.

Cultivate—To stir the surface soil with a hoe or cultivator to a depth of about one inch.

Cuttings—Pieces of stem with leaves which, if placed in a suitable environment, will take root and form new plants.

Disbud—To remove excess flower buds when quite small so that those remaining can develop more fully.

Division—Cutting into two or more pieces so that each portion has both roots and stems or buds.

Flats—Shallow boxes in which young plants are grown.

Frame-sash—The glass top of a cold-frame, usually measuring six by three feet.

Fungicide—A preparation for killing fungous diseases. Fungicides are sold by dealers in garden supplies.

Grafting—Taking a portion of one plant and causing it to unite with and grow upon another plant.

Ground-cover—A low plant suitable for massing to produce a carpet-like effect.

Hardy—Able to withstand the cold of a winter outdoors.

Herbaceous—Without persistent woody stems, dying completely to the ground when dormant.

Humus—Decayed organic matter such as leaf-mold, rotted manure, etc.

Hybrids—Plants that have resulted from crossing two or more distinct species.

Inflorescence—A flower cluster.

Insecticide—A preparation for killing insect pests. Insecticides are sold by dealers in garden supplies.

Leaf-axil—The angle formed by the upper side of a leaf and the stem from which it springs.

Mulch—To cover the ground about plants with a layer of compost, leaf-mold, manure, peat-moss, or similar material.

Naturalizing—Planting for informal effect and in such a way that maintenance is reduced to a minimum. Bulbs planted in grass and left undisturbed for several years are naturalized.

Nursery-bed—A plot in which young plants are grown until they are large enough to be set out in the flower beds or borders.

Offsets—Young bulbs that develop alongside older, "mother" bulbs.

Panicle—A type of inflorescence, a branching raceme.

Perennial—A plant that, in its native home, lives and blooms for two or more years.

Propagation—The methods by which new plants are obtained.

Raceme—An elongated flower cluster in which each flower has an individual stem and the flowers open upwards.

Rhizome—A horizontal stem that grows beneath or along the surface of the ground.

Root Cuttings—Pieces of root which, if placed in a suitable environment, will develop into new plants.

Rootstock—A subterranean stem; a rhizome.

Salt-hay—A dried marsh grass used for protecting plants in winter.

Sepals—The leaves of the calyx, usually just below the flower cluster, or petals.

Spadix—A thick, fleshy spike bearing numerous small flowers and surrounded by a spathe.

Spathe—The bract associated with the flowers of the Calla Lily family.

Tender—Not able to withstand freezing.

Tendrils—A thread-like organ used by some plants to twist around objects to gain support.

Transplant—To dig up and replant elsewhere.

Tubers—The underground bulb-like organs borne by potatoes, dahlias, and some other plants.

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