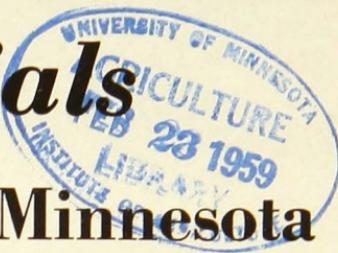


Perennials for Minnesota

Ext B
292



C. GUSTAV HARD

This archival publication may not reflect current scientific knowledge or recommendations.
Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>

UNIVERSITY OF MINNESOTA
Agricultural Extension Service
S. DEPARTMENT OF AGRICULTURE

Contents

	Page
Introduction	3
Use perennials in the landscape design	3
Plan the border	4
Apply plant characteristics to design	4
Form	4
Color	5
Texture	6
General culture for perennials	6
Soils	6
Drainage	6
Fertilizing	6
Cultivation	7
Mulching	7
Watering	7
Training and pinching	8
Common perennials for Minnesota	8
Index to perennials	36

Perennials for Minnesota

C. Gustav Hard¹

A PERENNIAL FLOWER is any flowering, herbaceous plant which will survive the winter and live for more than two years. The perennial flowers discussed in this bulletin are those which will withstand Minnesota winters out-of-doors and will bloom within the growing season. Those perennial flowers which with minor modification in their culture and care can be successfully grown in Minnesota also will be discussed.

Use Perennials in the Landscape Design

Use perennials in the landscape design for mass effects and color accents. The perennial border in the private area of the landscape design enhances the view from inside the home and creates a vista view from the patio or other garden areas.

Use perennials in the foundation planting. Often, an uninteresting foundation planting can be made more interesting by adding accent colors. Select colors and plant types carefully—do not overconcentrate high intensity colors in any one location in the planting. Be sure the plant types are in harmony with the shrubbery materials in the foundation planting.

Schedule the blooming period of the perennials both in the foundation planting and perennial border. They can add zest to what might be a dull, uninteresting landscape scene during seasons when other annuals or flowering shrubs are not in bloom.

The gardener often asks, "Should I have a separate cutting garden for perennial flowers?" Where space and time permit, a separate cutting garden can be very useful, although it is generally practical to use the perennial border for a cutting garden as well.

¹ Extension horticulturist.

The pictures in this bulletin (except the chrysanthemum on page 15) were provided through the courtesy of the A. B. Morse Company, St. Joseph, Michigan, horticultural printers.

Plan the Border

Proper planning should precede any planting in the border. Draw the design, with the materials for the border, to scale on paper for a permanent record. Use graph paper with a one to five scale (1 unit = 5 feet).

Formal borders using geometric shapes and figures are still used, although abstract designs using broken and curved lines appear to be more popular today. Abstract patterns allow greater freedom and lend themselves to a small lot area more easily.

To achieve continuous bloom throughout the border, select and group perennials that bloom at a certain time during the growing season—starting with early spring through midsummer, late summer, and early fall. Achieve a mass effect by providing enough plant materials to give a good balance between the flowering plants and the nonflowering plants. In addition, select a proper background and keep the border a sufficient width. The background may be a shrub planting, it may be planted with taller growing perennials, or it may be vines on a trellis. Where architectural ma-

terials are used, be careful to blend the architecture with the perennials in the border. Allow ample space for planting the perennials and for them to grow and mature.

The border should be no less than 3 feet wide where small plants are used and 5 feet where taller plants are used. Make plantings 3 to 4 feet from shrubs and 10 to 12 feet from trees. Planting distances vary according to the height of the plant. Plant tall plants (which may be planted three in a group) 18 to 24 inches apart. Plant medium plants 9 to 12 inches apart. Plant low plants (which are planted in groups of 6 or more) 6 to 12 inches apart.

There are three distinct locations in the border to select plants for—the background, the middle of the border, and the edge. Locate perennials over 30 inches tall in the background, perennials from 12 to 30 inches tall in the middle, and perennials less than 12 inches tall in the edge of the border. Use varying heights within each of these sections.

Apply Plant Characteristics to Design

The fundamental characteristics of plants and flowers used to develop pleasing expressions are their form, color, and texture. Good border and landscape composition is largely a matter of combining these characteristics harmoniously and developing larger forms, colors, and effects of texture.

FORM

The beauty of a garden or landscape scene is partially determined by the forms of the plants in the border and the resulting forms as the plants are massed or grouped together. In developing a border, create diverse forms that can be repeated and add

contrasting forms which can lend variety and interest.

Perennials are considered in form composition as being vertical or horizontal line plants; that is, they help develop vertical and horizontal line effects in the garden. Foxglove, lythrum, hollyhock, and delphinium are typically vertical line plants. Sweet-william, peony, shasta daisy, phlox, and other upright, spreading, flowering plants about the same height produce horizontal line effects when grouped or massed. However, other plants, such as babysbreath, tend to produce billowy or ethereal effects with their light, airy, indefinite flower masses. Other spreading, low growing forms are considered ground covers.

Vertical line forms, when used sparingly, tend to develop spirited effects in garden scenes. They produce a more uplifting effect than do the horizontal lines. They are usually most appropriate in groups rather than in masses.

Horizontal line forms which are not sharply defined tend to produce quiet, restful effects. Generally, a perennial planting is made up largely of horizontal line plants, broken with vertical line plants to lend variety. Unity with variety, therefore, is one of the important requirements for developing pleasing form compositions with perennials.

COLOR

Flower color plays an important role in the effective use of perennials. Good composition with perennials is largely a matter of selecting and arranging colors to give pleasing and harmonious effects.

Colors produce many different emotional effects. Orange and scarlet are

stimulating colors that readily attract attention, while greens, blues, and whites are quiet, restful colors. Yellows are warm and are especially compatible with the chill of spring and fall seasons. Blues are cool colors and are most appealing during the warm mid-summer months.

Remember to use rich intense colors sparingly, but use light, dilute colors more often. Light colors should be the predominating effect of the garden.

White, though a cold color when used alone, tends to be a neutralizer for all other colors in the garden. If used between dissimilar colors, it tends to make them more harmonious. All yellows are pleasing in one another's company though few reds and purples will exist peacefully together. Some pinks, however, if they are of the same color value, may be satisfactory neighbors. Yellow and white blend easily.

Yellow, orange, and scarlet are the colors for full sunlight; while blue, violet, and lavenders are more effective in shadows and shady places. Magenta is the most combative color in the garden—strong yellow, orange, scarlet, cherry, or salmon pinks are especially inharmonious with it. It is not, however, a displeasing color when associated with deeper or paler blue tones of itself, such as the dim blue of monkshood with the light blue of the purple salvia.

In planning the harmonious effects of color on the border, plan so there are only two or three predominant colors in bloom at one time. Be sure the colors harmonize as well as the heights, forms, and textures. Separate the color groups and masses and repeat them in the border. Plant other harmonious combinations for specific seasonal effects.

TEXTURE

Texture, though it may not be the most significant characteristic of plants, is often overlooked. During periods of the year when there is very little flowering, texture can give added interest to the flower border.

It is possible to achieve interesting mass effects by mass planting various textures. This is especially effective when there is little bloom in the border. The size and arrangement of

the leaves and branches determine the texture of a plant. Do not mix large leaved, coarse branched plants with small leaved or fine twigged plants. Harmony in texture tends to produce unity of effect. Fine texture plants are particularly suitable for developing near-by effects while coarse textured plants are desirable for distant effects, as well as areas needing the accent of a bold contrast of textures. Therefore, consider the vantage point when selecting plant textures.

General Culture for Perennials

SOILS

Soil condition, fertility, and type are all important to successfully grow perennials. A loose textured soil of good tilth is recommended. A soil of medium fertility is suggested for the general preparation of the flower border. In preparing the soil for the perennial border, remember that the plants are to be grown in this area for several years. Therefore, provide an ideal soil at the start to eliminate yearly soil preparation.

It is best to prepare a deep seed bed, approximately 18 inches in depth. This will provide good rooting for both fibrous and tap rooted perennials. A soil pH between six and seven is suggested for most perennial flowers.

DRAINAGE

Poor drainage can cause the perennial border to fail. Poor drainage may cause root suffocation as well as increased winter injury. Provide good surface drainage so that surface water

can drain away from the border area. Drainage below the surface may be necessary where a heavy soil exists.

In low areas where adequate tile drainage cannot be provided, dig out the border area to a depth of at least 2 feet and put in a 6-inch layer of very coarse rock or gravel. Place a layer of 2 to 3 inches of coarse grade sand over this, then replace the soil. This will provide a catch basin for water percolating down through the soil.

FERTILIZING

Most soils need additional nutrients to best develop common perennials. It is often necessary to apply fertilizer when preparing and maintaining the soil.

It is possible to modify the texture of garden soils before planting is started. For example, improve heavy clay soils by adding stable manures, peat or leaf mold, and compost. Likewise, improve sandy soils with heavy applications of organic fertilizers or peat or by adding clay.

After perennials are established, apply fertilizer each spring as growth begins and sometime during the growing season to promote and maintain a healthy and vigorous plant.

When well decomposed stable manure is used as a fertilizer it should be spread evenly between the plants and worked carefully into the soil. Be careful not to cut or destroy the roots of the perennials in this work. When a commercial fertilizer is used it should be spread as uniformly as possible among the plants without coming in direct contact with the foliage. This is often impossible when the plants are close together. Since there is a danger of burning the foliage with the fertilizer, wash the plants with a fine mist spray to remove any of the fertilizer that may have been deposited on the leaves. Early spring application is recommended.

CULTIVATION

Cultivate perennials frequently enough to control weeds and to prevent the surface of the soil from packing. Frequent shallow cultivation is better than occasional deep cultivation. Careful hand weeding in early spring is most important in the perennial border. If the weeds are kept out of the border until the perennials are large enough to shade the soil then the weeds will have difficulty competing with the perennials.

MULCHING

Most perennials will benefit from a winter mulch of straw, dry leaves, or marsh hay. Mulching helps prevent alternate freezing and thawing, particularly in late winter or early spring. Apply the mulch after freezing weather has set in and remove it after the soil has thawed out in early spring but before growth has begun.

The application of summer mulches using composted leaves or other compost materials has become a common practice in the perennial border. Not only does the compost serve as a good source of nutrients but it also tends to conserve the soil moisture and keep down the weed population.

WATERING

Garden perennials will grow more uniformly where adequate watering facilities are available. An inch of water per week is sufficient under average soil conditions and for most perennials. Moisten the soil to a depth of 8 to 10 inches.

It is better to water heavily once a week and allow the soil to partially dry out rather than to keep the soil in an excessive moist condition at all times. Excessive watering closes the soil interspaces and prevents entrance of oxygen; this results in poor root development. Too little watering or light sprinkling causes the plant to seek moisture near the surface, with the result that the plant suffers more from drought when adequate water is not available. Apply water only as fast as the soil will absorb it. Excessive heavy sprinkling tends to pack the soil and destroy part of the soil structure.

It is a general practice to water the home garden in the late afternoon or early evening. However, if there is poor air circulation or if plants are highly susceptible to leaf spot diseases or mildews, then morning watering is more satisfactory. This allows the foliage to dry more rapidly. The foliage won't get wet if a soaker type sprinkler is used for the perennial border.

TRAINING AND PINCHING

Often, training will improve the shape and form of perennial plants. Remove undersized shoots and leave only the strongest and most vigorous shoots. This will result in a better shaped plant and a greater abundance of flowers. It may be necessary to stake some of the taller perennials so

they will hold their form and not be beaten down by heavy winds or rain.

Some perennials, such as chrysanthemums, produce more flowers if they are pinched during the growing season. Pinching is simply taking out the terminal bud to allow the lateral shoots to develop and produce more flower buds.

Common Perennials for Minnesota

MONKSHOOD

(*Aconitum napellus*)

Monkshood, when established, enhances the stateliness and grandeur of the garden with its tall spikes and cool blue flowers. The flowers are showy and shaped like a helmet or hood, from which the common name monkshood is derived. The leaves are a lustrous green and form a dense mat which adds to the textural pat-

tern of the garden. The roots of monkshood are poisonous. Monkshood can be used in the back of the border or among border plants and shrubs. It is excellent in combination with madonnalilies, white phlox, and shasta daisies. It also can be used for naturalizing.

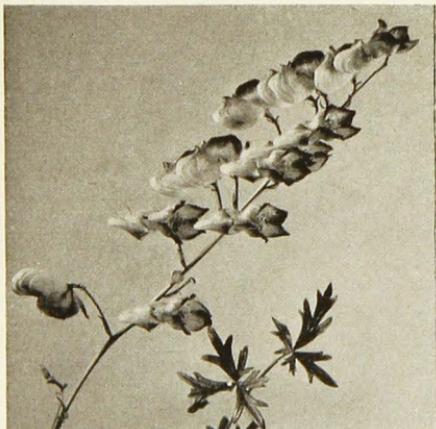
Culture—Monkshood grows in almost any good garden soil, either in the sun or partial shade. Good culture and an abundance of water with liberal feeding adds greatly to the size and height of the plant and the size and quality of the flowers. Plant it in permanent location, since transplanting is not recommended.

Propagation—Divide the roots of monkshood. This is usually done in the spring. Propagation by seed is slow.

ACHILLEA OR THE PEARL

(*Achillea ptarmica*)

The achilleas are a desirable plant for the flower border because of their graceful habit of growth. They range in color from white to cerise, pink, and yellow. The foliage has a fern-



Monkshood



Achillea

like texture, which gives good contrast to many other perennials. The achilleas can be used for cut flowers, as well as for border effect. They are especially good for hot and drouthy areas.

Culture—Achillea survives well under poor conditions. However, the gardener will be rewarded when they are well watered and receive plenty of sunshine. It does spread rapidly in the garden and can become a problem.

Propagation—If the seeds are sown early, the plants will bloom the first year. Divide the large flowering clumps either in the spring or the fall, since this is the more common method of increasing the plants.

HOLLYHOCK

(*Althaea rosea*)

The hollyhock has long been a favorite in the border. They are very effective in masses against walls or buildings, in groups at the back or rear of the perennial border, interspersed with low shrubbery, or in bold masses along driveways and walks.

They can be used for screening purposes in the landscape or backgrounds of the border.

There are double and single varieties. The long spikes of flowers grow from 5 to 8 feet high, and there are usually five to nine blossoms in bloom on each well grown stalk. The average flower is about 2 or 3 inches across, but 5-inch blooms are possible if the plants receive good care. The colors range from white to almost black, and include shades of pink, flesh, rose pink, salmon rose, golden yellow, dark red, crimson purple, dark maroon, white, and a combination of practically all of these colors with either white centers or white margins.

The blooming period is usually from late June through till frost.



Hollyhock

Culture—The hollyhock requires a deeply dug soil that is well drained and is rich in organic matter. Plant them in a warm place and give them plenty of water during the dry seasons.

Propagation—As the seeds ripen, they may be sown in light soil and grown in cold frames during the winter. The ground should be well prepared, and the plants put in just as early as the ground is worked in the spring. Hollyhocks self-seed very rapidly. Though the hollyhock is a true biennial, their habit of self-seeding gives a continuous supply of plant materials from year to year, which often makes them behave more like a perennial. Seedling plants can be transplanted to a new location in the spring and still bloom the same year. Double varieties will not reliably self-seed; so new seed must be planted each year to provide a supply.

ALYSSUM OR GOLDETNTUFT

(*Alyssum saxatile*)

Alyssum is an early spring flower that may be used in the rock garden



Alyssum

or as an edging plant in the border. It flowers from early spring through June and grows from 4 to 12 inches in height. The dwarf goldentuft is of a dwarf, shrubby nature with grayish-green leaves and dense heads of brilliant golden yellow flowers. It is one of the best yellow low growing plants of early spring. The foliage is coarse and the flowers are available in a variety of single and double forms. The species plant is much more useful in the rock garden, since they droop and hang over rock ledges. The dwarf varieties are used for edging plants.

Culture—Goldentuft is relatively easy to grow on a medium fertile, well drained soil. There should be a good supply of limestone. Winter protection is essential to assure overwintering.

Propagation—Sow seeds in August and winter them over in a cold frame if good sized plants are desired in the spring. The double flowers cannot be grown from seeds and must be propagated from cuttings. The roots of the plant can be divided.

ANCHUSA

(*Anchusa azurea*)

Anchusa is one flower which does not fade easily and is of a good strong bloom. When planted in large masses, blooming anchusa appears to be a misty, deep blue sea. Although it is not a good cut flower, it is a tall growing perennial which can be used in the back of the border. It attains a height of 3 to 5 feet, and blooms during June and July.

Culture—Anchusa needs a good garden soil, plenty of sunshine, and a



Anchusa

well drained location. They love moisture and should be given soakings of water during dry spells. Most of the plants become fairly well established during the second and third year. The plants may need staking during the flowering season.

Propagation—Propagate anchusa by seed or by dividing the plant. Anchusa self-seeds itself very readily. Natural root propagation is very common and may be objectionable to some gardeners. Digging the plant often leaves many roots in the soil which will tend to make new plants.

PASQUEFLOWER

(*Anenome pulsatilla*)

Pasqueflower is early blooming and grows to a height of about 9 inches. The flowers are a purplish-blue and appear in early spring. Pasqueflower thrives on a cool condition and in many cases the ground should be covered with leaf mold to keep it cool.

Culture—All anenomes like cool, moist soil which is well drained during winter. They prefer a soil which is deeply cultivated and rich in organic matter. Water them thoroughly during any dry season. They need some winter protection, such as a good covering of leaves.

Propagation—Sow seeds in the spring and space the plants about 18 inches apart. The best method of propagation is to divide the roots in early spring. Save even the smallest roots when the plant is dug, because if they are cut into 2-inch lengths and put into a sandy soil they will produce plants. Place new plants in a permanent location.



Pasqueflower

COLUMBINE

(*Aquilegia canadensis*)

Though columbine is found native-
ly in Minnesota, there are many im-



Columbine

proved varieties. It blooms in late May through June, and attains a height of about 2 feet. The flowers are red and yellow, and the spurs are medium short. It is used in shady locations as well as full sun, and should be located in the middle of the border. It could be used as a rock garden plant as well.

Culture—The columbine prefers a cool soil with plenty of moisture. Summer fertilization during flowering is suggested. Continue watering after

flowering. After foliage begins to show signs of drying, the plants can be cut off.

Propagation — Columbines take about two years to bloom from seed. (When sown in August of one year they will bloom the second year.) The seedlings prefer a warm sandy soil.

The older plants can be divided in late August and early September. This is usually the most successful way to propagate the columbine.

ROCKCRESS

(*Arabis albida*)

Rockcress is a low growing flower and blooms profusely in early spring. The flowers are white, quite fragrant, and valuable for cutting. They can be had in either singles or doubles. It is a good rock garden plant especially where a plant is needed to droop over the rocks. It is used to cover bare spots in the border or it can be used as a massed edging plant in the edges of the border.

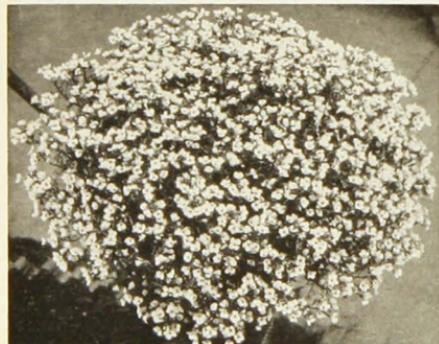
Culture—Rockcress does well in a good, well drained garden soil. It is drouth resistant and does not need much water—it does require full sun and heat. After the plants have finished blooming, cut them back so they will branch freely and form better plants for next year's bloom.

Propagation — Propagate rockcress by seed or by dividing the plants.

ASTILBE

(*Astilbe arendsi*)

Astilbe has light feathery flowers on spikes. It blooms continuously during July and August. The varieties



Rockcress

found commonly in catalogs come in rose, lilac, salmon pink, and white.

Culture—Astilbe enjoys plenty of water, rich soil, and partial shade. It grows from a height of 18 to 24 inches, and should be used in the mid-section of the border. It does well on the north side of the house where no other shade is present.

Propagation—Divide clumps of astilbe in the spring.

CARPATHIAN BELLFLOWER

(*Campanula carpatica*)

Carpathian bellflower is low growing and can be used in either the rock garden or at the edge of the border. It grows in dense tufts not exceeding 8 inches in width and is covered with clear dark and light blue or white flowers on wiry stems.

Culture—Carpathian bellflower can be grown easily on a well drained loam soil in full sunlight. Winter protect to assure overwintering.

Propagation—It can be propagated readily from seed or by division.

PEACHLEAF BELLFLOWER

(*Campanula persicifolia*)

The peachleaf bellflower grows from 2 to 3 feet in height and its bell-shaped flowers are blue and white. It has long, narrow leaves which lends to the gracefulness of the plant. It blooms at the same time as delphinium and foxglove and adds variety of color and form to the border.

Culture—Give the peachleaf bellflower full sunlight and do not crowd

it in the border. It likes a fertile soil well fortified with limestone. It will benefit from a winter mulch to prevent heavy snow from flattening out the leaves. It is helpful to pack leaves under the foliage.

Propagation—Though it is a biennial, bellflower seeds itself freely. To assure a continuous supply of flowering plants, start the seeds each summer and carry them over the winter by winter protecting in the border or in pots in the cold frame.

CENTAUREA

(*Centaurea montana*)

The centaurea is similar to the annual cornflower except that the flowers are much larger. The flower colors are blue, rose, or white; although there are varieties with white and



Centaurea



Snow-in-Summer

purple flowers. The plant grows to a height of nearly 1½ feet. The period of bloom is from May until August.

Culture—Centaureas are of a very easy culture. They bloom best when planted in an open sunny position with any good garden soil. Centaurea tends to spread rapidly by underground stems and they must be kept in check by pruning back the underground roots.

Propagation—Propagate by seed or by division.

SNOW-IN-SUMMER (*Cerastium tomentosum*)

Snow-in-summer is a very descriptive name for this low growing, white flowered, silvery foliaged plant. The flowers have 5 petals which are so deeply cleft that they appear to have 10 petals. The plant grows to a height of about 6 inches, and blooms in June. The plants are used in the rock garden as well as in the edge of beds or borders. The many small white flowers form a dense mat of growth. They are excellent for dry, sunny places as

a carpet covering for graves and steep banks.

Culture—The plants grow easily in any good soil. They spread rapidly in the garden and can become a problem.

Propagation — Divide the plants very early in the season either with or without the roots. Plant them deeply in firm soil, and keep them moist until roots have formed.

PAINTED DAISY

(*Chrysanthemum coccineum*)

The colors of painted daisy vary from white to the pinks to rich crim-



Painted Daisy

son. The bright pink and deeper colors are the more common. The flowers are about 1½ inches in diameter and usually are borne on erect, unbranched stems about 18 to 24 inches high. The flowers are good for mass effect in the border or as cut flowers.

Culture—The painted daisy will grow in any rich garden soil. Feed plants during the growing season because they feed heavily on the soil. Pinch off the side buds to enhance the size of the flowers.

Propagation—The painted daisy is propagated by stem cuttings rooted in sand and by root division in the spring. Plants may be divided every year or every third year.

GARDEN CHRYSANTHEMUM

(*Chrysanthemum hortorum*)

Garden chrysanthemums come in a variety of colors and flower types. The two common types are the small cushion type mums and the large flowered type. They come in both single and double varieties.

Culture—The garden chrysanthemum requires a rich soil because it



Shasta Daisy

is a heavy feeder. It requires full sun and a well drained soil. Pinching the terminal buds until mid-July makes the plant more compact. Winter mulch for protection.

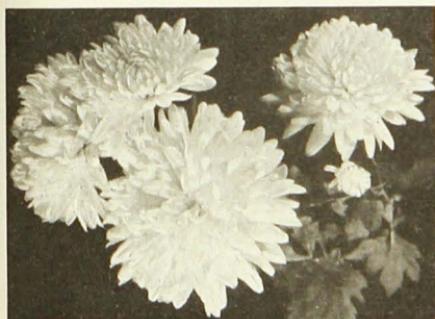
Propagation—The garden chrysanthemum is propagated by rooted cuttings and by dividing older plants.

SHASTA DAISY

(*Chrysanthemum maximum*)

This white petaled, golden center flower is like the common white field daisy, but is much larger. The flowers are borne on upright stems usually about 2 feet high. The plants usually bloom about mid-July.

Culture—This perennial should be grown on well-drained soil rich in organic matter and with a high fertility. Like other chrysanthemums it is a heavy feeder. Winter mulching is suggested for added protection.



Garden Chrysanthemum

Propagation—Propagate the shasta daisy by dividing the old clumps in the spring. Take stem cuttings to get extra plants.

LILY-OF-THE-VALLEY

(*Convallaria majalis*)

This early spring flower produces small, white, bell shaped flowers on a flower stock well above the foliage. This plant is good for cut flowers as well as for bedding plants and ground cover in shaded areas.

Culture—The lily-of-the-valley likes a light soil rich in organic matter. Before planting, work the soil with leaf mold or compost to provide a high level of nutrients and good tilth. Rework and replant old plantings to improve blooming.

Propagation—The lily-of-the-valley is propagated by separating the



Coreopsis

crowns into the individual pips, which will provide the new plants.

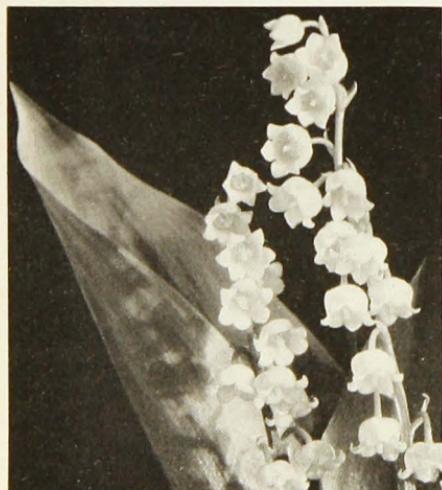
COREOPSIS

(*Coreopsis lanceolata grandiflora*)

The flowers of the coreopsis are borne on wiry stems to a height of about 2 feet. The flower color is yellow, and the flowers are available in both single and double form. The flowering period is usually from June till frost.

Culture—Coreopsis prefers a full sun and a rich, cool, damp soil. Pick the flowers when they have finished blooming in order to extend the blooming period. Slight winter protection is recommended.

Propagation—Propagate by seed or by dividing the plants. If seeds are sown very early in the spring, they



Lily-of-the-Valley

will bloom the first year. If they are sown in July or August they will bloom the next year. Double varieties will not come true to seed.

DELPHINIUM

(*Delphinium grandiflorum*)

Delphinium or perennial larkspur, a long favorite in the garden, is especially useful for the background of the border. These vigorous varieties

come in wide range of colors from a very light blue to the mauve and dark purples.

Culture—*Delphinium* does best on a clay loam soil that has been worked to a depth of 18 to 20 inches. Since *delphinium* is a very vigorous plant, it requires regular feeding and ample water. Summer mulching to keep the soil cool is recommended. Winter protection is necessary to prevent freezing and thawing.

Propagation—The *delphinium* is propagated mainly by seed from selected strains. Obtain a good source of seed to be sure of the best varieties. Seeds planted during July and August will bloom the second year. After four or five years the old clumps tend to lose their vigor.

SWEET-WILLIAM

(*Dianthus barbatus*)

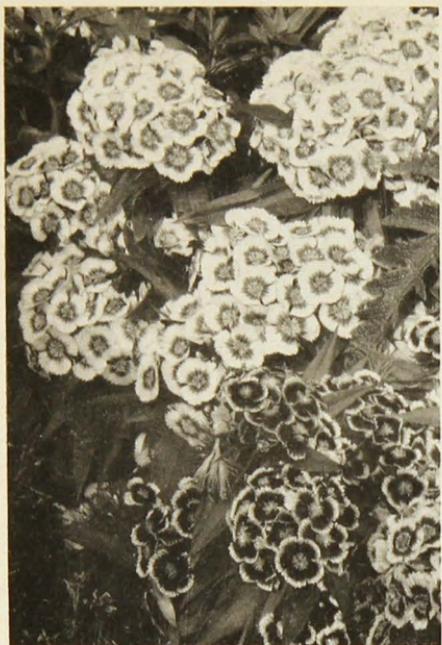
Sweet-william, though classed among the biennials, behaves so much in culture like the perennial that it is generally classified in this group. The colors range from pure white to a very dark red with a number of variations and combinations of colors. The sweet-william grows to a height of 1 to 2 feet and usually blooms most of the summer under good culture.

Culture—Sweet-william likes plenty of moisture and a soil light in texture and high in fertility. Plant the sweet-william in a warm sunny location. Remove the flower heads in order to prolong the blooming season.

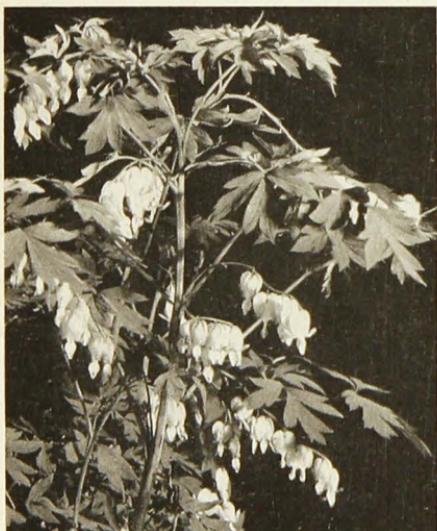
Propagation—Propagate by seed or by cuttings. Sweet-william also produces runner plants which can be used for transplant materials.



Delphinium



Sweet-William



Bleedingheart

BLEEDINGHEART

(*Dicentra spectabilis*)

Bleedingheart is a showy, early blooming flower which grows to the height of 2 to 4 feet. The leaves are light textured and almost transparent green. The flowers range from a light pink to a crimson color depending upon the location and the amount of shade. The bleedingheart will grow either in full sun or in partial shade.

Culture—Bleedinghearts like a cool, moist soil of medium fertility. The soil should be rich in organic matter. Before planting, add leaf mold or compost to the soil. After blooming, the bleedingheart dies down and the foliage should be removed. Use it either to the back of the border or in a place where it would not leave a gap in the border.

Propagation—The bleedingheart is propagated by seeds, by dividing the plant early in the spring, or from cuttings taken from young shoots soon after they start in the spring.

GASPLANT

(*Dictamnus albus*)

The gasplant is grown in a perennial border for several reasons—it has glossy, leathery leaves (which are dark green until late fall) and fragrant white, pink, or purplish-brown flowers borne on spikes 2 to 3 feet high. Both the foliage and the flowers are very fragrant. The gasplant has a long period of bloom starting in early summer and through mid-August.

Culture—The gasplant is not easily transplanted once it is established. It does very well on a well-drained soil

and does not require heavy fertilization. It can be grown in either full sun or partial shade.

Propagation—The gasplant can be raised from seeds or by root division. Seed propagation is generally preferred. If the seeds are sown in the spring, pour boiling water over them first to get them to germinate more rapidly. From seed, it usually takes four years before the flowers begin to bloom.

Root cuttings are very difficult to make but with care new plants can be started. Cut the fleshy roots into 3-inch lengths in early spring and insert the cuttings in pots of sandy soil. When the cuttings have sent forth shoots and rooted they may be transplanted to the border.



Gasplant

COMMON FOXGLOVE

(*Digitalis purpurea*)

Foxglove is a biennial, but it often blooms more than one year which makes its behavior more like a perennial than a biennial. The flowers are tubular or bell-shape and hang closely to one side of the stem. The flower color is from rosy purple to white and the flowers are borne on tall spikes during the months of June and July.

Culture—Foxglove succeeds in most any garden soil that has a reasonably high fertility and is rich in organic matter. They are said to resent a high lime soil. If the main flower stem is cut after it has finished blooming, many other shoots will come up and bloom later in the season. Provide the foxglove with light winter protection after the soil has frozen. Re-



Common Foxglove

move the mulch in the spring. It needs a well drained soil.

Propagation—Foxgloves are propagated mostly from seed and should be sown every year in order to be sure of having blooming plants every year. Sow the seeds in late summer or fall and winter them over in pots in a cold frame. When the plants are established, they should not be disturbed, although new plants can be started by root division.

GAILLARDIA (*Gaillardia aristata*)

The flowers of gaillardia are often clear rich yellow or clear wine red, but usually the petals are broadly margined with yellow and the remainder of the flower is a shade of crimson. The center of the flowers is



Gaillardia



Babysbreath

frequently deep maroon. Gaillardia is used in the middle of the border and can be used for bedding plants. The flowers are excellent as cut flowers and have a long keeping record.

Culture—Gaillardia prefers full sun and does well on a sandy soil. It will not thrive on a cold, heavy soil unless sand has been added. Old plants have a tendency to become "blind"—that is, they produce foliage but no flowers. Remove old flowers from the plants to foster more blooming.

Propagation—Gaillardia is raised from seeds, but will not bloom the first year unless started early in the season. Old clumps can be divided in early spring and will flower the same year.

BABYSBREATH (*Gypsophila paniculata*)

The flowers of babysbreath are tiny and white or bluish-white in color. The plants are usually covered with quantities of blossoms from late spring and all during the summer. The plants grow from 2 to 3 feet in height. The foliage is grass-like and the stems are minutely branched and are very wiry.



Daylily

Babysbreath comes in both single and double flowers. The flowers are most commonly used as cut flowers in combinations in bouquets and other decorations.

Culture—Babysbreath will endure open, dry places and rather poor soil. After they have finished blooming, do not cut the plants back. Because of the enormous size of the double varieties, space the plants nearly 4 feet apart.

Propagation—Babysbreath is propagated from seeds or cuttings taken either in the fall or spring.

DAYLILY

(*Hemerocallis flava*)

The most common of the daylilies is the lemonlily. It has clear lemon or canary yellow flowers which usually appear during June. The flower stalks are 2 to 3 feet in height.

Culture—The daylilies are easy to grow in a good soil in full and in partial shade. They thrive well under moist conditions. Provide extra water during drouthy seasons. Winter protection is needed to avoid the freezing and thawing effect in the spring.

Propagation—Regular dividing of the clump keeps the plant in a better blooming condition. Simply lift the clump and divide it into several portions with a sharp spade.

CORALBELL

(*Heuchera sanguinea*)

Coralbell is one of the most desirable of the smaller growing plants. The plants are compact, bushy, and grow in tufts. The flower stems grow from 1½ to 2 feet in height. The evergreen leaves look like those of geraniums. From the mass of ornamental

foliage rise graceful spikes covered with pendent flowers of a bright coral color. They flower about the middle of the summer. Coralbell is very attractive when planted by itself, or used as a border edging plant, or naturalized in the wild flower garden. The flowers can be used for filler in flower arrangements or as a bouquet by themselves.

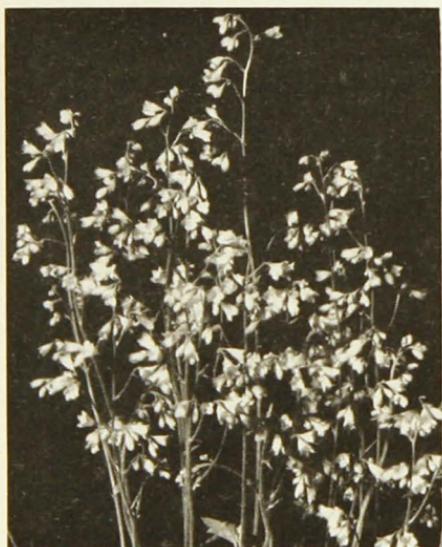
Culture—Moist, rich loam is the best soil in which to grow coralbell. Although the plants grow for a long time, the larger plants tend to grow weak very soon. Remove and replant these about every four years. Spring is the best time to plant the plants. They refuse to thrive on a heavy clay soil. They need protection in winter in order to overwinter.

Propagation—Plants are propagated by seed which should be sown indoors in March. The best method for propagation is by division. Take up the clumps early in the autumn and break them into several pieces, with as much root attached as possible. Place them in a frame where they can be watered and protected for the winter. Coralbell can be propagated by leaf cuttings.

HOSTA OR PLANTAINLILY

(*Hosta plantaginea grandiflora*)

Most of the hostas are grown in shady gardens for their excellent foliage. The leaves are a glossy green with spikes of pure white lily-like flowers. It grows to a height of about 2 feet, and spreads in a circle of about 3 feet across. The flowers are very fragrant and appear during August and September. Hosta is grown in the



Coralbell



Plaintainlily

shady gardens or on the north side of the house where shrubbery cannot be grown. Variegated foliage varieties are available.

Culture — Before planting hosta, prepare the ground to a good depth and enrich it with manure or compost. Hostas grow best in a moderately rich soil where a good supply of moisture is available. They will grow either in sunlight or shade, but they grow best in partial shade.

Propagation—The division of root clumps is the easiest method of propagating. Some produce seed which grows readily if planted soon after the seeds ripen.

GERMAN IRIS (*Iris germanica*)

The German or bearded iris is the most commonly grown of the iris group. It blooms from mid-May

through June. The flower colors range from white to deep purple, with many yellows and bronzes. The plants attain a height of 2 feet which makes it a useful plant in the middle of the border. It can also be used as an edging plant for roses or formal gardens. The flowers are useful for cutting.

Culture—German iris grows under hot and dry conditions as well as cool and moist conditions. They prefer a soil of good fertility and good drainage. Add a complete fertilizer each spring to improve the bloom and foliage. Provide plenty of water during the blooming season to extend the flowering period.

Propagation—Transplant when the clumps become too thick and flowering has become reduced. The clumps can be divided from July through mid-August. Check old clumps for evidence of soft rot and iris borer in the rhizomes (fleshy part). When resetting the iris, be sure that the fan at the end of the rhizome is pointed away from the center of the newly formed clump. When iris is used as an edging plant, plant the fan toward the inside of the border. Rhizome division is the principle means of propagating iris.

GAYFEATHER (*Liatris pycnostachys*)

The flowers of gayfeather grow on long spikes 4 to 5 feet tall, which are densely covered with slender, light green, grass-like leaves. The small flowers are light rosy-purple, a color which does not harmonize readily with other colors. A peculiar habit of gayfeather is that the succession of

bloom is from the top downward, rather than from the lowest blooms up to the highest as in all other spike flowers. They bloom in August through September. Gayfeather makes a good border plant to use in the background of the border.

Culture—Gayfeather will thrive in a place where many other perennials will not grow. It will grow in any kind of soil or shade, but prefers a moist soil and partial shade.

Propagation—They are propagated from seeds sown in the autumn or by division of the tuberous roots.

MADONNALILY

(*Lilium candidum*)

The madonnalily is one of the most beautiful of the garden lilies and in some gardens thrives for many years with practically no attention. The stems are sturdy and carry up to 20 blooms, but 5 or 6 are more usual. The glistening white of the segments with the gold-yellow antlers and the sweet fragrance makes this one of the most desirable plants. It grows to a height of 3 to 5 feet and usually blooms in July.

Culture—The madonnalily prefers fairly heavy soil and a place in the sun. Plant the bulbs just below the surface in August or September so that the basal leaves have time to grow before winter begins. Provide protection in the spring from cold winds and late frost or the flower buds may be injured.

Propagation—Propagate by dividing the bulbs and planting seeds.

CORAL-LILY

(*Lilium pumilum* [*tenuifolium*])

At first glance the coral-lily reminds you very much of the miniature tigerlily. The leaves are arranged much the same and the flowers are recurved in much the same way as the tigerlily. However, the color is vivid coral red without markings of any kind. Its blooming season also comes before the tigerlily. It is the earliest of our hardy lilies. It is about one-half the height of the tigerlily and does not spread as rapidly.

Culture—The coral-lily prefers a sandy, well drained soil. Cover it lightly with a mulch in the fall.

Propagation—New plants can be started by taking up the new bulbs formed occasionally by the old plants. But, propagation is accomplished more easily from seed which it produces freely.

TIGERLILY

(*Lilium tigrinum*)

The tigerlily is probably the best known of all the garden lilies. It is easily grown and seems to be perfectly hardy. The full-size plant stands from 3 to 5 feet in height. The plant has strong, erect stems surrounded by dark glossy green leaves and topped by a number of large orange flowers spotted with black.

Culture—Tigerlily can be grown either in full sun or partial shade. It likes a fairly rich soil but it will not withstand direct contact with manure. It is essentially good among shrubbery where it blooms at a time when other

blooming shrubs are scarce. Tigerlilies should not be grown with other species because they are carriers of virus disease which might infect them.

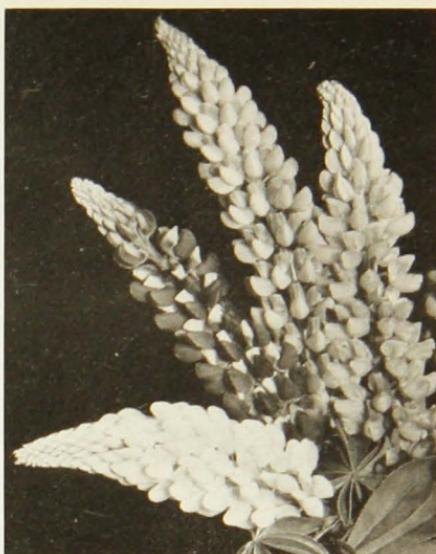
Propagation—Propagate by dividing the bulb in the middle of September, and by planting the small bulblets which are in axils of the leaves.

PERENNIAL FLAX

(*Linum perenne*)

Perennial flax is an airy plant with blue through light blue to almost white flowers. The wiry flower stalks are usually from 12 to 18 inches tall. The foliage and flowers are very delicate and graceful and present the appearance of a small feathery bush. The flowers are borne in great numbers all during the blooming season which lasts from May to September.

Culture—Perennial flax is grown on most all good garden soils and in full sunlight. It dislikes root disturbances.



Lupine

Propagation—Perennial flax is propagated by seeds and by division of the small clumps.

LUPINE

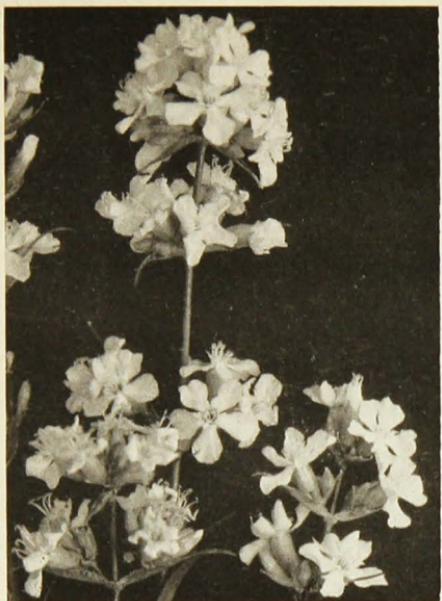
(*Lupinus polyphyllus*)

Lupines grow to a height of 2 feet and the pea-shaped or butterfly-like flowers are on long spikes. They cover at least 12 inches on the stems. The flowers are clear azure blue, white, or pink and the leaves are soft green. The best effect of lupines is gained by mass planting in the border or on the banks of ponds or streams for naturalizing.

Culture—Lupines, once established, are easy to grow. The lupine likes a well drained soil and a humid atmosphere. When preparing the soil, loosen it and apply manure or compost. They grow best in moist places but if this



Perennial Flax



Maltese Cross



Lythrum

is not possible, water them during dry weather. Lupines dislike being moved so they should be planted and left alone. If the flowering stalks are cut down the plants may bloom a second time in September.

Propagation — Lupines are easily raised from seed and the plants self-sow if the soil is not too dry. The seeds should not be covered deeply when planted and can be sown at any time. The plants can be divided or cuttings can be made by using a rather hard wood or side shoot. This should be done in the spring.

MALTESE CROSS

(*Lychnis chalcedonica*)

Maltese cross blooms late in June and has hairy stems from 3 to 5 feet in height. The flower heads are a bright vermillion scarlet. The foliage is similar to that of sweet-william. Use it sparingly in the border because of its intense flower color.

Culture — Maltese cross prefers a cool soil with good drainage. It grows well among other plants and tolerates shady conditions. Remove flower heads as soon as the flower heads begin to lose color.

Propagation — The best method of propagating maltese cross is by dividing the plants in early spring. It is easily grown from seed which blooms the second year after being sown.

LYTHRUM

(*Lythrum salicaria*)

Lythrum grows to a height of 4 to 6 feet and usually blooms during July

and August. The foliage is willow-like and tall erect graceful spikes hold reddish to purple flowers. Lythrum likes a moist location and does well in naturalized wood lands and also in wild flower gardens. It also grows well among other taller plants in the perennial border.

Culture—These plants are moisture loving and should be planted in partial shade in lowlands and swampy areas.

Propagation—Propagate by dividing the roots and by stem cuttings.

VIRGINIA BLUEBELL (*Mertensia virginica*)

The Virginia bluebell is one of the early spring plants that blooms along with tulips and other spring flowering bulbs. The plants grow to a height of 1 to 2 feet with soft, light green stems and foliage. The flowers are reddish-purple when in bud but when they open they change to a light blue. They

hang in drooping, knotty, graceful clusters and the individual flowers are funnel shaped. The Virginia bluebell naturalizes very well in shady places and can also be used among other flowers in the border. After flowering and seeding in late June the foliage dies to the ground.

Culture—Virginia bluebell needs moist soil, preferably a rich, deep, loamy soil. Most of its growth is made in sunlight for it grows so early in the spring. If the plants are naturalized in shady places, they should not be disturbed after they are planted. If the plants are transplanted, transplant them when they are dormant which is usually in the summer.

Propagation—New plants are started by dividing the old plants and also from seed.

MONARDA

(*Monarda didyma*)

The flowers of Monarda range from light lavenders and white, through cardinal, to scarlet red. The plants attain a height of 2 to 3 feet and bloom all summer. The entire plant is aromatic and the leaves have a minty odor. Monarda is a most striking plant in the border especially when massed against a background of shrubs. The flowers can be used for cutting. Many persons grow these plants just for the garden aroma.

Culture—Monarda forms a thick mat and the plants refuse to be crowded out by any other plants or weeds. Divide the clumps in the spring. Although they grow in almost any soil, the plants grow especially well near



Virginia Bluebell



Monarda

water and moist places. Cut the plants back after flowering to get a second crop of bloom.

Propagation — Monarda is easily propagated by division. Do this in the spring. When done in the fall the plants usually die. Plants can be raised from seed.

EVENING PRIMROSE

(*Oenothera fruticosa hybrida*)

This species of evening primrose produces large yellow flowers. The plants grow to a height of 1 to 2 feet and the flowers usually appear in June and July. The evening primrose is fragrant and useful for cutting purposes.

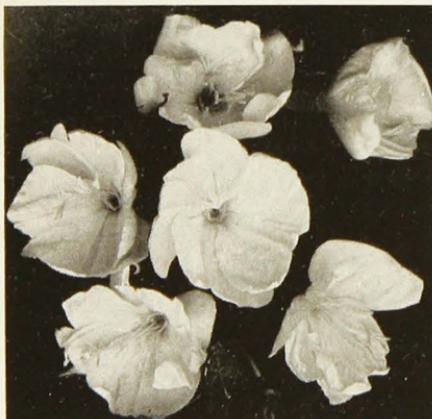
Culture — Evening primrose grows well in a moderately rich, well drained soil. They do well with little fertilization and, since the clumps are quite vigorous, they should be transplanted quite often.

Propagation — Propagate by dividing old clumps in early spring and from seeds.

PEONY

(*Paeonia officinalis*)

The peony is probably one of the most traditional favorites of the perennials. They come in a variety of color and flower types. The peony grows to an average height of 2 feet. There are single flowers, which bloom very much like the wild rose, and there are semi-double and double flowers, which are a round mass of uneven petals. There is also a Japanese type with the stamens in the center. It is much wider than the single flowered types. Peonies have long been used for cut flowers as well.



Evening Primrose

as mass plantings in borders. They can be used in the foundation plantings very successfully since their foliage is attractive for most of the growing season.

Culture—Peonies are heavy feeders and require a deeply prepared soil mixed well with rotted manure or compost. The best soil is a heavy loam which is not too heavy with clay or not too light with sand. Stiff yellow clay, a sour soil, or an abundance of fresh manure in the soil hinders the proper growth of the roots. Transplant the peony in late August or early September. The topmost eye should be no more than 2 inches from the soil surface. In transplanting, carefully pack the soil around the roots to keep the root clumps from sinking too deep as the soil settles. To get larger flowers, remove the side buds.

Propagation—Peonies are usually propagated by dividing the clumps. The best time to divide is during late August and early September.

ICELAND POPPY

(*Papaver nudicaule*)

The Iceland poppy grows to a height of about 12 inches. It has a showy, satiny petaled flower of lemon, white, yellow, or orange. They are quite fragrant. They usually bloom throughout the summer if the flowers are kept picked. The Iceland poppy can be used with other plants in the border, but care should be taken in selecting the colors for a good color harmony.

Culture—The Iceland poppy grows well in an open, sunny position. They



Peony

prefer deep, sandy loam soil. They respond well to extra water during dry seasons.

Propagation—The Iceland poppy is propagated mostly from seed.

ORIENTAL POPPY

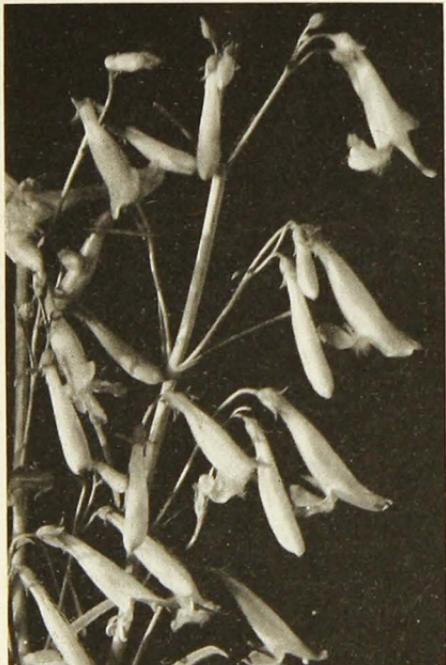
(*Papaver orientalis*)

The oriental poppy blooms from May through early July and grows to a height of 2½ to almost 4 feet. It has very heavy foliage with a coarse texture. The flowers are very showy and come in a variety of colors from a deep red to a shrimp pink to white as well as many different colored oranges.

Culture—The oriental poppy will grow in any open, sunshiny position in a good, deep loam soil. They are easy to grow and require very little care. During dry spells it is good to water them occasionally. Leave them alone after they have finished bloom-



Oriental
Poppy



Pentstemon

ing and the leaves begin to die down for the roots seem to enjoy a thorough baking during the harvest months.

Propagation — The plants can be transplanted during September when they begin to show life again. New plants can be started by cutting the roots into 2-inch pieces and planting them in sandy soil. They are easier to transplant if the cuttings are placed in pots to root. Be sure that the root cuttings are not placed upside down. To avoid this, make a straight cut at the top and a slanting cut at the base.

PENTSTEMON

(*Pentstemon barbatus*)

Pentstemon has slender, tubular, deep scarlet flowers. The foliage is green and the stems are wiry and thin, giving the plant an airy appearance. Pentstemons are very free blooming and are good cutting flowers. Their graceful growth and variety of colors make them easily adaptable to any perennial border.

Culture — The pentstemons like a shady place and a good, deep, well drained garden soil mixed with leaf mold or sandy loam. They like plenty of water in the summer but will not tolerate a wet or soggy soil. They need protection for the best overwintering.

Propagation — They are propagated either by division, seed, or cuttings. Take cuttings or divide the roots in the autumn. Plants may bloom the first year if the seeds are sown early.

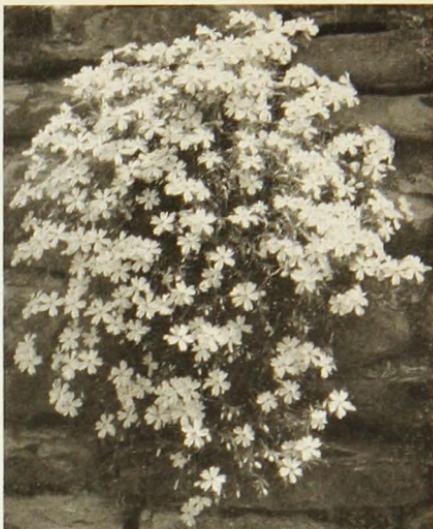
MOSS PHLOX

(*Phlox subulata*)

Moss phlox is a low growing, spreading plant with very fine leaves. It grows in a dense mass about 12 inches in diameter. It blooms during May and June and flowers very freely. The flower colors are pink, white, purple, and lavender. Moss phlox is useful along walkways where the space for other plants is limited. It is also used as a ground cover similarly to alyssum. It may also be used at the edge of the border.

Culture—Moss phlox generally requires a great amount of water and should be watered regularly during dry weather. A little extra fertilizer during the growing season will help the plants because they are heavy feeders.

Propagation—Moss phlox is propagated by dividing the clumps and by seed. To maintain the distinct color varieties, stem cuttings can be taken and rooted in the fall so that the plants will be of blooming size the following spring.

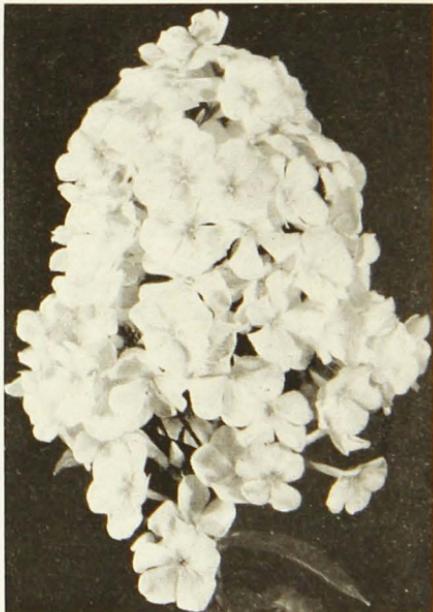


Moss Phlox

HARDY PHLOX

(*Phlox paniculata*)

The garden phlox has mildly fragrant flowers borne in large panicles or clusters at the tip of long, graceful, leafy stems. The stems grow to a height of 1 to 3 feet. The flowers come in salmon, pink, magenta, white, red, and many shades of purple. Phlox is used in the middle of the border or it can be used against a low fence or



Hardy Phlox

wall. The flowers can be used for cutting purposes.

Culture — Phlox needs a large amount of water and so needs to be watered regularly during dry weather. Be careful not to dampen the foliage when watering phlox, as it is very susceptible to mildew. The disease can be partially controlled by keeping the foliage dry. Phlox should be well spaced for good air circulation. Crowding the plants in the border tends to reduce the flower size. Extra fertilizer during the growing season is recommended.

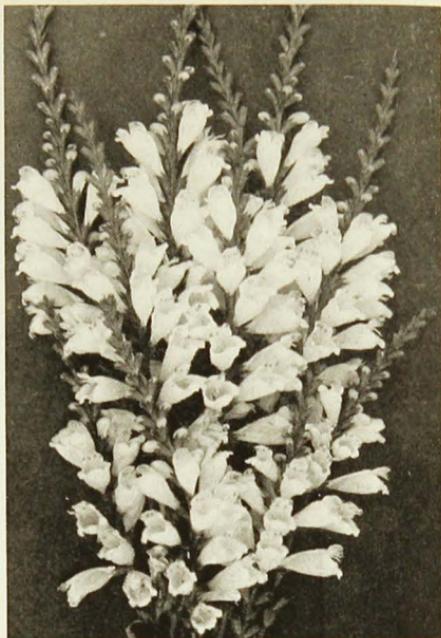
Propagation — Phlox is propagated by dividing the clump or by seed. Though many interesting and new colors can be attained from seed, it is not recommended because the resulting varieties are usually magentas and muddy colors. Divide the clumps in early fall or early in the spring before growth has started.

FALSE-DRAGONHEAD

(*Physostegia virginiana*)

Physostegia is useful in the border because it provides color during August when many of the other good perennials are not in bloom. The flower is tubular in shape and the flower colors are rosy pink, lilac, and white. The plant grows to a height of 3 to 4 feet and spreads out. It has very pretty foliage surrounding the graceful spikes. The plant is useful in the border because the flowers are pale. Work in flowers of bright or contrasting colors around this plant to bring out the contrast.

Culture — Physostegia requires a rather moist soil and will grow well



False-Dragonhead

in either sunny or shady areas. The plants spread very rapidly and tend to become troublesome unless they are divided every year or two. They are easy to grow and should be planted about 2 feet apart in fertile soil.

Propagation — Physostegias start from seed; or new plants can be started when the plants are divided each year.

BALLOONFLOWER

(*Platycodon grandiflora*)

The balloonflower is an erect plant with rigid stems. The flowers have five petals which open out rather flat but when in bud they look like an inflated balloon. The flowers are both single and double and bloom during



Balloonflower

POLEMONIUM OR JACOBS-LADDER

(*Polemonium caeruleum*)

Polemonium is a very ornamental and graceful plant which blooms in early spring and summer. The flower is blue or white, flat or bell shaped, and borne in spikes. The foliage is very fine and resembles fern fronds. The plant grows to a height of approximately 2 feet. Polemonium is useful for rock gardens, low beds, and borders. The taller ones are used in front of shrubs. Some are grown as Alpine subjects or in wild flower gardens. The flowers and their delicate foliage can be cut to make up a beautiful vase or basket.

Culture—Polemoniums are easy to grow and do well in dry places in a rich soil with some shade.

June and July. They are blue or white in color and sometimes have blue or white veins. The plant grows to a height of about 3 feet. Balloonflower is an excellent border plant as well as being useful for cut flowers.

Culture—The plant nearly always flowers the same season it is planted. Medium sandy loam is the best soil for the balloonflower. Do not cut the old stems back in the fall when the blossoms are gone but let them die away naturally so that you will not injure the crowns. Slight winter protection is useful.

Propagation—The most successful method of propagation is by seed. The root stock is very thick and a great deal of care must be taken in dividing it. The crown of the plant should be set about 1 inch below the surface of the soil.



Coneflower

Propagation—Propagate by sowing seeds in the fall or by dividing the plants.

CONEFLOWER

(*Rudbekia speciosa*)

There are two common perennials in the Rudbekia group, the black-eyed-susan (*R. hirta*) and the brown-eyed-susan (*R. triloba*). These perennials add warmth to the garden with their brilliant yellow colors. They bloom during August and September and are best when used in the back of the border. They are also used for cut flowers.

Culture—The plants will thrive anywhere, but are especially adapted to sunny places. Many of them will produce a second crop of flowers if the plants are cut back after the first flowering.

Propagation—The Rudbekias can be grown from seed and also may be propagated by root division. Though they are biennials, they seed freely and behave as a perennial plant.

STOKE'S ASTER

(*Stokesia Cyanea*)

Stokesia is a low plant seldom above 1½ feet tall. It has light lavender blue, blue, white, or rose colored flowers, which bloom in late July until frost. *Stokesia* is usually planted in the foreground of the border or at the edge.

Culture—*Stokesia* likes a light, well drained soil and full sun. A mulch is necessary to carry it through the winter successfully.



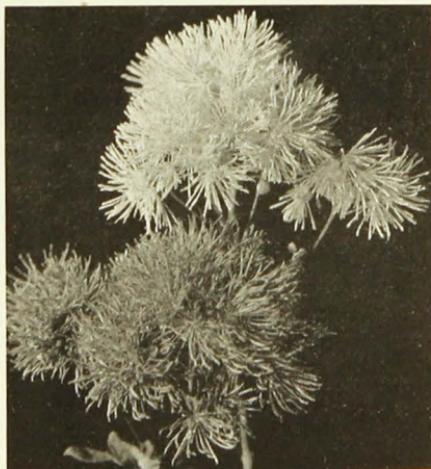
Stoke's Aster

Propagation—Propagate by seed. If the seeds are planted early in the spring, they will bloom the first year.

MEADOWRUE

(*Thalictrum aquilegifolium*)

The graceful, feathery flowers of the meadowrue add an airy appear-



Meadowrue

ance to the border. The leaves are fine and resemble the foliage of the columbine. It is from 2 to 3 feet in height. Meadowrue has pink flowers which usually come out in June. The flowers can be used for cutting purposes.

Culture—The plants do well in a well drained, shady location. A mulch of leaf mold or compost is desirable in both summer and winter.

Propagation—The plants are easily divided. However, if seed is available, it may be sown and the plants will bloom the first year.

GLOBEFLOWER (*Trollius europeus*)

Trollius is a free blooming flower starting in mid-June and blooming until mid-August. The flower colors are many but the most common one is orange-gold or yellow. The plant grows to a height of about 2 feet. The flowers may be used as cut flowers for indoor bouquets.

Culture—The globeflower likes a fairly moist soil and will do well in



Globeflower

full sun or in partial shade. The soil should be high in organic matter, so add compost or leaf mold. Take care to keep them in bounds because they spread freely.

Propagation—Propagate by dividing the old clumps.

Index to Perennials

- Monkshood (*Aconitum napellus*)
Achillea or the Pearl (*Achillea ptarmica*)
Hollyhock (*Althaea rosea*)
Alyssum or Goldentuft (*Alyssum saxatile*)
Anchusa (*Anchusa azurea*)
Pasqueflower (*Anenome pulsatilla*)
Columbine (*Aquilegia canadensis*)
Rockcress (*Arabis albida*)
Astilbe (*Astilbe arendsi*)
Carpathian Bellflower (*Campanula carpatica*)
Peachleaf Bellflower (*Campanula persicifolia*)
Centaurea (*Centaurea montana*)
Snow-in-Summer (*Cerastium tomentosum*)
Painted Daisy (*Chrysanthemum coccineum*)
Garden Chrysanthemum (*Chrysanthemum hortorum*)
Shasta Daisy (*Chrysanthemum maximum*)
Lily-of-the-Valley (*Convallaria majalis*)
Coreopsis (*Coreopsis lanceolata grandiflora*)
Delphinium (*Delphinium grandiflorum*)
Sweet-William (*Dianthus barbatus*)
Bleedingheart (*Dicentra spectabilis*)
Gasplant (*Dictamus albus*)
Common Foxglove (*Digitalis purpurea*)
Gaillardia (*Gaillardia aristata*)

Babysbreath (*Gypsophila paniculata*)
Daylily (*Hemerocallis flava*)
Coralbell (*Heuchera sanguinea*)
Hosta or Plantainlily (*Hosta plantaginea grandiflora*)
German Iris (*Iris germanica*)
Gayfeather (*Liatis pycnostachys*)
Madonnalily (*Lilium candidum*)
Coral-lily (*Lilium pumilum [tenuifolium]*)
Tigerlily (*Lilium tigrinum*)
Perennial Flax (*Linum perenne*)
Lupine (*Lupinus polyphyllus*)
Maltese Cross (*Lychnis chalcedonica*)
Lythrum (*Lythrum salicaria*)
Virginia Bluebell (*Mertensia virginica*)
Monarda (*Monarda didyma*)
Evening Primrose (*Oenothera fruticosa hybrida*)
Peony (*Paeonia officinalis*)
Iceland Poppy (*Papaver nudicaule*)
Oriental Poppy (*Papaver orientalis*)
Pentstemon (*Pentstemon barbatus*)
Hardy Phlox (*Phlox paniculata*)
Moss Phlox (*Phlox subulata*)
False-dragonhead (*Physostegia virginiana*)
Balloonflower (*Platycodon grandiflora*)
Polemonium or Jacobs-Ladder (*Polemonium caeruleum*)
Coneflower (*Rudbekia speciosa*)
Stoke's Aster (*Stokesia Cyanea*)
Meadowrue (*Thalictrum aquilegiifolium*)
Globeflower (*Trollius europeus*)

UNIVERSITY OF MINNESOTA, INSTITUTE OF AGRICULTURE
ST. PAUL 1, MINNESOTA

Cooperative Extension Work in Agriculture and Home Economics, University of Minnesota, Agricultural Extension Service and United States Department of Agriculture Cooperating, Skuli Rutherford, Director. Published in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914.