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# Home Flower Gardens

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Flowers should have a place in and around every home at all times, especially when they may be grown in one's own yard. The growing of flowers in a garden differs widely from that of vegetables and fruit as to purpose, satisfaction, and achievement. The purpose of vegetables and fruit is food—flowers build up morale. The satisfaction of vegetables and fruits is their palatability—flowers rest the mind and lend enjoyment through the senses of smell or sight, or both. The achievement desired in vegetable and fruit growing is a highly nutritive product which necessitates careful attention to plant food elements in the soil. With flowers, you are sure to have success, although sometimes variable, on any soil and on any location providing you choose the kind best suited for such situations.

## Soils for Flowers

A thorough spading of the soil is sufficient preparation for many flowers, while addition of various fertilizers and humus is more necessary for others. Top soil which will support grass and other plant growth will grow flowers, but if subsoil from a basement excavation is scattered over the area of the flower bed it should be removed and

good topsoil substituted. If flowers do not grow properly, the gardener first considers lack of plant food as the cause of failure. Failure may be more often due to improper drainage, poor soil aeration, improper watering, varieties not suitable to the location, root competition from nearby trees and shrubs, disease or insect injury to the roots, or planting at a time not suitable for best growth.

If fertilizing materials such as rotted manure and leaf mold are available they may be used with benefit. Rotted manure to be most effective should be supplemented with superphosphate or bone meal. Leaf mold or other compost may be supplemented with superphosphate and muriate or sulfate of potash as a substitute for manure. For best results all fertilizers should be applied to the bed and turned into and mixed with the soil as it is spaded in preparation for planting. (See Table 1 for fertilizer applications.)

TABLE 1.—FERTILIZER APPLICATIONS

| Kind | Mixed with the soil | | | As a Top Dressing For Growing Plants |
|---|---|---|---|---|
| | 100 sq. ft. of bed surface | 100 lineal ft. of row | 1 bushel of soil | |
| Rotted Manure | 2-inch deep layer | 2-inch deep layer | ¼ bushel | 1-inch deep layer |
| Leafmold | 2-inch deep layer | 2-inch deep layer | ¼ bushel | 1-inch deep layer |
| Bone Meal | 5 to 8 lbs. | 4 to 6 lbs. | ¾ lb. | 2 lbs. per 100 sq. ft. |
| Superphosphate | 5 to 8 lbs. | 4 to 6 lbs. | ¾ lb. | 2 lbs. per 100 sq. ft. |
| Muriate of Sulfate of Potash | 1 to 2 lbs. | 1 to 2 lbs. | 2 ozs. | ½ lb. per 100 sq. ft. |
| Ammonium Sulfate | 1 lb. | 1 lb. | 1 oz. | ¾ to 1 lb. per 100 sq. ft. |
| Nitrate of Soda | 1 lb. | 1 lb. | 1 oz. | ¾ to 1 lb. per 100 sq. ft. |

Root competition from surrounding trees and shrubs should be discouraged by frequently inserting a sharp-shooter spade to its full depth along the edge of the flower bed adjoining such competitors. If this precaution is not taken, ample plant food should be applied to nourish both shrubs or trees and flowers.

## Seed Sowing

Some flower seeds are scarce, and others will be scarce in the future; consequently, it will be wise to make conditions right for perfect germination of all the seed purchased. Buy what can be used, allowing for about 60% germination as a maximum. Seeds should be given a mellow seed bed, ample moisture and not too deep a covering. Covering outdoors should not exceed four times the shortest diameter of the seed. Added protection in the form of burlap or cloth shade, or lath lattice may be necessary for some perennials and biennials started in May to August for the following year's bloom. Most annuals are sown directly where they are to bloom, either broadcast in the flower

border, or in rows in the vegetable garden. When seed is sown broadcast, fine soil should be sifted over the seed as a light covering. Seed sown in rows is lightly covered by raking fine soil onto it. All seed planting should be followed by light tamping to bring the moist soil in close contact with the seed.

Seed of perennials is sown in a cold frame in May or August where the seedlings may be protected until they are large enough to be transplanted. Many of the more common perennials are more easily propagated by division of old plants, or cuttings taken early in the spring shortly after growth starts.

*Selection of Kinds and Varieties.*—There is a kind and variety of flower for every purpose and every location. Therefore in selecting flowers for your garden consult your garden first to find out what conditions prevail. Is it shady, semi-shady, or will the flowers have full sunlight? Is the soil rich or poor, moist or dry? Should the flowers be tall, medium, or dwarf? Would red, pink, yellow, blue, purple, or white colors be best? And is the planting to be permanent or temporary?

The flower garden gives a feeling of peace and security.

The accompanying Table 2 lists and gives the growing conditions most favorable for several kinds of flowers that are sure to be successful in Missouri. Such a list cannot, for obvious reasons, include all varieties

TABLE 2.—FLOWERS FOR A MISSOURI GARDEN

| Kind of Flower | Season of Bloom | Color Range* | Type of Plant | Culture† | Height | Use | Remarks |
|---|---|---|---|---|---|---|---|
| Ageratum | All summer | B,R,W | Tender Annual | III March | 6″ | Edging | Tall variety for cut flowers. |
| Babysbreath (Gypsophila) | June, July | P,W | Perennial | II May or Aug. | 18″-24″ | Border | Good cut flower. |
| Balsam (Impatiens) | All summer | R,O,P,W | Half-Hardy Annual | I May | 12″-18″ | Border | Tolerate poor soil. |
| Blanketflower (Gaillardia) | All summer | Y,R,YR | Perennial | IV Spring | 18″ | Border | Cut flower. Well drained. |
| Bugloss (Anchusa) | May, June | B | Perennial | II May | 24″-30″ | Border | Like a giant forget-me-not. |
| Butterflyweed (Asclepias) | June, July | Y,O | Perennial | II May | 15″-18″ | Border | Dry sunny location. Well drained. |
| Calliopsis (Coreopsis) | All summer | Y,R | Hardy Annual | II April I May | 18″ | Cut flower | Tolerate poor soil. |
| Camomile (Anthemis) | June | Y | Perennial | IV Spring II May | 24″ | Border | Prefers dry sandy soil |
| Cardinal Climber (Ipomoea) | All summer | R | Annual Vine | I May | 15′ | Vine | Fern-like foliage. |
| Castor Bean (Ricinus) | Aug., Sept. | R, Br | Half-Hardy Annual | I May III March in pots | 4′-8′ | Screen; Shrub substitute; tropical effects. | |
| Chinese Forget-me-not (Cynoglossum) | June, Sept. | B | Hardy Annual | I April | 15″ | Border | Cut flower. Endure shade. |
| Columbine (Aquilegia) | May, June | W,R,B,V,Y | Perennial | II May | 12″-30″ | Border | Endures partial shade. |
| Coreopsis | June | Y | Perennial | IV Spring II May | 30″ | Border | Cut-flower. well drained situation. Sandy soil. |
| Cosmos | July, Sept. | R,P,W,O | Hardy Annual | I May | 24″-60″ | Border | Background; cut flower. |
| Day Lily (Hemerocallis) | May, July | Y,O | Perennial | IV Spring | 36″ | Border | Poor soil. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Feverfew (Matricaria) | June | W,Y | Perennial | IV Spring II May | 24″ | Border | Cut flower. |
| Garden Chrysanthemum | Fall | V,P,W,Br,Y | Perennial | IV Spring | 24″-30″ | Border Cut flower | Select early, hardy, varieties. |
| Gladiolus | See Remarks | R,Y,W,V | Tender Bulbous | V April to July | 18″-36″ | Cut flower | Successive bi-weekly plantings, April to July. |
| Hardy Aster (Aster) | June-Fall | V,P,W | Perennial | IV Spring II May | 12″-36″ | Border | Cut flowers. Well-drained location. |
| Hollyhock (Althea) | June, July | R,P,Y,W | Biennial | I April | 4′-6′ | Border | Background. |
| Iris | May, June | R,V,B,Y,W | Perennial | IV July | 8″-48″ | Border | Well-drained location. |
| Kansas Gayfeather (Liatris) | July | V,W | Perennial | II May | 36″-60″ | Border | Background Well-drained location. |
| Larkspur (Delphinium) | May, June | V,B,P,R,W | Hardy Annual | I Nov. or March | 24″-36″ | Border | Cut flowers |
| Lily, Regal | June, July | W | Hardy Bulb | V Aug. or Sept. | 48″ | Border | Plant 8″ deep. |
| Lily, Tiger | July, Aug. | O | Hardy Bulb | V Sept | 36″ | Border | Plant 6″-8″ deep. |
| Lily-of-the-valley (Convallaria) | May | W | Perennial | IV Fall | 8″-12″ | Edging | Shady location. |
| Marigold (Tagetes) | All summer | Y,R.O | Half-Hardy Annual | I May | 12″-36″ | Edging or Border | Dwarf French for edging. Tall African for cut flower. |
| Mist Flower (Eupatorium) | Sept. | B,W | Perennial | IV Spring | 24″ | Border | Cut flower. |
| Morning Glory (Convolvulus) | All summer | R,P,W,B | Hardy Annual Vine | I May | 10′ up | Vine | Tolerate poor and dry soil. |
| Moss Pink (Phlox) | April | P,R,V,W | Perennial | II May IV Spring | 4″ | Edging | Rock gardens. |

*Color Range—Symbols refer to the following: R=red, including magenta; P=pink; Y=yellow; O=orange; B=blue; V=violet and purple; W=white; Br=bronze.

†Culture refers to the following practices at the time of year designated in the **Culture** column: I=sow seed in the row, bed, or border where the plants are to mature. Thin out so as to produce well-branched plants; II=sow seed in outdoor seed bed or cold frame to be transplanted; III=sow indoors for extra early start; IV=propagate by division, cuttings, or other vegetative means; V=plant bulbs.

TABLE 2 (CONTINUED).—FLOWERS FOR A MISSOURI GARDEN

| Kind of Flower | Season of Bloom | Color Range* | Type of Plant | Culture† | Height | Use | Remarks |
|---|---|---|---|---|---|---|---|
| Narcissus | April, May | Y,W, Bicolor | Hardy Bulb | V Oct.Nov. | 12″-18″ | Border Naturalizing | Includes daffodil, jonquil, and poets narcissus. |
| Ox-eye Daisy (Chrysanthemum) | May, June | W | Perennial | IV Spring | 24″ | Border | Cut flowers. |
| Painted Daisy (Pyrethrum) | May, June | R,P,W | Perennial | II May | 24″-30″ | Border | Cut flowers. |
| Peony (Paeonia) | May | R,P,W,Y | Perennial | IV Aug. or Sept. | 30″-36″ | Border or Accent | Cut flowers. |
| Petunia | All summer | W,P,R,V,Y | Hardy Annual | I, II, or III Spring | 12″-18″ | Border or Edging | Porch boxes, bedding. Tolerate poor soil. |
| Poppy, Oriental (Papaver) | May, June | R,P,W | Perennial | I May or Oct. IV July | 24″-36″ | Border Accent | Foliage dies down after flowers. |
| Portulaca | All summer | R,Y,O | Hardy Annual | I April | 4″-6″ | Border Edging | Hot, dry, sunny location. |
| Sweet Pea (Lathyrus) | June, July | R,W,B,P,V and O | Hardy Annual | I Nov. or Feb. | 6′-8′ | Vine | Cut flowers. Fragrant. |
| Sweet Pea (Lathyrus) | June, July | P,W | Perennial | IV Spring II May | 6′-8′ | Vine | |
| Tulip (Tulipa) | April, May | R,W,V,O,Y and Br | Hardy Bulb | V Nov. | 12″-36″ | Border | Early Single, Darwin, Breeder, Cottage in order of successive bloom. |
| Woolflower (Celosia) | Late summer | R,Y | Tender Annual | I April | 12″-48″ | Border or edging | Some good cut flowers. |
| Yucca | June | W | Perennial | IV Spring I May | 4′-6′ | | Use as accent. Dry sandy soil. |
| Zinnia | June-Fall | R,Y,W,V P, and O | Half-Hardy Annual | I April | 12″-36″ | Border and Cut flower | Pumila, Lilliput, and Dahlia, Flowered types best. Tolerate dry soil. |

*Color Range—Symbols refer to the following: R=red, including magenta; P=pink; Y=yellow; O=orange; B=blue; V=violet and purple; W=white; Br=bronze.

†Culture refers to the following practices at the time of year designated in the Culture column: I=sow seed in the row, bed, or border where the plants are to mature. Thin out so as to produce well-branched plants; II=sow seed in outdoor seed bed or cold frame to be transplanted; III=sow indoors for extra early start; IV=propagate by division, cuttings, or other vegetative means; V=plant bulbs.

available. Standard varieties are to be recommended in preference to the so-called "new varieties" or "novelties."

A Victory Flower Border composed of flowers in patriotic colors is very desirable. This may be planted to all one kind of flower choosing varieties of suitable colors, or may be composed of mixed kinds of flowers. A few suggestions are shown in Table 3.

TABLE 3.—A VICTORY FLOWER BORDER

| Kind of Flower | Variety for Color | | |
|---|---|---|---|
| | Red | White | Blue |
| Larkspur | Dazzler | White King | Blue Bell |
| Sweet Pea | Grenadier | White Harmony | Mrs. H. Hoover |
| Petunia | Glow | Snowball | Cornflower Blue |
| China Aster | Heart of France | White | Azure Blue |
| Scabiosa | Cherry Red | Shasta | Blue Moon |
| Verbena | Brilliant | Gigantea alba | Annapolis Blue |
| Cornflower | Red Boy | Snowman | Blue Boy |
| Gladiolus | Dr. F. E. Bennett | Maid of Orleans | Blue Danube |
| Mixed | Red Cosmos | White petunia | Ageratum |
| | Red Four O'clocks | White annual phlox | Blue petunia |
| | Red Poppy | White zinnia | Nierembergia |

*Where to Plant.*—Flowers have a place in every portion of the home grounds, providing they are wisely selected and properly located. Flowers in the front yard should be around the borders only, never as a bed in the middle of the yard. The plants chosen for these locations may be semi-formal in appearance and preferably of long-season blooming habits, used to supplement or accent the shrub and foundation plantings. Most of the flowers should be located in the out-door living room where they may be enjoyed as they grow naturally. The simplest arrangement, and most satisfactory, is a flower border using tall varieties for background, short ones for edging, and medium heights predominant between. A flower garden may be a one-color garden, an annual garden, a perennial border, a rock garden, a water garden, an old-fashioned garden, a fragrant garden, or other combinations of the gardener's choice.

Another place to plant flowers is in the vegetable garden. Here should be planted the taller varieties to be used for cut flowers. Flowers planted in the vegetable garden will produce finer blooms and with less care than in the flower garden. Certain of the fast growing annuals or vines may be used to screen objectionable sights or serve as boundaries to the property as a whole or its several divisions.

## Care of the Flower Garden

*Planting.*—Early planting of flowers in Missouri is very important. Seed of the hardy and half-hardy annuals may be sown out of doors as soon as the soil may be tilled in late winter or early spring. Transplanting of pansies, English daisies, etc., from the coldframe is best accomplished at this season of the year also.

Seed of the tender annuals is planted after the frost free date, when the soil is warm and mellow and conducive to rapid germination and growth. Seed is sown usually rather thickly and consequently the plants are quite close together. Better plants and flowers will be produced if all intermediate seedlings are removed so as to space the established plants 6 to 18 inches apart, depending upon the ultimate maximum growth. Many plants thus removed may be replanted in another area if so desired. A transplanted plant should be watered thoroughly and considered as sick for several days until it is established. In other words, constant attention is necessary. Water when necessary and shade during the hottest part of the day if required. A depression in the soil immediately surrounding the plant assists greatly in keeping the water where it will do the most good.

The outdoor living room provides ideal accommodations for entertainment.

*Cultivation.*—Early cultivation should be practiced to eliminate the small weeds before they have a chance to compete with the flowers. Tools should be chosen which will save labor and energy, as the job should be completed in time for the gardener to rest and enjoy the "fruits of his labors." The tools which will do the most complete and thorough job of cultivating are the garden hoe, scuffle hoe, and four-tined weeder. All of these have long handles and thus eliminate excessive "back bending." Cultivation should be just deep enough to cut

off the weeds and yet not injure the roots of the flowers. Attention to cultivation as soon as the soil is tillable after a rain or heavy watering will leave the soil in good condition to absorb the next moisture falling upon it.

*Watering.*—Thorough, infrequent, heavy waterings in which enough water is applied to thoroughly saturate the soil to a depth of six or eight inches should be the general practice. If a lawn sprinkler is used, place a deep can under the shower of the sprinkler to catch the water and thus determine how much water is falling on the area being watered. When the can is filled 2 to 3 inches deep, sufficient water has been applied, providing there has been no run-off of the water from the surface.

A device which insures watering to the proper depth, but requires more of the gardener's time, is the subsurface irrigator. This is simply a pipe which may be attached to the end of the garden hose to insert in the soil and thus direct the water to the roots. The water is allowed to flow at each insertion until it rises to the surface. This method of watering is best adapted to spot watering of trees, shrubs, and flower beds, but not to watering the general lawn surface or other large area.

*Feeding.*—The fertilizer most needed by growing plants is nitrogen. Nitrogen in the form of nitrate of soda or ammonium sulfate should be broadcast on the soil surface around the plants, with care not to allow the dry salt to fall on the foliage. (See Table 1 for quantities to apply.) After it is scattered it should be cultivated into the soil and watered immediately. This feeding may be repeated at three week intervals from June to August with rewarded success.

*Summer Mulching.*—A one- or two-inch layer of rotted grass clippings, leaf mold, rotten manure, or peat moss applied to the surface of the flower bed in June prevents excessive evaporation of moisture from the soil surface, adds organic matter, and reduces soil temperature to a minimum more conducive to good plant development.

*Cutting Flowers and Pruning.*—The cutting of flowers in the flower border or foundation planting should be limited to a pruning operation. The flowers only are removed to prevent their going to seed and thus encourage more flowers to develop. Here consideration is given to leaving the best part of the plant for producing a second or third crop of flowers.

The flowers in the vegetable garden were placed there to be cut for cut flowers. No attention need be paid to how the remaining plant will look only as it affects flowers that may be wanted later for cutting. Flowers should be cut early in the morning and placed in cool water for a few hours before arranging in bowls or vases. One should cut low enough to give a stem of fair length, but also exercise

care to cut above a shoot bud (in the axil of every leaf) to insure more flowers later.

Flowers out-of-doors around the home should always be supplemented with one or two vases or bowls of cut flowers indoors. A living room is more enjoyable, food is more palatable, and the house work is less drudgery if a few flowers are present.

*Insect and Disease Control.*—Complete control of garden pests can be insured only by close adherence to the old adage "an ounce of prevention is worth a pound of cure." Spray or dust early in spring as soon as growth starts and maintain a regular schedule of applications every two weeks thereafter throughout the summer. Preparations for the control of pests purchased from a reliable company should give good control if properly applied. Proper application implies careful attention to dilutions and directions, timely application, good apparatus for spreading the material, and thorough coverage of insects present and of both upper and lower surfaces of leaves.

Insecticides and fungicides are equally effective in either dust or spray form if the correct materials are properly applied. A good dusting material for both insects and disease may be inexpensively prepared at home as follows: Mix thoroughly 9 parts dusting sulfur (not flowers of sulfur), 1 part arsenate of lead, and 1 part snuff or nicotine dust, and apply with a dusting gun.

If a sprayer is available a poisoned Bordeaux is most economical and effective. Dissolve 5 ounces of fresh hydrated lime in 1½ gallons water; dissolve 3 ounces powdered copper sulfate (bluestone) in 1½ gallons of water, pour the two solutions together (makes 3 gallons). and add 1 ounce arsenate of lead and 3 tsp. Black Leaf 40 to the solution. This is ready for application. The foliage will become slightly discolored from the use of the spray, but it will still be healthy.

*Saving Seed.*—Conservation of seed is important when there is likely to be a scarcity. Saving of seed can have two meanings—saving excess seed purchased, and saving seed produced in the garden. Excess seed should be placed in a small bottle or vial—the more nearly the seed fills the container the better—and left in a cool place. If there is space in the refrigerator where the temperature is 45° to 55° F. the seed will keep best. Saving seed from the garden is not always satisfactory since colors rarely come true a second year. A pink zinnia and yellow marigold cannot cross and produce a "zinnigold," but a self-fertilized pink zinnia or pink zinnia crossed with a yellow zinnia will often produce colors other than the original pink the next year. Flowers like the regal lily, coral bells, and others which are true species will reproduce true to kind from their own seed.

*Winter Care.*—Winter care of the bed where annuals were grown consists simply of spading the area in the fall for the following spring. Late fall spading exposes many diseases and over-wintering insects to freezing. This is recommended as an aid to control of insects and diseases—not a panacea for all garden ills.

The care of the perennial border is a little more exacting. All refuse should be removed after a killing frost and the soil surface covered with a mulch to prevent heaving of the plants by freezing. A good mulch should not compress so tightly as to exclude air from the soil. Fresh leaves are the very worst kind of winter mulch. Rotted leaves are better, but straw, marsh hay, or evergreen boughs are best. Fresh manure should be used rather sparingly. The mulching material should be placed evenly over the soil surface except where there are plants such as Madonna lilies, foxgloves, etc. which retain green leaves throughout the winter. Plants of this type should have the mulch carefully distributed around the plant and under the leaves.

About the time crocus and snowdrops appear in the spring the mulch should be removed. At this time a light application of rotted manure and bone meal may be distributed over the bed surface and stirred into the top three or four inches of soil.