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Home Grown Flowers

A. L. Ford

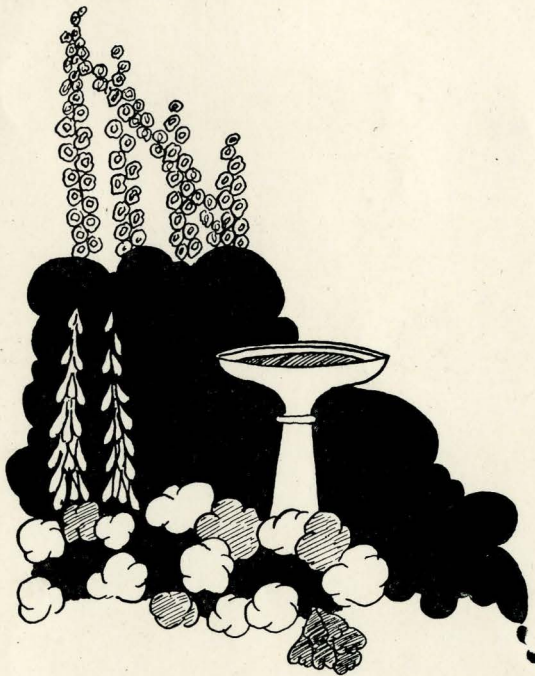
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Home Grown Flowers



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Home Grown Flowers

A. L. Ford

Extension Horticulturist

IT is a foregone conclusion that all women, and most men and children, like flowers and have a desire to grow them. People in every walk of life whether on the farms or in the towns and cities can find much recreation, satisfaction and pleasure in the growing of flowers at home. Here in South Dakota, where much of our landscape is of the so-called monotonous prairie type, flowers are all the more valuable.

The purpose of this circular is not to encourage people to grow flowers through the use of flowery language and beautiful poetry but rather to give practical facts concerning flower growing that everyone can put into practice at home. Furthermore, this circular is not written for the person who has become a specialist in flowers, but rather, it is for the person who knows little about flower growing but who is looking for information on the correct way to start. Scientific names will be avoided in so far as possible except in the recommended lists of varieties best adapted to South Dakota conditions.

It is true that much of South Dakota is unfortunately located as far as flower growing is concerned. We live in a climate of extremes. Our flower gardens cannot be expected to compete with those farther south and east where a more favorable climate for flowers is enjoyed. Regardless of this fact we can grow flowers in all parts of the state if the hardy and drought resisting varieties are used. It has been wisely and truthfully that that the "The value of things depends on the labor it requires to produce and obtain them." If this be true, flowers should mean more to South Dakota people than to the average.

Planning The Flower Garden

Few successful flower gardens are grown without first planning out in detail. Without a plan the planting of necessity will be haphazard. This is bound to give poor satisfaction. Without a plan there will probably be color clashes, wrong arrangement as to height, crowding, shade damage, long bloomless periods, etc. Planning the flower garden is a job for winter days. One should know at least approximately where each variety is to go well before planting time.

Some knowledge of plant materials is essential in planning a flower bed, border, or complete garden. The best results are secured by those who know exactly how the chosen plants will behave under normal outdoor conditions. Thorough knowledge of the following points is necessary to arrange properly the varieties of flowers in the garden:

1. Length of life of plant. Is it an annual, biennial or perennial?
2. Height under different soil and moisture conditions.
3. Lateral spread.
4. Habit and growth—prostrate, erect or climbing.
5. Length and time of flowering period.
6. Color of bloom and foliage.
7. Moisture requirements.
8. Sun or shade requirements.
9. Hardiness.

All of these points must be taken into consideration if the various varieties are to be properly arranged in the general scheme of the garden.

Flower-Beds vs. Borders.—As a general rule borders are better than beds in planting annual flowers and always so with perennials. Beds should be reserved for formal gardens where an elaborate display is desired. One of the most conspicuous mistakes, much in evidence everywhere, is the cutting up of the front lawn with numerous flower beds. This mistake oftentimes is exaggerated by placing old auto tires, or white-washed stones for edging around these beds. In connection with annual flowers,

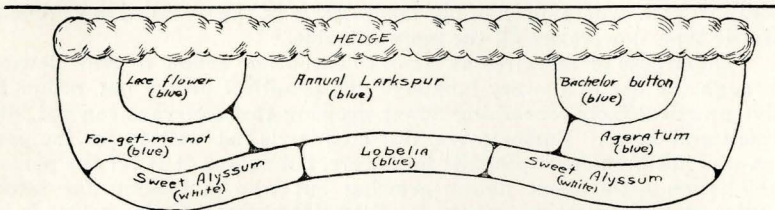


Fig. 1 An annual border with a clipped hedge for a background.
(Blue trimmed with white.)

cutting beds or rows in the vegetable garden should be commended. By using such beds from which to take cut flowers for the house, the blooms in the borders about the yard are left intact, thus making such display borders more effective.

Flower borders may vary in width from three to as much as twelve feet. The length of such borders is governed entirely by the size and shape of the yard in which they are planted. In informal arrangements, it is better to make these borders somewhat irregular, that is—edges should be curved and some parts of the border made wider than others. Borders that are too wide are difficult to maintain; if they are made too narrow they give the appearance of being merely a row and not a border. Under average conditions, borders from six to eight feet wide are the best.

Back-grounds for Flowers.—A back-ground with a greater height than the flowers helps much to set off the border. The border which stands alone on level ground with nothing to back it up often appears stiff and rather unpleasing. A clipped hedge marking the limit of the yard makes an excellent back-ground for both annual and perennial flower borders. Mixed shrub planting at the edges or corners of the lawn or vine-covered lattice fences also make pleasing back-grounds for flowers.

During recent years, interest in special kinds of gardens has been coming forward rapidly. Rock gardens, water gardens or pools, and wild flower gardens have become very popular. Such gardens are excellent in their place. The mere fact that "the Jones" boast one or all of these special gardens is not always a good reason for putting one in, however. Many areas are better fitted for simple border planting or an old-fashioned formal garden.

Fundamental Rules in Flower Border Design.—1. It is always well to keep annuals and perennials separated in flower borders. It should be remembered that perennials are permanently located and annuals are planted each spring. Where these are mixed, many perennials are bound to be dug up when the annuals are planted in the spring.

2. Single specimens lose their identity. Always use enough plants of one variety in a group to make them noticeable.

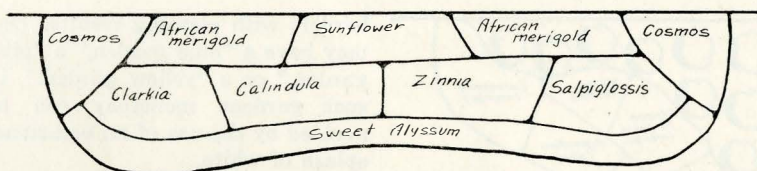


Fig. 2 A tall annual border without a background. (Pink and yellow edged with white.)

3. Always plant the taller-growing varieties on the side of the border away from the area to be beautified. The low-growing sorts, of course, should be in front. Never hide small plants with tall ones.

4. The heights of plants used in the border should be governed by the width of the border. Tall plants should only be used in wide borders. Where borders are fairly narrow it is better to use only the medium or dwarf varieties.

5. Flower varieties should be selected for the border so that something will be in bloom in the border all through the growing season. This bloom should not be all in one place but well distributed.

6. The varieties selected should be suited to their location, giving consideration to sun, shade and moisture requirements.

Color in the Flower Garden.—In nature there is no such thing as an ugly color. Any color in the garden that is unpleasing is not due to the particular color itself, but rather to the unhappy combination of one or more adjacent colors not suited to it. The so-called color clashes can be avoided by wise planning and selection before planting time. It should be remembered that green is the dominant color in nature, and therefore it should be used freely. White and grey harmonize with all colors but should not be over-worked. If any color requires the use of the soft pedal, it is red. A little red goes a long way; therefore, it should be used very sparingly. Bright orange and yellow are also classed as warm colors, too much of which may produce discord. As a rule it is always safe to go strong on the cool, retiring colors such as blue, pink, violet, lavender and purple.

In the selection of varieties for color harmony, considerable difference exists between the perennial border and the annual border or bed. With perennials the scheme is constantly changing because most perennials have a comparatively short blooming period. On the other hand, most annuals bloom throughout the season; therefore, such borders retain a fairly uniform complexion all summer.

Volumes could be written on color combinations. Space will allow a mere touching of the subject here. With a proper natural back-ground such as shrubbery or a hedge, large clumps of a single-colored flower can be used with real effect. Most flower blooms are tints or shades of the fundamental colors. The lighter the tints the more harmonious the blending when arranged in combinations. Variations of a single color may be used in entire

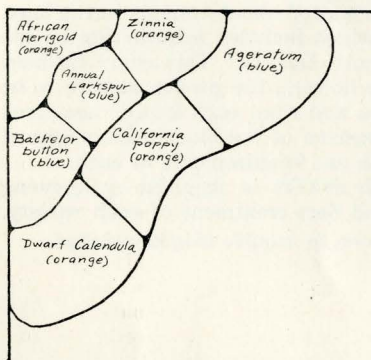


Fig. 3 A corner bed of annual flowers without background. (Contrasting colors, orange and blue.)

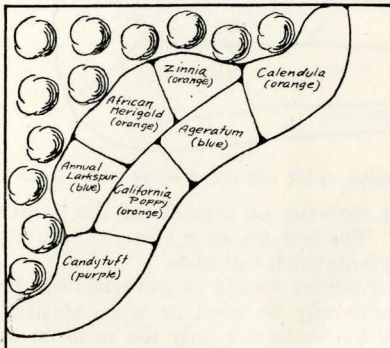


Fig. 4 A corner of annuals in front of a mixed shrub planting. (A contrast between yellow and blue.)

borders with pleasing results. One may have a "blue garden," a "pink garden," or a "yellow garden." In such gardens monotony can be avoided by the use of an occasional splash of white.

Sharp contrasts in color always add to the beauty of the flower garden. A few examples of such color contrasts will explain this better than descriptive words. Purple petunias and white sweet alyssum make a pleasant contrast. Orange African marigolds and blue bachelor's buttons is another; while a third is orange calendars and blue ageratum.

Flower borders or beds of mixed color are always good. The secret of success with color mixtures is to have an equal amount of each color. No one color should dominate the border in this case. In purchasing seeds for such a border, one had better stay away from seed mixtures. It is better to buy seeds of single colors and do your own mixing to suit yourself. This holds true in purchasing all flower seeds.

Annual Flowers

Since there are hundreds of annual flowers that can be successfully grown in South Dakota, it is impossible in a circular of this kind to thoroughly discuss and describe each of them separately. It is our intention to include information on the more important annuals in a brief concise manner that will be of assistance to those who are not thoroughly familiar with flower growing. For those persons who have been growing annuals for years and have become specialists on the subject we wish to say that this circular will contain nothing but what they already know. This circular is designed for the person who wishes to grow flowers but who knows little about the subject.

In order to give the most usable information about annuals in the least space we have devised a flower chart, which includes information on the annuals most successfully grown in South Dakota. This chart includes the scientific and common names of the flowers, the proper culture to be used in growing each, a brief description and what each kind is best used for in the flower garden, the color and season of the bloom, the height of the plants, and information on the habits and requirements of each.

The greatest degree of success with flowers is acquired by knowing the likes and dislikes, natural habits and best treatment of each variety. This chart if used and studied will help one to acquire this knowledge.

Annual Flower Chart

Varietal and Common name	Culture Index	Form and best use	Color and season of bloom	Height	Features of special interest
Acroclinium (Everlasting)	3	Upright and graceful. Good in mixed borders.	Pink, white. July and Aug.	1-2 ft.	Very dainty as dried flower. Good for cutting as well.
Ageratum (Floss flower)	4	Bushy and compact. Edging or mass bedding.	Blue. July to Oct.	1-1½ ft.	A profuse bloomer. Fine for porch and window boxes.
Alyssum (Sweet alyssum)	4	Dwarf and compact. Best edging plant.	White, lavender. June to Oct.	4-6 in.	Does well in shade. Good in rock gardens.
Antirrhinum (Snap dragon)	4	Tall upright spikes. Good for bedding or border.	Various colors July to Oct.	1-2 ft.	Will stand partial shade. Good cutting.
Aster (China aster)	2	Good for bedding or borders	Various colors July to Oct.	1-2½ ft.	Very good for cut flowers.
Balsam (Lady slipper)	3	Medium tall, upright. Excellent for borders.	Mixed colors. Aug. to Sept.	1½-2 ft.	Prefers full sunlight. Good as a low hedge.
Calendula (Pot marigold)	1 or 2	Bushy and compact. Best in beds.	Yellow, orange. July to Oct.	1-2 ft.	Very easy to grow. Succeeds in partial shade.
Calliopsis (Annual Calliopsis)	3	Wiry stems-branching. Good in mixed border.	Yellow, crimson, brown. All summer.	1-1½ ft.	Fine for cutting. Needs full sun.
Candy tuft (Iberis)	4	Low and compact. Excellent edging plant.	White, crimson lavender. June Oct.	6-12 in.	Good cut flowers. Delicately fragrant.
Castor bean (Ricinus)	3	Tall and upright. Tropical appearance.	Flower inconspicuous.	4-8 ft.	very useful as a screen planting
Celosia (Cockscomb)	2	Upright in growth with silky flower plumes.	Crimson to yellow. July-Aug.	2-2½ ft.	Good in mixed border. May be dried for everlasting flowers.
Centaurea (Corn flower or bachelor's button. Also sweet sul-tan)	3 or 4	Very upright, branching. Best in massed beds.	Red, blue, white, yellow. All summer.	1½-2 ft.	Excellent for cutting. Keep flowers cut for continuous bloom.
Chrysanthemum (Painted daisy)	3	Upright and branching. In border or massed.	Yellow, brown. July-Sept.	2-3 ft.	Foliage very ornamental. Provides many cut flowers.
Clarkia	3	Medium tall and branching. Beds, borders or hanging baskets.	Rose, pink, white. July-Aug.	1-2 ft.	Thrives in sun or shade. Makes good house plant.
Cleome (Spider plant)	3	Upright and bushy. Often used with shrubs.	Rose, white July-Aug.	1-2 ft.	Good for annual hedge.
Cosmos	2 or 3	Tall and upright. Fine for tall borders.	Rose, pink, white. Aug.-Sept.	4-5 ft.	Both single and double kinds. Excellent for cutting.
Cynoglossum (Summer forget-me-not.)	3	Good in blue gardens and in mixed borders.	Blue.	1-1½ ft.	Enjoys partial shade. Flowers fragrant.
Dianthus (Garden pink)	3	One of the old favorites. Useful in most locations	Various colors July-Sept.	9-12 in.	Both singles and doubles. Succeeds most everywhere.
Didiscus (Queen Ann's lace flower)	1 or 3	Upright. For border or bedding.	Delicate blue July-Sept.	1-2 ft.	Excellent for cutting. Needs, cool, moist soil.
Dimorphotheca (African Daisy)	1	Fine, bushy border plant. Good for cut flowers	Orange, yellow July-Sept.	12-15 in.	Flowers close in evening. Prefers full sunlight.

Varietal and Common name	Culture Index	Color and season of bloom	Form and best use	Height	Features of special interest
Eschscholtzia (California poppy)	3	Very showy, semi-dwarf. For low-borders or beds.	Golden yellow June-Aug.	9-12 in.	State flower of California. Does not transplant well.
Euphorbia	3	Upright and branching. Beautiful foliage plant.	Flowers inconspicuous.	2-3 ft.	Grown only for foliage.
Four o'clocks	3	Plants bushy. Good for annual hedge.	Mixed colors July-Sept.	2-2½ ft.	Foliage very beautiful. An old garden favorite.
Gaillardia (Blanket flower)	1 or 3	Very showy flowers. For beds and borders	Reds, yellows. June-Aug.	1½-2 ft.	Useful for cut flowers.
Godetia (Satin flower)	3	Dwarf and compact. Good in the border.	Crimson, white June-Sept.	9-15 in.	Showy and attractive. Bloom resembles small hollyhock.
Gypsophila (Annual Baby's breath)	3	Fine airy foliage. Plant in mixed border.	Various colors July-Sept.	1-2 ft.	Very easy to grow. Good for bouquet trim with other flowers.
Helichrysum (Straw flower)	2 or 3	Upright and branching. Good in masses.	Mixed colors July-Sept.	2-3 ft.	Colors brilliant. Unexcelled as dried flowers.
Larkspur (Annual larkspur)	1 or 4	Tall and branching. Flowers in spikes.	Blue, lavender, red. July-Sept.	2-2½ ft.	Beautiful in blue gardens. Excellent as cut flowers
Lobelia	1	Low and compact. Useful as an edging.	Deep blue. July-Sept.	6-9 in.	Fine for window and porch boxes. Prefers partial shade.
Lupine (annual)	1 or 2	Very robust plants. For borders or masses.	Blue, pink, white. July-Aug.	1½-2 ft.	Foliage attractive. Does well in partial shade.
Marigold (African)	1 or 2	Tall upright and robust. Makes good background for lower sorts.	Orange, lemon-yellow. Aug.-Sept.	2½-3 ft.	Excellent cut flowers. Flowers have unpleasant odor.
Nasturtium	1	Both dwarf and tall sorts. Bushy and compact.	Yellow, red. June-Sept.	½-1 ft.	Climbing or trailing sorts. Good in beds, boxes or baskets.
Pansy	4	Low and spreading. Unexcelled for bedding.	Many colors. Bloom all summer.	4-6 in.	Fine as cut flowers. Best in partial shade.
Petunia	2	Low, trailing plants. For beds or borders.	Various colors July-Sept.	9-18 in.	Excellent for porch boxes. Endures partial shade.
Phlox (Annual)	4	Both tall and dwarf sorts. Best in masses.	Various colors July-Sept.	6-18 in.	An excellent ground cover. Very good as cut flowers.
Poppy	4	Compact plants, tall stems. For borders or beds.	Many bright colors. July-Aug.	1½-2 ft.	Foliage ornamental. Will not stand transplanting.
Portulaca (Moss rose)	3	Low and creeping. Good for edging.	Many colors. July-Sept.	2-6 in.	Good ground cover. Very drought resistant.
Pyrethrum (Golden feather)	3	Dwarf and compact. Mainly used in edging.	Grown for its foliage.	6-9 in.	Beautiful golden foliage. Will stand partial shade.
Rudbeckia (Coneflower)	2 or 3	Dense bushy plant. Useful in tall border.	Bright yellow. Aug.-Sept.	2-2½ ft.	Lasts long as cut flowers. Stands partial shade.
Salpiglossis (Velvet flower)	3	Upright and branching. Best in mixed border.	Many and brilliant. July-Sept.	2-2½ ft.	Flowers abundantly. Good as cut flowers.

Varietal and Common name	Culture Index	Form and best use	Color and season of bloom	Height	Features of special interest
Salvia (Scarlet sage)	1 or 2	Very bright and dense. For bedding or border.	Scarlet. Aug.-Sept.	2-3 ft.	Good as annual hedge. Adds color to border.
Sapenaria (Bouncing bet)	3	Open, graceful growth. Plant in mixed border.	Pink, white. July-Sept.	2 ft.	Excellent for cutting. Good as a bouquet trim.
Scabiosa (Mourning bride)	1	Bushy plant, long stems. Good in masses or border.	Mixed colors. July-Sept.	2-2½ ft.	Flower attracts bees and butterflies. Good for cut flowers.
Statice	1 or 3	Open, airy flower heads. In mixed borders.	Blue, rose. Aug.-Sept.	1½-2½	Popular as bouquet trim. Much used for drying.
Stocks (Gilliflower)	2	Upright and branching. Massed or in border.	Various Aug.-Sept.	1-2½-ft.	Both double and single sorts. Keep cut for continuous bloom.
Sweet Peas	5	Both dwarf and climbers. Grow in rows with fence to climb or	Many colors. June-Sept.	1-4 ft.	Most popular annual. Keep flowers cut for continuous bloom.
Verbena	3	Low and trailing. For edging or beds.	Many colors. July-Sept.	6-12 in.	Good in porch boxes. Will stand partial shade.
Vinca	1	Compact and bushy. Use as border.	Pink, white. July-Sept.	1½-2 ft.	Has shiny green foliage. Useful as border hedge.
Zinnia	1	Bushy, branching plants. Fine in beds.	Many colors. July-Sept.	1-3 ft.	Both tall and dwarf sorts. Easy to grow. Needs full sun.

The following cultures for growing annual flowers are referred to in the second column of the above flower chart. This information is useful in that it will help to get the best results from annual flower seeds.

1. After all danger of frost is past in the spring and the soil is warmed up, sow the seed in open ground in the permanent location chosen for the plant. Small fine seeds should be very lightly covered with soil when planting. The larger seeds can be planted slightly deeper. Firm the soil over the seeds after planting as this brings the moisture to the surface.

It is an excellent idea to cover the seed bed immediately after planting with old pieces of burlap, coarse cloth or newspapers. This holds the moisture and prevents the soil from baking before the tiny plants are up. As soon as the plants break through the surface this covering should be removed.

If the plants are too thick in places, pull some and transplant to the places where the stand is not thick enough. Keep the soil loose at all times around the young plants. Flowers of this class will bloom earlier if the seed is started early in window-boxes or in hot-beds for transplanting to open ground after danger of frost is over.

2. A longer season of bloom will be obtained if the seeds of flowers in this class are started indoors in window-boxes or in hot-beds. Use light sandy loam soil in the window boxes and screen it. Press the seed into the soil and keep it moist by laying a newspaper directly on the soil to prevent evaporation. Keep the soil moist. As soon as the plants appear at the surface remove the newspapers. When the young plants have two or three leaves, transplant to other boxes or pots giving more room. Transplant to open ground after the soil is warm and danger from frost is past.

If the seeds are planted indoors from four to six weeks before it is safe to plant outdoors, the plants will be about the right size for setting out when the proper time comes.

3. Sow the seeds of this group directly outdoors in their permanent location as soon as frost danger is past. Seeding directions and treatment before plants are up are the same as under No. 1. In cultivating the young

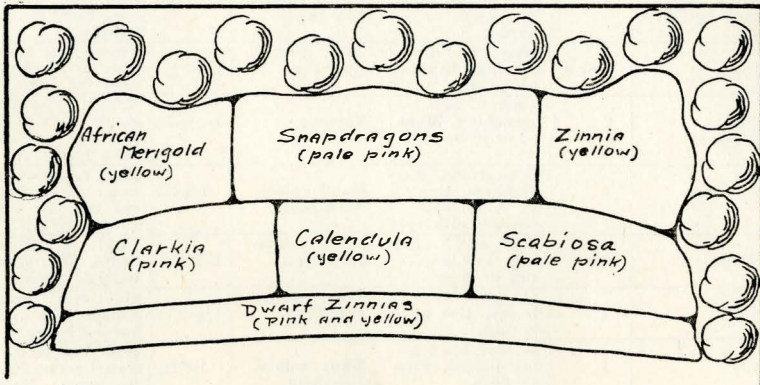


Fig. 5 An annual bed of pale pink and yellow, backed by a mixed planting of shrubs.

flowers care should be taken not to disturb the roots as this group resents such treatment. If several later sowings are made the blooming period can be extended throughout the summer and early fall.

4. Seeds of this group are very resistant to adverse conditions. The seed can be sown outdoors as soon as the soil can be worked. To get earlier blooms, seeds can be sown in the fall. In this case the seeds will germinate and come up quickly in the spring giving blooms long before those obtained from spring sown seeds. Flowers of this group will reseed themselves if the seeds are allowed to mature on the plants.

5. A high degree of soil fertility is essential for best results. Dig a trench from 12 to 18 inches deep in the fall. Fill this trench from 4 to 6 inches deep with well-rotted barnyard manure. Fill the remainder with good black garden loam. When planting time arrives in the spring, reopen the trench to a depth of about six inches. Plant the seeds in the bottom and cover with one inch of soil. As the plants grow, fill in around them until the soil is level. Plant very early in the spring, as soon as the top six inches of earth are free from frost.

Perennial Flowers

In a locality where the winters are as rigorous as in South Dakota, the character of hardiness is of vital importance in selecting varieties of perennial flowers. Anything that is not of first hardiness should be scratched from the list of possibilities for the perennial flower garden. Even with the hardiest perennials a light winter mulch of straw or leaves will lessen winter mortality.

Unlike annuals, most perennials do not bloom the entire season. Some bloom early and some late, while others have two blooming periods the same season. This means that there is a constant change in color in the

perennial garden or border. Because of this it is necessary to exercise great care in planning the border in order to avoid color clashes and in order to have something in bloom in all parts of the border during the entire season.

Most herbaceous perennials with the exception of iris, peonies, and phlox and other highly hybridized sorts will come true from seed. These also can be started by transplanting young plants either from a neighbor's flower garden or from a nursery.

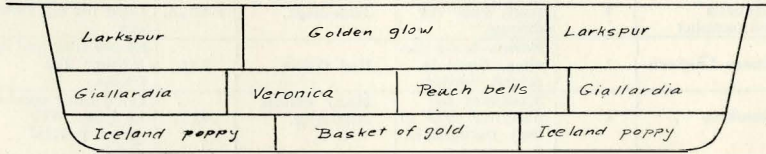


Fig. 6—A tall, simple perennial border of the contrasting colors, yellow and blue.

Since most perennials occupy the same location year after year the perennial garden or border cannot be plowed or deeply cultivated. In order to keep the plants healthy and vigorous it is necessary to keep the weeds down and the surface soil well stirred up between the plants. At least every two years liberal amounts of well-rotted manure should be worked into the surface soil between the plants. As the plants become large and woody with age it is well to take them up, divide the roots and reset them. If this is practised, there is no reason why the perennial border should not continue to be vigorous for many years.

Some perennials live but two years. These are classed as biennials. Others do not do well after the second year even though they continue to live. These sorts as a rule self-sow themselves readily and therefore should be allowed to set some seed for this purpose. This seed should be covered and the young plants cared for if one desires these sorts to occupy a permanent place in the perennial border.

Perennial Flower Chart

Varietal and Common name	Culture Index	Form and best use	Color and season of bloom	Height	Features of special interest
Anchusa	1 or 4	Quite bushy, looks well with shrubs	Blue May to July.	3 ft.	Excellent for cut flowers. Prefers partial shade.
Anemone	2	Fern-like foliage. Good in rock gardens.	Mixed colors. May to June	9 in.	Very fine for cutting. Single and double flowers.
Baby's breath (gypsophila)	1	Graceful, airy plants with fine flowers.	White. June-August	2-3 ft.	Fine for bouquet trimming. Useful in any location.
Bachelor button	1	Good in wild garden or perennial border.	White, blue. July-Sept.	2 ft.	Fine for cut flowers. Needs full sun.
Basket of gold (Alyssum Compactum)	2	Low border plants, good for rock gardens.	Yellow. May	1 ft.	Gives a second bloom in fall. Will stand partial shade.
Bell flower (Platycodon)	2	Bushy plants, good among shrubs.	Blue, white. July-Sept.	1-2ft.	Long blooming season. Will grow well where dry.
Blanket flower (gallardia)	1	Compact bushy plants—good in any location.	Yellow, red. June-Sept.	2-2½ ft.	Excellent cut flowers. Long season of bloom.

Varietal and Common name	Culture Index	Form and best use	Color and season of bloom	Height	Features of special interest
Blue bonnet (Scabiosa)	1	Foliage inconspicuous—Herbaceous border.	Lavender, blue. June-Sept.	2-3 ft.	Fine for cutting. Needs winter protection.
Candytuft (Iberis)	1	Low and compact, good for edging.	White. April-May.	6 in.	Evergreen foliage. Does well in sun or shade.
Canterbury bells (Campanula)	1 or 4	Large bushy plants good in borders.	Mixed. June-July.	2 ft.	Very hardy, self-seeding. Prefers full sun.
Carpathian harebells (Campanula)	1	Dwarf and compact, good for edgings.	Blue, white. June-Sept.	8-10 in.	Constant bloomer, good for cut flowers.
Chinese Lantern	1	Forms dense bushes. Good in mixed border.	Red fruits.	2 ft.	Bloom followed by lantern-like fruits.
Columbine	1	Excellent for massing. One of best perennials.	Many colors. May-Aug.	2-3 ft.	Good color combinations. Will stand partial shade.
Coral bells (Hemerocallis)	1	Dwarf and compact. Border or rock garden.	Red. July-Aug.	18-24 in.	Protuse bloomer. Full sun or partial shade.
Coreopsis	1	Daisy-like flower	Yellow. June-Sept.	2 ft.	Good for cut flowers. Prefers full sun.
Cup and Saucer (Campanula)	1 or 4	Plants branching, good in open border.	Mixed colors. June-July	2 ft.	Very hardy, self-seeding. Prefers full sun. Is a vine.
English daisy (Bellis)	1 or 4	Low and free blooming. Good for edging.	White, pink. April-June.	6-8 in.	Double daisy-like flowers. Prefers cool, shady spots.
Evening primrose (Oenothera)	1	Bushy plants. Herbaceous border.	Yellow. June-Aug.	2-3 ft.	Profuse bloomer. Does well in dry soil.
False indigo (Baptisia)	1	Very showy. Good in mixed border.	Blue. June-July.	2-4 ft.	Lupine-like flowers. Prefers full sun.
Fever few (Pyrethrum)	1	Erect growing	White, pink, red. June-July.	1-2 ft.	Excellent for cutting. If cut down will bloom again.
Forget-me-not (Myosotis)	1	Creeping growth. Excellent for edging.	Blue. April-June.	6-10 in.	Good in rock gardens. Does well in shade.
Foxglove (Digitalis)	1 or 4	Bloom in tall spikes. Fine with shrubbery.	Various colors June-July.	3-5 ft.	Ornamental foliage.
Globe thistle (Echinops)	1	Strong growers. Good in hardy border.	Blue. June-Aug.	2-4 ft.	Thistle-like foliage. Can be dried for everlasting.
Heliotrope (Valeriana)	1	Upright growth. Borders or in shrubbery.	Rosy-White. June-Aug.	3-4 ft.	Spreads rapidly. Very fragrant.
Hollyhock (Althea)	2 or 4	Tall growing. Background or screen.	Various colors. July-Sept.	5-8 ft.	Singles and doubles. Biennial but self sows.
Iceland poppy (Papaver)	2 or 4	Low and fern-like. Good for edging.	White, yellow. April-June.	1 ft.	Best treated as biennial. Blooms again in fall.
Iris	3	Dwarf varieties good for edging, taller varieties best in beds.	Various. Early Spring	6 in. to 2 ft.	Culture very easy. Multiply rapidly by roots.
Japanese Chrysanthemum (C. Japonicum)	1	Upright stems. Blooms until frost.	Mixed. Sept.-Oct.	2-3 ft.	Singles and doubles. Does best in full sun.
Larkspur (Delphinium)	1	Very stately plants. Herbaceous border.	Blues, purples, reds. June-Aug.	3-5 ft.	If cut will bloom again in the fall. Good for cut flowers.

Varietal and Common name	Culture Index	Form and best use	Color and Season of bloom	Height	Features of special interest
Lupine (Lupinus)	1	Bushy plant. Tall flower spike	Various May-June.	2-4 ft.	Ornamental foliage. Hard to transplant.
Oriental poppy (Papaver)	2	Fern-like foliage. Best in masses.	Orange, scarlet June-July.	2-3 ft.	Prefers full sun. Can be successfully transplanted in the fall.
Peach belis. (Campanula)	1	Erect growing. Profuse bloomer	Blue, white. June-July.	2-3 ft.	Excellent for cut flowers. Second bloom in fall.
Pentstemon	1	Dense and erect. Flower in spikes	Red. June-July.	2-3 ft.	Requires full sun.
Peony (Paeonis)	3	Can be used well as individual plants. Spreading and bushy.	Various. May-June.	1½-2½ ft.	Propagate by root division. Plant root pieces in fall.
Phlox	3	Spreading and upright. Good in mixed borders or masses.	Various. June-July.	1½-2 ft.	Good for cut flowers. Propagate by root division. Will not come true from seed.
Pinks (Clove) (Dianthus)	1	Low clumps. Excellent for edging.	Red, pink, white., May to Sept.	6-12 in.	Very fragrant. Needs full sun. An old-fashioned favorite.
Polyanthus (Primula)	1	Low and bushy. Good for edging.	Red, yellow. April-May.	6-12 in.	Foliage attractive. Does well in shade. Can be used as house plant
Rock Cress (Arabis)	1	Good in rock gardens. Good for edging or ground cover.	White. April-May.	6 in.	Does well in poor soil. Full sun or partial shade.
Shasta daisy	1	Forms clumps quickly. Best in open border.	White. July-Aug.	2 ft.	Excellent cut flowers. One of most popular perennials.
Statice	1	Fine stemmed and branching	Blue July-Aug.	2 ft.	Flowers fragrant. Good bouquet trim.
Sweet lavender (Lavendula)	1	Good border plant.	Violet July-Sept.	1-2 ft.	Flowers and foliage scented. Retains scent after drying. Needs winter protection.
Sweet Pea (Perennial) (Lathyrus)	2	Trailing vine. Profuse bloomer	Various. May-July.	6-8 ft.	Useful for fence covering. Flowers are not fragrant.
Sweet rocket (Hesperis)	1	Flowers resemble phlox. Fine with shrubbery.	Mixed colors. June-Aug.	2½ ft.	Flowers sweet scented. Will stand partial shade
Sweet William (Dianthus)	2 or 4	Excellent when massed. Herbaceous border.	Red, pink, white. May-June.	15-18 in.	Good for cut flowers. Plants should be cut back after blooming.
Veronica	1	Upright spikes. Border or rockery.	Blue. July-Sept.	2-3 ft.	One of best blues. Beautiful as cut flowers.

The following cultural practices for perennials are referred to in the second column of the perennial flower chart. This information will be of value to those who are getting started with perennials.

1. These varieties are all absolutely hardy. They can all be started by sowing the seed early in the spring and then transplanting to permanent locations the same summer. The seed can also be sown during the middle

of the growing season and transplanted to permanent locations in early September and wintered over under the protection of straw or leaves. After the first winter the perennials in this group need only the general protection given all perennials in this locality. All varieties in this group will withstand transplanting well. One can therefore get started by transplanting young plants.

2. Varieties under this group either do not stand transplanting well, or much quicker and better results will be obtained if not transplanted.

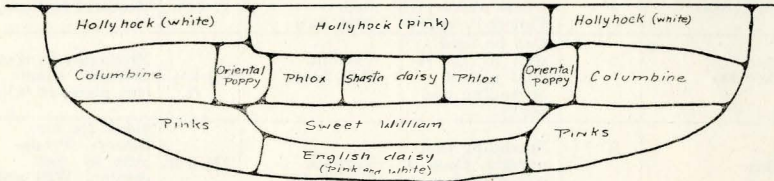


Fig. 7 A tall, old-fashioned perennial border of pink and white. A good type of border to use where an objectionable view is to be screened.

They should be sown in the place where they are to grow permanently. This necessitates planting the seeds or tubers much farther apart and thinking out after the plants are up.

3. Members of this group are best propagated by root division. This includes iris and peonies. Iris can be divided and planted any time but best results are secured if this is done in the fall. Peony roots, on the other hand, should be planted only in the early fall.

4. Varieties in this group are either biennials that live for two seasons and then die, or perennials that do poorly after the second season even though they continue to live. Most of these sorts self-sow themselves readily; therefore some blooms should always be left to produce seed. When this seed is dropped it should be covered and the resulting young plants cared for, and not pulled or hoed out. If these sorts do not seed, new seed can be sown every other year and the old plants removed as soon as the new ones appear.

Bulbs For The Garden

Certain flowering plants develop specialized buds for food storage. These are known as bulbs. These bulbs divide so readily that they form the most convenient and simple means of propagation. There are two main classes of bulbs—the hardy and the tender sorts. The hardy bulbs differ but little from ordinary hardy perennials in their garden behavior. The tender bulbs must be taken up in the fall and stored over winter in a frost-proof place.

Where the growing of bulbs for large formal gardens or pretentious beds is attempted, much expense and expert garden technique is required. Such elaborate gardens are all right in their place but they are not necessary on the average home grounds, to enjoy this type of flowering plant. Almost every home ground has a few nooks and corners which offer interesting places for planting the tulip, hyacinth, narcissus and crocus. Such bulbs can be used with excellent results in front of and among shrubs, and between perennials in the border. Some, especially the crocus and tulips, are the first things out in the spring and if distributed in these places will make them interesting long before the shrubbery and other perennials are out in the spring.

Gladioli—There are several thousand named varieties of “glads.” The gladiolus is the most popular of all bulbous flowering plants for the garden. Its low cost of growing and ease of culture makes it a flower to be recommended in every home flower garden. In clumps it combines well with annuals and many perennials.

Although the gladiolus can be grown from seed it will not come true on account of its hybrid or mixed origin. Furthermore, it requires three or four years to produce flowers from seed. The bulbs or “corms” are the best method of propagation. Each corm planted gives rise to one or more new corms for planting the following year. Cormels or bulblets are tiny bulbs formed at the base of the new corms. These will form new plants if planted about an inch deep. Plants from bulblets will not produce large flowers, as a rule, until the second year.

Set out the bulbs in early spring about four inches deep in heavy soil, and six inches deep in light soil. If the bulbs show any evidence of fungus disease soak them for two hours in a solution made by diluting one part of formaldehyde in 250 parts of water. Dig the plants in the fall before the corms are injured by freezing. Leave part of the tops on for several weeks until they are dry enough to rub off readily. Place the clean corms in shallow boxes or trays and store in a cool dry place where there is no danger of freezing. A storage temperature of 40 degrees F is ideal.

Spring Flowering Bulbs.—This group includes the tulip, narcissus, hyacinth and crocus. Since the culture of these is almost identical they will be treated as a group here.

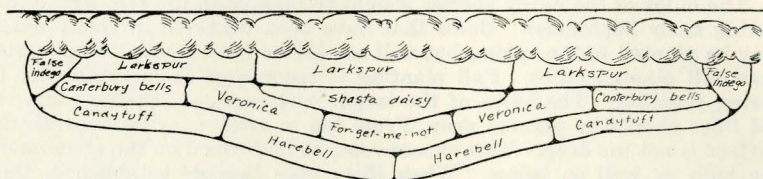


Fig. 8 A medium low perennial border of blue and white in front of a clipped hedge.

These are hardy bulbs and need not be taken up in the fall; in fact, the time to plant is in the fall. In South Dakota the middle of September is the best time to plant spring flowering bulbs. Plant from three to five inches deep depending on the size of the bulbs. If the planted areas are lightly mulched over winter after the ground is thoroughly frozen, these flowers will be benefited provided the mulch is removed early in the spring. The blooming season for tulips can be extended if the mulch on part of the planted area is not removed until later as this tends to hold them back. All spring flowering bulbs flower better if left undisturbed in the beds or borders for two or three years. If it is necessary to remove the bulbs after the blooming period to make way for planting other annuals they may be cared for by digging the entire plants and heeling-in in some out of the way place in the garden. When the tops have thoroughly dried in August the dormant bulbs should be dug, cleaned and stored in a cool, dry place until the usual September planting time. Shallow rooted annuals can be planted among the bulbs and will then occupy the space left vacant after such bulbs have ceased to bloom in the spring.

Dahlias.—The dahlia really is a tuber as is the potato but the similarity of the roots to bulbs is the reason for classifying dahlias with the bulbs.

Here again we have many hundreds of named varieties and space will not permit a listing of them here. The foliage is coarse and the growth rough thus necessitating staking to prevent the plants from breaking over. Dahlias are excellent as cut flowers and are therefore to be recommended in the home flower garden.

After the first killing frosts have blackened the foliage, the clumps of tubers should be dug. Before digging, cut the tops off a few inches above the ground. Dry the tubers in the sun a few hours then store in a cool dry place where there is no danger of freezing. If the tubers are packed in dry sand or sawdust in storage, shriveling will largely be prevented. The tubers seem to keep better if packed stems down.

The clumps of tubers may be divided with a sharp knife in the spring after the eyes begin to grow. It is necessary that each piece have at least one eye. In South Dakota dahlia tubers should not be planted in open ground too early. The last week in May is about right during the average spring. In planting, place the tubers on their sides in a hole dug about six inches deep and cover with soil lightly at first. As the plants grow fill in until level with the surrounding soil.

Hardy Garden Lilies.—Contrary to popular belief, garden lilies are not difficult to grow. Such species as the Regal lily, tiger lily, and others, are becoming increasingly popular in the home flower garden. These lilies seem to fit into any location without appearing out of place. They look well among low shrubbery, between clumps of perennials or even in a formal line along the garden path.

The bulbs of the hardy species should be planted in the fall, preferably during early September. Bulbs that have been wintered in cold storage may be planted in the spring but will not bloom until several weeks later than fall planted bulbs. Fall planting is recommended in preference to spring planting. The bulbs of the larger sorts such as the tiger and regal lilies should be planted deep. From ten or twelve inches beneath the surface is not too deep. This causes roots to be formed on the stem above the bulb as well as below. When lilies once become established, they should be left for a number of years without disturbing. Areas planted to lilies can be planted to shallow rooted annuals as these make a living ground cover that is beneficial to the lilies. Lilies often start to grow very early in the spring and in South Dakota protection from late frosts occasionally may be necessary. This trouble can be avoided if the planted areas are heavily mulched after the ground is well frozen. This holds the frost in and prevents growth from starting too early in the spring.

Porch And Window Boxes

Properly planned and planted window and porch boxes add greatly to the attractiveness of the house whether in the country or in town. This type of flower growing, however, should not be attempted unless one is situated so he can do it right because shabby, poorly kept window boxes are worse than none at all.

Constant exposure to the elements makes it imperative to use durable material in porch box construction. Cypress is the most satisfactory wood but red cedar and white pine also will give good results. Several coats of good quality outside paint will not only preserve the wood but will add greatly to the appearance. It is always well to paint the boxes so they will harmonize with the surroundings. It is a safe plan to paint them the

same as the ground color of the house. If there is some doubt as to the best color, foliage green will look good in any situation.

Drainage is necessary in all porch boxes. Bore several half inch holes in the bottom of each box and cover them with pieces of broken crockery to prevent the soil from washing through. The soil for porch boxes should be light and highly supplied with humus. Three parts of black garden loam, one part sand and one to two parts of well-rotted manure or leaf mold make an ideal porch box soil. The boxes should not be less than six inches deep or less than twelve inches wide for best results. They can be as long as necessary to meet requirements.

Perhaps the most important point is the selection of plants for the boxes. Coarse, short-lived plants should be avoided. For shady positions use only plants that will tolerate shade. From four to six plants in one box are sufficient to secure a good effect. Excellent boxes can be had by planting entirely to one species. Suggestions on suitable plant material for porch boxes are offered below:

Dwarf nasturtiums in back
Climbing nasturtiums in front for trailing effect

For sunny location

Plant entire box to Rosy Morn petunia
--

For sunny location

geranium (pink)	petunia white)	cordy- line	petunia (white)	gerani- um (pink)
ageratum	dusty miller	dusty miller	ageratum	
Vinca	Lantana	Vinca		

For sunny location

geranium (red)	geranium (red)	geranium (red)
Dusty miller	Feather-leaf	Dusty miller
Vinca		Vinca

For sunny location

Boston fern	cordyline	cordyline	Boston fern
Rex begonia	Rex begonia	Rex begonia	
Kenilworth Ivy			

For shady location

Feather-leaf	Boston fern	Feather-leaf
Wandering Jew		Wandering Jew

For shady location

UPRIGHT PLANTS FOR SUNNY LOCATIONS

Flowering plants.—Ageratum, Geranium, Heliotrope, Lobelia, Nasturtium, Petunia.

Foliage plants.—Aspidistra, Coleus, Cordyline, Dusty miller, Sweet alyssum.

TRAILING PLANTS FOR SUNNY LOCATIONS

English Ivy, Fuchsia, Kenilworth Ivy, Lantana, Trailing Lobelia, Vinca, Wandering Jew.

PLANTS FOR SHADED LOCATIONS

Aspidistra, Boston Ferns, Rex Begonias, Feather-leaf, Cordyline, Artillery plant, Kenilworth Ivy, Wandering Jew.

Suggested plans for porch boxes are given below.

House Plants

Plants have been grown within the confines of the home in all countries for hundreds of years. Some grow but a few potted plants while the genuine plant-lover often has many kinds in bloom at all times during the winter. Because of the fact that South Dakota winters are so long the growing of house plants is all the more important. The practise seems to tide the plant enthusiast over from fall until things start to grow out-of-doors again in the spring. Some have always had success with house plants while many others have long since given up in despair. The causes for these failures are many. It is hoped that the following discussion on house plants will be of assistance to those growing plants indoors in South Dakota.

Where ordinary garden soils are used for potting house plants, poor drainage, cracking and crusting are often encountered. These troubles can be avoided by adding organic matter to the soil. A potting soil that will give satisfaction is three parts of black loam, one part of sand and one part of well-rotted barnyard manure. This soil mixture will take care of the plants at all times except perhaps when additional quick-acting fertilizers are needed for stimulating growth when plants are in the active stage. When house plants are in their normal resting period the addition of extra fertilizer may be extremely harmful. Starvation treatments are far better in such cases. Quick-acting nitrogenous fertilizers such as nitrate of soda or ammonium sulphate are good stimulants but must be used with caution. A teaspoonful dissolved in a gallon of water and applied to the soil around potted plants can be considered as a safe application.

Standard unglazed and unpainted clay flower pots are the best for house plants. Glazed, hard burned, or painted pots should be used under no consideration. The unglazed clay is porous, permitting exaporation of water from within and the entrance of air from without. The so-called ferneries are very attractive but many are not supplied with effective means of drainage. Plants should not be planted directly into earth placed in such ferneries but instead the pots should be plunged to the top in moss or other absorbent material. This material will take up excess moisture and at the same time prevent too rapid drying. Inner liners for ferneries are efficient where plants are to be put directly into the soil in the fernery. These liners should fit fairly tight with a perforated bottom on cleats with a space for drainage underneath.

In potting plants, first place a piece of broken crockery over the drainage hole in the bottom. A properly potted plant should have the soil well firmed about the roots, the plant should be directly in the middle and the pot should have enough space left at the top to allow for watering. Small plants should have small pots. Never place a small plant in a large pot as it is more difficult for it to get a foothold.

The atmosphere in the average home is usually much too dry for healthy plant growth. Dry atmosphere in nine cases out of ten, is responsible for plants shedding their leaves. Many flower growers overcome this difficulty by vaporizing water over radiators, registers, or by syringing the foliage of the plants. Furnaces which leak coal gas must be repaired if one wishes success with house plants as they will tolerate very little of this.

Contrary to popular belief, cool rooms are better for plants than those that are constantly hot. A day time temperature of 70 degrees with a night temperature from 10 to 15 degrees lower is about right.

Flowering plants need plenty of direct sunlight, therefore a south or west window is the ideal location. Foliage plants do better where the light is less intense. Palms and ferns will survive in the subdued light of a north window.

More house plants die every year from over-watering, than from any other cause. When the surface soil becomes dry, watering is usually necessary and enough should be added to moisten all of the soil in the con-

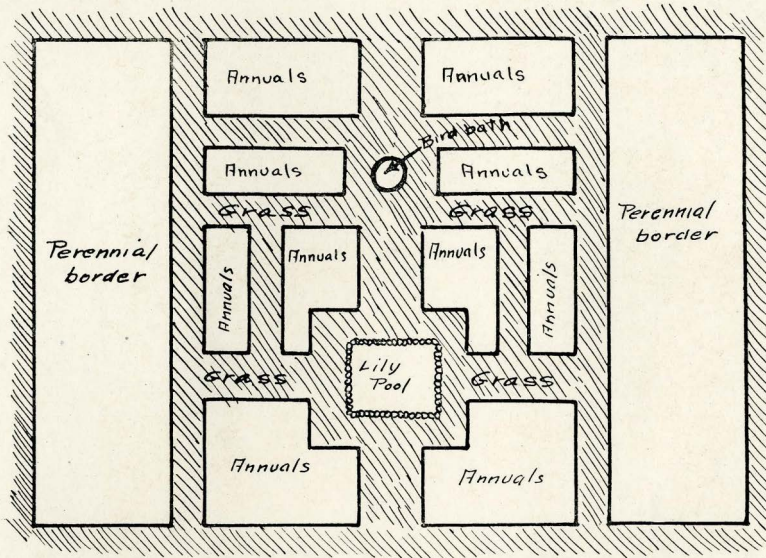


Fig. 9 A simple design for a formal garden of annuals and perennials.

tainer. Excess water which runs out into the pot saucers should be removed as water-saturated soil excludes air. Common sense and some knowledge of the plant's natural water requirements are all that is needed for success.

After all danger of killing frosts is over in the spring the house plants should be moved out of doors. Each pot should be sunk to the rim in the soil as this will help to regulate the moisture supply in the pot. Flowering plants should be given a sunny location, foliage plants in partial shade and ferns in full shade. Ordinary garden care is all that is required until September when the pots should be lifted, thoroughly washed and again placed indoors for the winter.

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