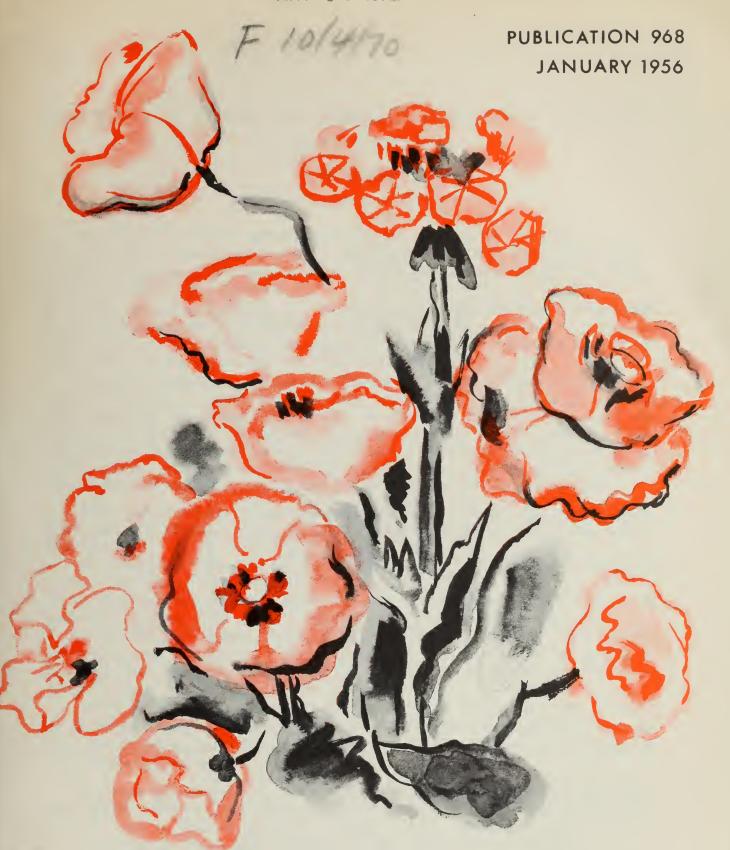
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Descriptive Notes on

Herbaceous Perennials

for Canadian Gardens

CANADA DEPARTMENT OF AGRICULTURE

INDEX

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DESCRIPTIVE NOTES ON HERBACEOUS PERENNIALS FOR CANADIAN GARDENS

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The purpose of this bulletin is to supply brief notes on species suitable for growing in a perennial border. This information should assist the gardener to select plants that will give a wide variety of form and color, thus adding to the interest of the planting.

While flowering bulbs are a great asset in a border, they are not included here but information on their use is available in other publications. Likewise, information on the location, planting and maintenance of borders, together with lists of basic plants may be found elsewhere.

Properly speaking a herbaceous perennial is a plant with a root which lives from year to year and stems and leaves that die down each fall and grow again in the spring. Plants such as Dianthus and Phlox subulata are evergreen and do not disappear during the winter. Others such as Iberis sempervirens have woody stems and are classed as shrubs. But as these plants are generally grown in perennial borders they are included in this bulletin. The plants are arranged in alphabetical order under the botanical name.

Achillea ageratifolia. Does well in hot, dry, sandy soils. Has silvery gray, finely cut foliage and white flowers. Height 4-6 inches. Blooming season May-June.

- A. Clavennae. Grayish foliage, white flowers in loose heads. Height 8 inches, May-June.
- A. filipendulina Fernleaf Yarrow. Erect growing plant with flat heads of yellow flowers on leafy stems. Height 5 feet, June-September.
- A. Millefolium Milfoil, Common Yarrow. Finely cut foliage with clusters of small daisy-like flowers. Red varieties are the ones generally grown in gardens. The white one has become naturalized and is considered a weed in some districts. Height $2\frac{1}{2}$ feet. June-October.
- A. Ptarmica Sneezewort. Double variety, The Pearl, is a great favorite in gardens. Flowers like double white daisies and plant continues to bloom all summer. In some gardens it is a bad spreader and must be watched. Propagated by division of the roots.

Aconitum Monkshood. Useful late blooming plants with glossy, dark green foliage and flowers with hooded petals. Do best in rather moist soil and in shade.

- A. Fischeri. Pale blue flowers. Height 4-6 feet. August-October.
- A. Napellus. Deep blue! Height 3-4 feet. July. Very poisonous.
- A. Napellus var. bicolor. One of the most attractive varieties, flowers blue and white. Height $3-3\frac{1}{2}$ feet. July-August.

Adonis. Early spring flowering plants with brilliant green, finely cut leaves. Like rich, well-cultivated soil with some lime in it.

- A. amurensis. Clear yellow flowers. Height 8-12 inches. April-May.
- A. vernalis Spring Adonis. A dwarfer plant with bright yellow flowers. Height 6-8 inches. April-May.

Agrostemma. See Lychnis Coronaria.

Ajuga genevensis. Not so well known as A. reptans but has its good qualities and not its faults. Useful in any shady place where its dark green leaves and blue flowers will be effective. Height 5-12 inches. May-June.

A. reptans Carpet Bugle-Weed. Glossy, dark green leaves; makes excellent ground cover but must be kept in control or may smother less vigorous growing plants. Dull blue flowers arranged in whorls open in spring. Height 6-10 inches. May-June. Some varieties have variegated leaves.

Althea rosea Hollyhock. Really a biennial but some live more than two years. Self-sows readily and once established is easily kept in the garden. Seedlings from double-flowering forms frequently have single flowers so it is advisable to buy new seeds of double-flowering strains. Leaves large, rounded, heart-shaped or lobed. Flowers arranged on long, wand-like stems up to 9 feet. Flowers come in various shades of pink to purple as well as primrose and white. Blooms in July from fall-sown seed. A good strain is Chater's Double.

Alyssum Madwort. Useful rock garden plants with woody stems. Some are ornamental when out of bloom with small green leaves tipped with silver. Easily grown from seeds.

A. argenteum Yellow-Tuft. Silvery ornamental foliage. Flowers yellow, in clustered heads. Height 12 to 15 inches. June-August.

A. montanum. Tufted plant, with grayish-green foliage. Flowers yellow. Height 2 to 4 inches. June-August.

A. saxatile Gold-Dust. Common in fairly mild districts where it covers itself with yellow flowers in early spring. Foliage grayish but not particularly attractive. Prefers a well-drained position in the rock garden and at Ottawa died out in the perennial border. Height 1 foot. May. Variety compactum is a neater plant and seems to be hardier. Varieties citrinum and Silver Queen are compact growers with pale primrose colored flowers. There is also a double-flowered form which must be propagated from cuttings.

Anchusa Alkanet, Bugloss. Beautiful blue flowers; hardy and will grow in ordinary garden soil. Easily grown from seed but as flower color varies the best ones should be propagated by division of roots.

A. azurea Italian Bugloss. Variety Dropmore has large bright blue flowers, grows 3 to 5 feet tall, blooms June to September. Other varieties have flowers of different shades. Leaves large and coarse and plants need plenty of space to do well.

A. Barrelieri Early Bugloss. Bushy habit; small deep-blue flowers. Height 2 to 3 feet. June-September.

A. myosotidiflora. See Brunnera.

Anemone Anemone, Windflower. Numerous species varying in height and color of flower. Many do well in good well-drained garden soil. Propagated either by division of the roots or from seed. Early spring is the best time to divide the roots.

A. apennina. Dwarf plant with attractive foliage and blue flowers; does well in shade. Height 6 inches. May. This and the following species are grown from tubers planted in autumn.

A. blanda. Similar to A. apennina but with larger flowers. Height 4 to 6 inches. May.

- A. hupehensis Chinese Anemone. Similar to the better known Japanese Anemone but flowers in August. Foliage attractive: pink flowers carried on wiry stems well above the foliage. Does well either in sun or half shade. Height 1 to 2 feet. August-September.
- A. japonica Japanese Anemone. One of the most beautiful fall blooming plants and where the season is long enough it should be grown in quantity both for garden display and for cut flowers. At Ottawa flowers are frequently destroyed by early frost. There are varieties with pink, white and semidouble flowers. The tight cluster of yellow stamens adds to their beauty, especially with white varieties. Height 2 to 3 feet. September-October.
- A. patens var. Nuttalliana American Pasque-Flower, Prairie Crocus. The European Pasque-Flower, A. Pulsatilla, is very similar. Bloom early in spring; emerging flower stalks covered with grayish, silk-like hairs. Flower colors amethyst, violet or purplish. Height about 1 foot. May.
- A. sylvestris Snowdrop Anemone. White, nodding, sweet scented flowers. Height 6 to 8 inches. June.

Anthemis tinctoria Golden Marguerite. Useful plant with golden-yellow flowers. The form Kelwayi has finely cut foliage and lemon yellow flowers. Perry's variety is bright golden yellow. Height 2 feet. All summer.

Aquilegia Columbine. Useful plants for the border; foliage ornamental all through season, flowers graceful in form and attractive in color. True species are handsome but difficult to get pure seed of some of them as plants hybridize freely. Can be propagated by division of the roots, if desired.

- A. caerulea Colorado Columbine. Native to the Western United States. Has been crossed with other species but the type has long-spurred, blue and white flowers. Height 1 to 2 feet. May-June.
- A. canadensis Common American Columbine. Common in many parts of Canada. Flowers nodding, red and yellow. Height 1 to $2\frac{1}{2}$ feet. May.
- A. chrysantha Golden Columbine. A long-spurred variety with outward facing yellow flowers and delicate foliage. Height $2\frac{1}{2}$ to 3 feet. June-July. Also a double-flowering form.
- A. flabellata Fan Columbine. A dwarf growing species with blue flowers. Spurs short and incurved. Height 1 foot. May.
- A. flabellata nana alba. Foliage distinct, grayish-green, of heavier texture and not so finely cut as in previous species. Flowers creamy white.
- A. glandulosa var. jucunda. Dwarf species with blue and white flowers. Can be grown from seed which germinates best when fresh. Height 8-10 inches.
- A. longissima. Flowers yellow with long spurs. On well grown plants they may be as long as four inches and hang down, giving the flower a distinctive appearance. Height 3 feet. June-July.
- A. vulgaris European Columbine. Not so popular as the long-spurred hybrids but well worth growing for its hardiness and ease of culture. Flowers of several colors, as well as double forms. Height 2 to $2\frac{1}{2}$ feet. June-July.
- A. Long-spurred hybrids. Originated from several species; many fine strains listed by seed merchants. Generally sold in mixed colors.

Arabis Rock-Cress. A popular early flowering rock plant but also useful for the front of the perennial border. Clumps should be divided every second year. Small pieces may be planted out in cold frame after plants finish blooming. Given good care during summer, well-grown divisions will be ready to put out in September. Old clumps likely to straggle too much and dead patches frequently appear in the center.

A. albida, A. alpina. These two species are very much confused and it is difficult to determine which is the one generally grown in gardens. Their white flowers are among the earliest spring blooms and are always welcome. Both species are said to have double flowering forms which bloom a little later than the singles. Double forms useful for cutting. Height 6 to 8 inches. May.

A. aubretioides. Similar to A. albida only pink. Has loose habit of growth and flowers are attractive.

A. rosea. Apparently more than one species sold under this name. Lissadel Pink is a particularly good pink; can only be obtained as plants, as it does not come true from seed.

Armeria maritima (Statice Armeria) Sea Pink, Thrift. Grass-like foliage makes solid mounds of green which are covered with pink globular heads of bloom. Suitable for the front of the border. Height 6 inches. July-August.

A. pseud-armeria (A. cephalotes) Great Thrift. A taller growing species. Height 1 foot. Variety "Bees Ruby" has large heads of deep red flowers.

Artemisia Wormwood. Grown mostly for their grayish, finely dissected foliage. Do well in ordinary soil but some are bad spreaders.

- A. frigida Fringed Wormwood. Native of West. Height 8 to 12 inches.
- A. glacialis. Similar to the above. Height 4 inches.
- A. lactiflora White Mugwort. Foliage large and handsome, being dark, glossy green above and white cottony beneath. Flower stems grow as tall as 5 feet with large panicles of small, creamy white flowers. August and September.

Aruncus Goat's-Beard. Sometimes called Spiraea Aruncus. Large compound leaves attractive all summer; small creamy white flowers arranged in slender spikes forming large terminal panicles. Prefer rich, rather moist soil and do well in semi-shade. Propagated from seed or division.

- A. sylvester. Height 4 to 5 feet. June-July.
- A. sylvester Kneiffii. This variety has more finely dissected leaves and is not so tall. Height 2 to 3 feet. June-July.

Aster Starwort, Michaelmas Daisy, Aster. Several species of aster grow wild in the Canadian fields and woodlands and some of the best forms can be transplanted into the garden. For shady places the variety found in the woods should be tried. Most garden forms require good soil not too dry. Stronggrowing species should be taken up and divided every second year.

- A. alpinus Rock Aster. Native of the Rocky Mountains and the mountains of Europe. Flowers large, lavender-blue in color. Height 6 to 10 inches. There are varieties with white and mauve flowers.
- A. Amellus Italian Aster. Several horticultural forms of this species have large flowers on stems of medium height. They have an upright habit of growth and are useful for the front of the border.

Beauty of Ronsdorf. Pink. Height 12 inches. August.

King George. Deep lavender-blue. Height 12 inches. August-September. Perrys Favourite. Deep pink. Height 2 feet. September-October.

A. cordifolius Blue Wood Aster. Native of Eastern Canadian woodlands, does well in shady borders. Large heart-shaped leaves. Horticultural forms vary in color of flower. Height 3 to 4 feet. September-October.

A. ericoides Heath Aster. This species has quantities of small flowers which give a light and graceful effect in the garden. •

Hon. Edith Gibbs. Soft lavender. Height 3 to 4 feet. September.

Perfection. White. Height 3 to 4 feet. September.

- $A. \times Frikartii$. Said to be a cross between A. Amellus and A. Thompsonii. Flowers large clear blue with golden centers. Blooms all summer. Needs protection over winter in Ottawa. Height 2 to 3 feet. July-September.
- A. laevis. Variety Climax said to belong to this species. Where it grows well it is one of the finest but in some gardens is subject to disease. Flowers large, lavender-blue daisies. Height 4 feet. September-October.
- A. novae-angliae New England Aster. Native of Eastern North America. One of the best plants for bloom in late fall. Coarse looking plants and should be planted at the back of the border in a place that is not too dry.

Barrs Pink. Height 5 feet. August-October.

Lil Fardell. Deep Rose. Height 5 feet. August-October.

Ryecroft Purple. Deep Purple. Height 5 feet. August-September.

A. novi-belgii New York Aster. Numerous forms derived from this species crossed with others. More refined in habit and flower than New England aster.

New Dwarf. Compact plants introduced in recent years, said to be hybrids of New York aster crossed with a dwarf species. Do well in ordinary soil but appreciate moisture during the hottest days. Sometimes attacked by insects. Useful for front of borders or for rock gardens. Easily propagated by division of the root. Do not come true from seed.

Pink Nymph...... Rose pink. Height 4 to 5 feet. Sept.-Oct.

| Aurora Large mauvish-pink with a darker shade in the disk florets. Height 30 inches. September-October. |
|---|
| Bluebird One of the darkest and most attractive. Height 16 inches. September-November. |
| Blue Bouquet Paler color than Bluebird. Height 24 inches. September-November. |
| Countess of Dudley Pink. Height 18 inches. SeptNov. |
| Dorothy Vokes Good deep pink. Height 8 inches. SeptOct. |
| Lady Henry Maddox Pale pink with narrow petals. This is one of the best. Height 12 inches. AugNov. |
| Marjorie Bright rose pink. Height 9 inches. |
| Niobe White. Height 12 inches. October. |

Astilbe. Garden forms have spikes of small flowers which resemble plumes. Require rich, moist soil and half shade for best results. Vary in height from 2 to 4 feet and in color from creamy white to deep purplish-rose. July.

Avalanchepure white Irene Rottseiper..salmon rose
Fanallow growing Rheinlandclear carmine to salmon

Aubrieta. Dwarf plants that do better in a rock garden than in the ordinary border. Flowers purplish, lavender or rose. Named varieties available but the simplest way to get a collection is to grow them from seed. The roots are easily divided after blooming. Height 4-6 inches. May.

Baptisia australis False Indigo. This plant likes a place in the sun but is not particular as to soil. Spikes of rich blue flowers resemble lupine, but leaves and habit of growth are different. Makes a compact clump which increases slowly. Can be propagated by seeds or division. Height 4 feet. July.

Bellis perennis English Daisy. Garden forms of the daisy are useful for the front of the border. There are strains with large double flowers in various shades of pink as well as white. Plants are true perennials but frequently die out and it is best to grow them from seed each year. Sow in August and keep young plants in a cold frame over winter. Plant out early in spring. Should bloom in May and June and can then be discarded. Require cool soil and a moist atmosphere.

Bergenia Giant Rockfoil. This is the name of the plants that used to be classed under the Megasea section of Saxifraga.

- B. cordifolia. Large coarse leaves and thick flower stems with clusters of pink blossoms at the top partially hidden by the leaves. Needs soil rich in humus. Height 18 inches. May-June.
- B. crassifolia. Similar except that the leaves are not so rounded and flowers are carried well above the foliage. Height 6 to 16 inches. May-June.

Bocconia cordata see Macleaya cordata.

Boltonia False Chamomile. Tall growing, fall blooming plants which blend in well with Michaelmas daisies at the back of the border. Individual flowers resemble English daisies. When once established they make large clumps which can be easily divided.

B. asteroides. White to pinkish. Height 4 to 6 feet. August-September.

Brunnera macrophylla. Better known under the old name Anchusa myosotidiflora. Blue flowers similar to forget-me-not. Height 1 foot. May-June.

Buddleia Davidii Butterfly Bush. Generally known as B. variabilis. Half-hardy shrub which kills down to the ground every winter. New stems grow rapidly during the summer. Lilac colored flowers arranged in long narrow spikes and very fragrant. Height 3 to 4 feet. September.

Cactus see Coryphantha and Opuntia.

Campanula Bellflower. Large group of plants containing many choice species for the border. Some can be grown from seed but garden forms have to be raised from division of the root or from cuttings. Do well in ordinary garden loam either in sun or half shade.

C. carpatica Carpathian Bellflower. Useful for front of border. Will spread into large clumps if allowed to do so. Flowers borne on thin stems, violet blue or white. Plants grown from seed show variation in color and shape of flowers. Height 6 to 18 inches. June-September.

- C. carpatica var. turbinata. A more compact form; mounds of foliage are covered with flowers on stems only a few inches high. July.
- C. Elatines var. garganica. Useful in rock gardens; flat, star-like flowers make a mass of color over a long season. Height 4 inches. July.
- C. glomerata dahurica Clustered Bellflower. Very hardy plant with flowers clustered around top of stem and in leaf axils. Rich purple. Height 1 to 2 feet. June-July. Variety acaulis is a very dwarf form.
- C. lactiflora Milky Bellflower. Not well known in Canada but worth a place in any border. Does well in light shade. Stems strong and erect and bear quantities of milk white flowers in loose panicles. Does not transplant easily and, if possible, seeds should be sown where the plant has to grow. Height 3 to 4 feet. June-August.
- C. latifolia. This species is inclined to spread too much in some places. Large, bell-shaped, semi-erect flowers borne on strong stems and purplish in color. The variety macrantha is the best and has larger flowers than the type. It grows well in partly shaded situations. Height 3 to 4 feet. June-July.
- C. Medium Canterbury Bells. Biennial in habit and plants die after flowering but can be used to advantage for summer bloom in the border. Sow seed in July or August and transplant seedlings into cold frames when large enough to handle. In spring plant in border. In mild districts plant in the beds in September and protect by evergreen boughs or some other coarse material to hold the snow. Most seed growers have their own strains of single, double and cup and saucer varieties. These latter are listed as var. Calycanthema and the name Cup and Saucer describes the form of the flower. Colors are listed as white, lavender, rose, rose-carmine and caerulea. Height 2 feet. June.
- C. persicifolia Peach-Leaved Bellflower. A handsome plant that does well in fairly rich, not too dry soil, in sun or half shade. Masses of leaves are formed on the ground and scattered alternately on the stiff flower stalk. Large, open, bell-shaped flowers appear at the leaf axils. Horticultural forms vary in color, size and doubleness of blooms. Plants can be raised from seed and the finest forms retained and propagated by division. Plants should be divided every two or three years.

Telham Beauty.....Large, single flowers of beautiful china blue.

Height 3 feet. June-July.

Pfitzeri Large, double, blue. Height 1 to 2 feet. July. Mrs. H. Harrison A choice blue variety with large double blooms. Height 2 to 3 feet. June-July.

- C. punctata Spotted Bellflower. Large, coarse, hairy basal leaves with erect slender stems. Flowers long, bell-shaped and of medium size. Colors white to clear lilac, more or less spotted within. Spreads from underground roots and may become a nuisance, especially in light sandy soils. Can be propagated by seed or division. Height 1 to 2 feet. July-August.
- C. rotundifolia Harebell, Bluebell of Scotland. Grows wild in some districts of Canada. Individual plants vary greatly and some fine forms can frequently be found along the roadside which are worth bringing into the flower garden. Can be propagated by division of the roots. Not a very showy plant but foliage is neat and a few flowers can be found all summer. Will grow in sun or half shade. Height 1 to $1\frac{1}{2}$ feet. July-September. Varieties with white flowers are obtainable.

Cassia marilandica Wild Senna. Fall-growing plant with light green leaves and yellow pea-shaped flowers. Requires rich moist soil. Height 3 to 5 feet. July-August.

Centaurea dealbata. Handsome foliage, dark green above and grayish below. Flowers resemble thistles, rose colored. Blooms for several weeks but sparingly at Ottawa. Height 1 to 2 feet. July-Sepember.

C. macrocephala Globe Centaurea. Large yellow blooms of this species borne well above the foliage. Height $2\frac{1}{2}$ to $3\frac{1}{2}$ feet. July-August.

C. montana Mountain Bluet, Perennial Cornflower. Flowers resemble the annual variety C. Cyanus except that they are larger. Height $1\frac{1}{2}$ feet, May-August. There are varieties with white and purple flowers.

Centranthus ruber Red Valerian. A useful plant for hot, dry situations where it will bloom all summer. Makes a bushy plant covered with quantities of small red flowers. Some varieties have white flowers. Propagated from seed. Height 1½ feet. June-August.

Cephalaria alpina Round Heads. Flowers resemble those of Scabiosa in form but are sulphur yellow in color, carried on tall stems well above the handsome foliage. Does well in sun or shade but too large for small borders. Flowers excellent for cutting. Height 5 to 7 feet. July-August.

Cerastium Chickweed. Useful plants for the front of the border or for trailing over rocks. Has a creeping habit and may smother more delicate plants. Propagation easy either from seed or division. If seedlings are grown the ones with gray foliage should be kept.

C. tomentosum Snow-in-Summer. Gray-leaved plants covered with white flowers in June. Plants must be trimmed back severely after flowering, otherwise they spread too much. Height 6 inches. June.

Cheiranthus Allionii. See Erysimum asperum.

Chelone Lyonii Turtle-Head. Useful plant for shade in positions not too dry. Foliage rich dark green, flowers pink. Height 3 feet. August-October.

Chrysanthemum. Besides the hardy varieties of florists' chrysanthemums there are a number of species suitable for growing in the border. They do well in ordinary garden loam.

- C. arcticum Arctic chrysanthemum. Native of northern districts; hardy. Flowers white tinged with rose-purple, over an inch across. Height 6 to 18 inches. October.
- C. Balsamita Costmary, Mint-Geranium. Flowers without ray florets and insignificant. Grown for its fragrant foliage. Height 2 to 4 feet. July.
- C. coccineum Painted Daisy, Pyrethrum. Numerous named varieties listed by English growers but only a few are available in Canada. Can be grown from seed. Single varieties have white, pink, rose or red ray florets and yellow centers but the doubles are self-colored. Blooms last well both in the garden and in the house. Foliage dark green, finely cut and attractive. Blooming season early summer but some flowers open in early autumn. Height 1 to 2 feet. June-July.
- C. Leucanthemum Ox-Eye Daisy. Several varieties are listed. Hardier than Shasta daisies and do well in most districts. Height 1 to 2 feet. June.
- C. Mawii. A pink daisy with attractive foliage. Not hardy but worth trying in mild climates. Height 1 foot. June.
- C. maximum Shasta Daisy. A large white daisy that has been greatly improved by breeders. Seeds are sold under name and although the seedlings vary some good forms are obtained by this means which can then be propagated by division. Named varieties must be obtained from nursery firms. Have not proved to be long lived at Ottawa.

May Queen useful for cut flowers and for border. Height $2\frac{1}{2}$ feet. May. King Edward VII, Mrs. C. Lowthian Bell and Westralia bloom May-June. Esther Read has blooms very like those of a white pyrethrum. Will flower all season if kept watered in dry weather. Plants do not always survive the winter in Ottawa. Propagated by division of roots. Height 12 to 18 inches. June-September.

Rev. E. Vokes is a large, handsome daisy with several rows of broad white rays. Height 4 feet. July-August.

C. morifolium. Supposed to be the species from which florists' chrysanthemums have developed. English garden forms have not proved hardy enough nor early enough for popular use in Canada, but since the original introductions of the Korean hybrids many worthwhile varieties have been developed. None can be considered thoroughly hardy at Ottawa but the cushions or Azaleamums in white, yellow, bronze and pink usually survive. There are dozens of good varieties but the following have proved most valuable at Ottawa where bloom must be early to avoid frost.

| Yellow | Algonquin Barnegat | Yellow Cushion |
|-----------------|--------------------|----------------------|
| _ | Eugene A. Wander | |
| Bronze | . Bronze Cushion | . Karen Fredericksen |
| | Defiant | . September Bronze |
| | Harmony | . Spitfire |
| Maroon | . Maroon 'n' Gold | Red Cushion |
| | Mrs. E. Sparre | . Redwood |
| White | . Avalanche | . September Cloud |
| | Dorothy Howard | . White Cushion |
| | Seminole | |
| Pink | . Clara Curtiss | Daisy Mae |
| | Pink Cushion | |
| Lavender-purple | . Chippewa | . Matawin |
| • | Lavender Lady | |
| | | |

Cimicifuga Bugbane. Tall, upright-growing plant useful for large borders. Large deeply-cut leaves handsome all season. Cream-colored flowers small, in long racemes which stand up well above the foliage. Does well in sun or shade.

- C. cordifolia. Height 5 to $5\frac{1}{2}$ feet. August-September.
- C. racemosa Black Snakeroot. Height 6 to 8 feet. July-August.
- C. simplex. Height 2 to $2\frac{1}{2}$ feet. October.

Clematis. Mostly climbers but some are useful in the border. All clematis like rich garden loam with lime added, although herbaceous species not so particular in this respect as climbing varieties.

- C. heracleaefolia var. Davidiana. In Eastern Canada this species is herbaceous and dies back every year. Grows well in sun or shade. Leaves large and coarse in texture. Flowers borne in clusters in axils of leaves and resemble pale blue hyacinths; fragrant. Height 3 to 4 feet. August-September.
- C. integrifolia. Blue, nodding, bell-shaped flowers. Height 2 to 3 feet. June-August. Some improved forms are now obtainable.
- C. recta Bush Clematis. Erect growing species attractive in the border. Creamy-white flowers borne in great profusion and followed by masses of feathery fruits. Seeds easily carried by the wind. Height 4 feet. June-July.

Convallaria majalis Lily-of-the-Valley. A hardy, long-lived plant. Soil should have leaf mold and well-rotted manure added to it and a top dressing of the same added each summer will keep the bed in good condition for

several years. When roots become overcrowded and flowers small and few in number the plants should be taken up and divided. The bed should be thoroughly dug and manured before replanting. Grows well in shade but plants in a sunny position will bloom earlier. Must be watched carefully to see that it does not smother other plants. Under trees in out-of-the-way corners it makes a good ground cover. Height 6 inches. May-June.

Coreopsis Tickseed. Easily grown from seed. Not long-lived so new seedlings should be started each year. Flowers golden yellow, and excellent for cutting.

- C. grandiflora, C. lanceolata. These species very similar. Bloom all summer if seed pods removed. Height $1\frac{1}{2}$ to $2\frac{1}{2}$ feet. June-October. Golden Giant, Perry's Double and Sunburst are improved forms. Height $2\frac{1}{2}$ to 3 feet.
- C. verticillata. A new form erect growing with finely cut foliage. Flowers smaller but borne in profusion all summer from June to October.

Cornus canadensis Bunchberry. Native woodland plant useful for growing in damp places under trees where few other plants will grow. The white bracts are the ornamental part as the flower itself is inconspicuous. Bunches of red fruits make the plant attractive in autumn. Height 3 to 6 inches. May.

Corydalis cava (bulbosa). An early spring flowering plant with fern-like foliage and light purplish flowers in clusters. Height 4 inches. May.

- C. cheilanthifolia. This species has yellow flowers. It prefers a fairly moist soil. Height 8 inches. May.
- C. nobilis. An interesting plant with finely cut leaves and flowers in a condensed raceme. They are white tipped with yellow and have a purple spot. Height 10 to 15 inches. May.

Delphinium Perennial Larkspur, Delphinium. Stately blue spikes of hybrid delphiniums familiar to all gardeners. Can be grown in groups in the border, in beds by themselves or in rows. Medium heavy loam generally recommended. Some say that lime is essential while others grow them on acid soils. Deep digging and good drainage necessary. Old rotted manure can be thoroughly mixed with the soil at digging time but some prefer a complete commercial fertilizer, such as 4-12-10, applied after the plants have started to grow. When flower spikes show, an application of weak liquid manure once a week may be beneficial. Most delphiniums are grown from seed. Fresh seed germinates more quickly than old but if seed has to be kept it should be stored in an air-tight container and kept in a cool place. Seedlings should be transplanted into cold frames when large enough to handle and transferred to the beds later. When plants become established some of the young growth may be removed early in spring so that more strength will go into the stems that are left. The most simple method of propagation is to divide the crowns in spring. As soon as the flower stalks begin to grow they should be tied to stakes as they are very susceptible to damage by wind. There are several strains of good delphinium seed available, some under the name of the parent plant. None of these hybrid forms reproduce themselves from seed but some fine seedlings of similar coloring are often obtained. Colors include cream, all shades of blue, often with lavender petals, as well as dark purple. Height 5 to 7 feet. July.

Belladonna types have more finely dissected leaves and loosely formed branching spikes of flowers. Height 3 to 4 feet. July.

D. grandiflorum (chinense) Bouquet Larkspur. Blooms first year from seed. Finely cut foliage and large single flowers. Some are cream and others beautiful shades of blue. Height 2 to 3 feet. July-September.

Dianthus Pink. Genus contains some very useful plants for the garden. They do well in any good garden soil in a sunny position.

- D. barbatus Sweet William. Generally treated as a biennial. Sown in July or August seedlings should bloom the next year. Seed can be bought in separate colors or in mixtures. Height 1 to 2 feet. July.
- D. Carthusianorum var. atrorubens. Flowers in clusters on long thin stems. The plants not long-lived but self-sown seedlings are often found. Bloodred. Height 1 to 2 feet. July.
- D. Caryophyllus Carnation. Besides florists' carnations there are varieties that are hardy outdoors in milder districts. Grenadins and Marguerites will bloom in late summer if the seed is sown indoors in early spring. Where climate is suitable they are perennial. Border carnations can be grown from seed but named varieties and good seedlings are propagated by layering. Soil must be sweet and if necessary lime can be dusted over it before digging. Plant in the open away from trees, sufficiently deep to hold plant firm in the ground. Early autumn is said to be the best time for planting. Plants heaved out by frost must be pressed back firmly. Strong growing varieties should be planted 15 to 18 inches apart and the flower stalks staked.
- D. X Allwoodii. A new race of plants half carnation and half pink. In suitable climates they bloom all summer and are most attractive. Named varieties can be obtained in Great Britain but in Canada these plants are grown from seed. Seedlings vary and only good ones should be retained and propagated from division or cuttings. Flowers single and double various colors; fragrant. Grow in any good garden soil in full sunshine. Height 6 to 12 inches. July-September.
- D. deltoides Maiden Pink. Excellent for front of border or for rock garden if not allowed to crowd out more delicate plants. Forms mats of dark green glossy foliage which remain attractive all season. Flowers rose, not large but numerous. Height 6 to 12 inches. June-August.
- D. deltoides erectus. A variety with stiff upright stems. Height 6 inches. June-July.
- D. deltoides Stern's Variety. This form has dark brownish-green foliage, brilliant crimson flowers and a neat compact habit of growth. Propagated by cuttings and division. Height 6 inches. June-August.
- D. gratianopolitanus (caesius) Cheddar Pink. Useful as an edging plant, as it makes neat, compact clumps of grayish-green foliage. Flowers pink. Height 6-12 inches. July.
- D. Knappii. Clusterhead form, flowers yellow. Propagated from seed. Height 8 to 20 inches. July.
- D. plumarius Grass Pink, Cottage Pink. Grayish-green foliage gives a distinct note of color all season and looks well in the front of the border where the plants will grow into large clumps that should be trimmed after blooming. Varieties with single and double flowers in various shades of pink as well as white. Good strains of seed can be obtained and desirable forms are propagated from cuttings or division.

Mrs. Sinkins.—Double, white, fragrant. Height 1 foot. July.

Mrs. Gladys Cranfield.—Has single rose-colored flowers with crimson eye. It also is fragrant. Height 1 foot. July.

D. Seguieri. An interesting species with small clusters of pink flowers. Blooms all summer. Height 8 to 12 inches. June-August.

Dicentra formosa Western Bleeding-Heart. Dwarf plant with attractive foliage. Pink flowers remain in good condition for several weeks. Easily propagated by division of the roots. Height 1 foot. May-September.

D. spectabilis Bleeding-Heart. Spring blooming plant with bright green, graceful foliage and long arching branches of pink flowers. Will grow in either sun or shade. Height $2\frac{1}{2}$ feet. May-June.

Dictamnus albus Fraxinella, Gas-Plant. An attractive plant with dark green glossy leaves which have a pleasant aromatic scent. Flowers white or mauvishpink. Grows slowly and is always compact and neat. Height 2 to 3 feet. June.

Digitalis Foxglove. Several perennial species but the one generally grown and known as Foxglove is biennial. Does well in partial shade and spreads rapidly from self-sown seed.

- D. ambigua Yellow Foxglove. Glossy green leaves and creamy-yellow flowers with brown spots on the inside of the tube. Height 3 feet. July-August.
- D. purpurea Common Foxglove. Biennials but occasionally the plants live for several years. Once established in the garden new self-sown seedlings spring up every year. Sometimes large plants kill out during the winter. Some evergreen boughs to hold the snow and to prevent the freezing and thawing will be helpful. If foliage is very heavy some of the largest leaves should be cut off before winter sets in. Horticultural forms listed by seed firms have large flowers in various shades of pink and purple as well as white. Height 3 to 5 feet. June-July.

Dodecatheon Meadia Shooting Star. An odd looking flower with the stamens pointing forward and the petals turned backward. Easy to grow in ordinary garden soil in sun or half shade. Height 1 to 2 feet. June.

Doronicum Leopards-Bane. An early spring flowering yellow daisy useful for cutting as well as in the border.

- D. caucasicum. Height 18 inches. May-June.
- D. Pardalianches Bunch of Gold. More bush-like in habit of growth than other species. Several flower heads grow on a stem. Height 2 to 3 feet. June.
 - D. plantagineum. Height 2 to 3 feet. May-June.

Dracocephalum Dragonhead. This is a late summer blooming perennial allied to Nepeta. It prefers sandy loam that is fairly rich and not too dry.

- D. Forrestii Blue. Height 1 foot. August.
- D. fruticulosum. Called by nurserymen Nepeta Souvenir de Andre Chaudron. Large blue flowers arranged in long spikes. Blooms all summer. Height 1 to 2 feet. June-August.
 - D. nutans. Dense spikes of purple flowers. Height 1 foot. June-July.
 - D. Ruyschiana. Blue. Height 2 feet. July-August.

Echinacea purpurea Purple Coneflower. Sometimes called Rudbeckia purpurea. Handsome, easily grown plant, leaves large, dark green and stems brownish. The King is a variety with rich crimson flowers. Height 4 feet. August-October.

Echinops Ritro Small Globe Thistle. A vigorous plant with globe-shaped flower heads. Petals are blue but the general effect of the head is gray. The seed heads are ornamental all summer and can be dried for winter bouquets. Height 3 to 4 feet. July-September.

Epimedium Barrenwort. Foliage attractive especially the bronzy tints of young leaves. Not particular as to soil but requires shade.

E. macranthum. Red, violet or white. Height 8 inches. May-June.

Erigeron Fleabane. Large, daisy-like flowers, blooms all summer. Of easy culture but does best in a position with a little shade.

E. macranthus. Pale lavender. Height 18 inches. June-July.

- E. speciosus. Lavender-blue. Height 2 to 3 feet. July-August.
- E. Mrs. E. H. Beale is a horticultural variety with large lavender-blue flowers. Height 1 foot. June-August.

Eryngium Sea-Holly. Foliage shiny and deeply cut. Flower heads like small teasels and surrounded by leafy bracts. Propagated by seed.

- E. alpinum Alpine Sea-Holly. Heads nearly globular. Metallic blue. Height 2 to 3 feet. June-July.
- E. maritimum Sea-Holly. Heads nearly globular, pale blue. Height 1 foot. July.

Erysimum asperum (Cheiranthus Allionii) Siberian Wallflower. A biennial but useful in the perennial border. Bushy habit of growth and brilliant orange flowers make it ideal for filling in bare spots. Seeds sown in August will make good plants to bloom in spring. If not allowed to form seed, plants will continue to bloom all summer. Height 10 to 12 inches. May-September.

Filipendula. Frequently called Spiraea. Has sprays of small flowers and does well in moist places but will grow in an ordinary border.

- F. hexapetala Dropwort, Meadowsweet. Fern-like leaves form a large tuft on the ground from which flower stems rise. Flowers creamy-white. Height 2 to $2\frac{1}{2}$ feet. June-July.
- F. purpurea Japanese Meadowsweet. A handsome plant with large palmate leaves. Flowers pink and carmine, on tall stems. Height $3\frac{1}{2}$ to 4 feet. July-August.
- F. rubra Queen-of-the-Prairie, Prairie Meadowsweet. One of the most beautiful, with pale pink flowers. Height 4 to 5 feet. July.
- F. Ulmaria European Meadowsweet, Queen-of-the-Meadow. Several varieties listed by dealers, singles and doubles, one has creamy-white blooms. Height 3 to 5 feet. July-August.

Funkia. See Hosta.

Gaillardia aristata (grandiflora) Blanket-Flower. One of the easiest perennials to grow. Blooms all summer if seed-heads are kept cut off. Flowers are a mixture of yellow and brownish-red. Easily grown from seed but seedlings of named varieties may vary a little. Should be propagated by division.

Burgundy.—Reddish-brown. Height 2½ feet. June-October.

Goblin.—Very dwarf. Height 1 foot. June-October.

Maxima Dazzler.—Large, yellow, red center. Height 3\frac{1}{2} feet. June-October.

Galega officinalis Goats Rue. A plant with pea-shaped flowers in racemes and pinnate leaves. Not very attractive as it soon becomes untidy. Varieties with white, blue and purplish flowers. Height 2-3 feet. July-August.

Galium verum Yellow Bedstraw. Spreads badly but the fine dark green foliage and small yellow flowers are attractive. Plant must be cut back when necessary. Height 3 feet. July-August.

Gentiana. Gentians often difficult to grow as they do not thrive in hot, dry weather. Those mentioned below will grow in ordinary garden soil.

- G. Lagodechiana. This is described as a dwarf variety of G. septemfida.
- G. septemfida. Has large open, bell-shaped flowers of clear blue. The stem spreads along the ground for several inches and ends in a cluster of flowers. Height 9 inches. August.

Geranium Cranesbill. Hardy herbaceous plants not to be confused with the plants generally called Geraniums which belong to the genus *Pelargonium*. Do well in ordinary soil and bloom over a long period.

G. ibericum Iberian Cranesbill. Purplish-blue flowers with darker center. Height 1½ feet. June-July.

- G. maculatum Wild Cranesbill. Large rose-purple flowers; grows best in a situation that is not too dry. Height $1\frac{1}{2}$ feet. June-July.
 - G. pratense. Rich purplish-blue. Height 2 feet. May-July.
 - G. sanguineum Blood-red Cranesbill. Height 18 to 20 inches. May-August.
- G. sanguineum var. lancastriense. A dwarf compact form with pale pink flowers and rich green leaves. Height 3 to 6 inches. May-August.

Gypsophila. Genus contains a number of useful garden plants commonly called Baby's-Breath. Requires some lime in soil to do well. Flowers small and graceful, in large panicles. Useful in combination with other cut flowers. Double-flowering kinds cut before fully open can be dried for winter use.

- G. paniculata Baby's-Breath. Single flowered variety easily raised from seed. Height 2½ to 3 feet. July-August.
- G. paniculata flore pleno. Double-flowering variety. The best is Bristol Fairy which has large flowers. Does not come true from seed.
- G. repens. A trailing plant with white or pale pink flowers useful and easy to grow in the rock garden. Height 6 inches. June-July.
- G. repens var. bodgeri. Recent introduction with double white flowers tinged with pink. Blooms earlier than the other doubles. Height 2 feet. May-September.
- G. repens var. Rosenschleir, Rosy Veil. Blooms all summer. Double pink flowers useful both in the garden and for cutting. Height 15 inches. July-September.

Helenium Sneezeweed. Fall blooming useful hardy plants for back of border. Flowers have globose disks and drooping ray florets. Easily propagated by seed or division.

- H. autumnale Golden Yellow. Height 3 to 6 feet. August-September.
- H. autumnale var. Riverton Beauty. Yellow with dark centre. Height 4 to 5 feet. August-September.
- H. autumnale var. Riverton Gem. Reddish-brown. Height 4 to 5 feet. August-September.
 - H. Hoopesii. Orange-yellow. Height 2½ feet. June.

Helianthus Sunflower. Perennial sunflowers well known for their attractive flowers in fall. Bloom for a long season and useful for cutting. Some varieties are bad spreaders and may overrun the border. Easily propagated by division.

- H. atrorubens (H. sparsiflorus) Dark-Eye Sunflower. Dark red disk, yellow rays. Height 5 to 8 feet. September.
- H. decapetalus (multiflorus). This species is the parent of several garden forms of which the following are worth growing:

Bouquet d'Or.—Double yellow. Height 4 to 5 feet. August-October.

Loddon Gold.—Large double golden yellow. Height 4 feet. July-October. Maximus.—Golden yellow. Height 6 feet. August-October.

Soleil d'Or.—Golden yellow, quilled petals. Height 4 to 5 feet. August-October.

H. salicifolius (orgyalis) Willow-leaved Sunflower. Tall growing, interesting before flowers open as narrow drooping leaves make it distinct from any other plant. Flowers small, lemon yellow. Height 7 to 10 feet. September-October.

H. rigidus (scaberrimus) Prairie Sunflower. Of spreading habit, suitable only for out-of-the-way corners. Variety "Miss Mellish" has semi-double, rich yellow flowers. Height 6 feet. July-August.

Heliopsis Orange Sunflower. These plants are not very like sunflowers as the flowers do not have brown centers and they bloom earlier in the season and last in good condition longer. Like the Heleniums they are subject to attack by aphids. A good strain of seed will produce some fine seedlings which may be propagated by division. Named varieties of H. scabra can be obtained from nurserymen. Height 3 to 5 feet. July-September. One of the best is Incomparabilis.

Helleborus niger Christmas Rose. Not a rose but a herbaceous plant that blooms at Christmas in mild districts. Plants covered with a box to protect them from the snow sometimes continue to open flowers during the winter. Some have pale cream flowers with pinkish shadings on the outside of the petals. Others pure white. Height 6 to 12 inches. October-May.

Hemerocallis Daylily. An old-fashioned plant now in high favor. Grows in various types of soil in sun or semi-shade and seems to be immune from insect pests and diseases. Varieties may be chosen that bloom from May to September. Plants grow into large clumps and need dividing every few years. Early spring is the best time to transplant them, but it can be done in autumn if necessary. Foliage long and strap-shaped but varies in width according to variety. Flowers grow on long straight stems in clusters and last only one day but buds continue to open over a long period. Species can be propagated from seed, hybrids by division of the roots.

The following species are worth growing:

- H. aurantiaca Orange Daylily. Height 3 to 4 feet. July-August.
- H. citrina Long Yellow Daylily. A night blooming variety with fragrant flowers. Height 4 to 5 feet. August-September.
- H. Dumortieri Early Daylily. Orange-yellow, faintly flushed with bronze on the outside of the petals. Height 2 feet. June.
- H. flava Lemon Daylily. An old garden plant but still one of the best. Flowers fragrant. Height 3 to 4 feet. June.
- H. fulva. Tawny or Fulvous Daylily. Undesirable for the border because of its spreading habit. In an out-of-the-way corner in sun or shade its handsome flowers and foliage are attractive all summer. Height 4 to 5 feet. June-August.
- H. fulva var. Kwanso. A double-flowering form of similar fulvous coloring but not such a bad spreader. Height 3 to 4½ feet. August-October.
- H. Middendorffii Amur or Middendorfs Daylily. Orange wide open flowers. Height $1\frac{1}{2}$ feet. June-July.
- H. Thunbergii Thunbergs Daylily. Rich orange. Height 4 feet. July-August.

There are a large number of horticultural varieties and many new ones being introduced annually. The following few have proved outstanding in trials at Ottawa:

RECOMMENDED HEMEROCALLIS VARIETIES

June-July Color August-September

Pale Yellow

Graminae Hyperion
Pale Moon Morning Star
Patricia Mrs. W. H. Wyman

RECOMMENDED HEMEROCALLIS VARIETIES—Concl.

Color August-September June-July Yellow Gold Calypso Garden Gold Dr. Regel Multiflora Thunbergii Gold Dust Woodlot Gold Apricot-Buff Apricot Autumn Haze Donald Wyman Boutonniere Cinnebar Bicolor-Red Bagdad Margaret Perry Baronet Mikado Cissy Guiseppi Rajah Wau-Bun Festival

Hesperis matronalis Dames-Violet or Sweet Rocket. A biennial but when once established in a border it seeds itself freely and forms colonies. Flowers pale purple to white. Height $2\frac{1}{2}$ to 4 feet. June.

Heuchera sanguinea Coral-Bells. Rosettes of leaves interesting even when there are no flowers. Common name describes the flowers well and they last in bloom for several weeks. Height $1\frac{1}{2}$ to $2\frac{1}{2}$ feet. June-August.

Hibiscus Moscheutos Rose-Mallow, Mallow Marvels. Not quite hardy at Ottawa; sometimes live for a few years when conditions are favorable. Large bushy plants with dark foliage and large hollyhock-like flowers. Varieties with white, pink and red flowers. Height 5 to 6 feet. August-October.

Hosta (Funkia) Plantain Lily. Useful for shady borders. Foliage attractive and distinctive, varying in color with species. Plants like rich, deep soil with plenty of moisture. Do best in shade but will grow in open border.

H. caerulea. The large heart-shaped leaves are dull green and the long-stemmed blue flowers stand up well above them. Height 2 to 3 feet. June. A variety with leaves margined with white has lilac flowers and is called Funkia ovata marginata by gardeners. Height 2 feet. July.

H. plantaginea (Funkia subcordata) Corfu Lily. Large, light green, deeply grooved leaves and white, fragrant flowers. Height 1 to 2 feet. August-September.

H. Sieboldiana. Leaves gray-green and deeply grooved. Flowers mauve-purple. Height $2\frac{1}{2}$ feet. June.

Iberis Candytuft. Dwarf evergreen shrubs with dark green foliage, easy to grow in border or rock garden.

- I. corifolia. White. Height 8 to 12 inches. June.
- I. gibraltarica. White or reddish-lilac. Height 1 foot. June.
- I. sempervirens Perennial Candytuft. The commonly grown species. Hardy and easily propagated by cuttings or division. Height 1 foot. June.

Incarvillea Delavayi Delavays Incarvillea. Large trumpet-shaped, rosypurple flowers. Unusual looking and fairly hardy. Height 2 feet. June-July.

Iris. A large genus of plants, many of which are hardy in Canadian gardens. Tall Bearded is the name of the group generally grown. The beard is the tuft of hair-like appendages which can easily be seen on the Falls. Some dwarf varieties are bearded also so the term "Tall" is used to distinguish them. The chief requirements of these plants are well-drained soil and plenty of sunshine. Kind of soil seems unimportant. No manure should be used at

planting time but if beds can be prepared several months ahead well-rotted farmyard manure can be dug in then. Bonemeal can be scattered on the soil and mixed in at planting time. July and August are the best months for planting but the irises will grow if planted in spring or late in summer. Too deep planting must be avoided. Just enough earth should be placed over the rhizome to keep the plant in place until the roots start into growth. After a few years the roots will become overcrowded and should be dug up and divided. The old center part may be discarded and the young outer portions replanted in fresh earth. Two or three fans of leaves with roots attached make a good division. In a border three or five clumps of the same variety planted near together will be more attractive than one alone. Divisions planted about one foot apart will soon increase and make a large mass of color when in bloom. Numerous varieties are available so that a gardener can choose plants to fit in any color scheme.

Some well recommended varieties are shown in table on page 20.

I. chamaeris I. pumila. These species and their hybrids generally called Dwarf Hybrids have flowers similar in appearance to those of Tall Bearded varieties but the plants are dwarf. They grow in well-drained soil either in the border or rock garden. Some have variety names but most are listed under color: White, Blue, Yellow and Purple. Height 6 to 10 inches. May.

I. flavissima (arenaria). Not well known but a hardy species and with attractive small brilliant yellow flowers. Should be divided every two or three years or a dressing of leaf mold applied every year. Height 5 to 6 inches. May.

Intermediate Bearded. Intermediate in height and date of bloom between the Dwarf and the Tall Bearded Sections. Very floriferous and useful in the garden. Height 2 to 3 feet. May.

Dorothea.—Soft grayish-lavender. Fritjof.—Blue. Florentina.—Bluish-white. Ingeborg.—Pure white. Ivorine.—Cream.

Kochii.—Dark violet.

Moonbeam.—Sulphur-yellow.
Sunbeam.—Deep canary.
Zua.—Silvery-blue.
Zwanneburg.—Blend of gray,
brown, old gold and green.

The Siberian Iris belongs to the Beardless section and the named varieties have been derived from *I. sibirica* and *I. orientalis*. Plants have a compact habit of growth and the fibrous roots are easily divided in spring or late summer. They do well in any ordinary soil except heavy clay and stand dry conditions fairly well. If small divisions are used a group of three planted about ten inches apart will soon increase and make a large clump. They should be in the center of the border. They bloom in June about the same time as the Tall Bearded section. There are a large number of varieties, most of which are some shade of blue or violet.

Caesar and Caesar's Brother.—Dark, self-colored violet-purple.

China Blue.—Very pale blue.

Dragonfly.—Medium blue, very tall and dainty. 5 feet.

Emperor.—Deep violet-blue. Gatineau.—Large pale blue.

Madawaska.—Tall, dark violet, earlier than Pickanock.

Matane.—White with fluted edges to the Standards and Falls.

Perry's Blue.—Tall, medium blue.

Pickanock.—Large, deep violet-blue with white blotch on the Falls.

Red Emperor.—Wine-red with a touch of blue, more curious than beautiful.

Rimouski.—White with yellow markings on the Falls.

Tropic Night.—Deep violet-blue, self-colored.

SUBORDINATE COLOR

| | 9 Bitone or Bicolor | Rhein Nixe | Arnigo Pioneer Mount Royal, C Monsignor | Morocco Rose Dauntless Ethel Peckham Imperator The Red Douglas | Prairie Sunset Rameses Vice Regal C. Cheerio Louvois Shuh Jehan, C | City of Lincoln Orangeman Frank Adams Deseret |
|--------------|------------------------|--|--|--|---|--|
| RED TONED | 8 Feathered | Midwest True Delight | | | | Siegfried Moonglo |
| H | 7 Self | | Mulberry Rose Mother of Pearl Lavender C Baldwin Labor Indian Hills | Miss California Freida Mohr E. B. Williamson Solferino Morning Splendour | At Dawning Christobel Coppersmith Mrs. Valerie West Mary Geddes Alastor | California-Peach Naranja |
| (D | 6 Bitone or Bicolor | Golden Fleece | | | Rosy Wings Pres. Pilkington Alta California Talisman Midwest Gem | Ola Kala Fair Elaine |
| YELLOW TONED | 5 Feathered | Cascade | | | | Tiffanja Marquita |
| X | 4 Self | Easter Morn Snowqualmic Arctic Kalinga | Pearl Maiden, C | Capt. Wells | Sunset Serenade Tebacco Road Grand Canyon Jean Cayeux Clara Noyes Marechal Ney | Elsa Sass Golden Majesty Ming Yellow Golden Hind Chromylla Glen Golden. C |
| | 3 Bitone or Bicolor | Wabash Dorothy Dietz Los Angeles Salonique | El Capitan Missouri Ann Page Valor Sir Michael | Dogrose Tapestry | Junaluska Lent. A. Williamson Dolly Madison | |
| BLUE TONED | 2 Feathered | Blue Shimmer True Charm | Theodolinda | | | |
| | Self | Crystal Beauty Matterhorn Ivory Towers Gudrun Jake | 'Great Lakes. C. Shining Waters Sable Blue Velvet Wedgewood Gloriole | Master Charles Pink Satin Ethelwynr Dubuar Happy Chance. C | Elmohr Aline Blue Monarch | |
| | Predominant Color | White W | Blue B | Red R | Blended or Shot S | Yellow |

C after name denotes Canadian origination.

For the border, the following are recommended: Caesar's Brother, Gatineau, Matane, Pickanock and Tropic Night.

The Japanese iris is not so hardy as the other irises mentioned and thus not suitable for growing in a mixed border. They require rich, medium heavy loam and plenty of moisture during the growing season. Some growers recommend growing them in partial shade to prevent the wilting of the petals. The flowers are large and flatter than those of other irises as the Standards are small and inconspicuous. The names are very confused but color descriptions are given in catalogues. They bloom in July when other irises are over.

The following species are worth growing and need no special care:

- I. aurea. Does best in fairly heavy soil. Deep yellow. Height 3 to 4 feet. July.
- I. cristata. Suitable for the rock garden. Pale bluish-lilac. Height 4 inches. May.
- I. ensata. An early blooming species with grayish-green foliage and blue Standards and white Falls. It does well in dry soil. Height 1 to 2 feet. May.
 - I. ochroleuca. Similar in habit and requirements to I. aurea, creamy-white.
- I. Pseudacorus Yellow Flag. The wild iris of English streams. Will grow in ordinary garden soil. Height 4 feet. June.
- I. versicolor Blue Flag. The native blue iris that is so common in marshy ground. Will grow well in the garden and any one interested will probably be able to find plants of several colors growing in their native haunts.

Kniphofia (Tritoma) Torch-Flower, Poker-Plant. Blooms in late summer. Orange-flame colored flowers. Worth trying, but not very hardy. Propagated by seed and division and will grow in sun or semi-shade. Height 2 to 6 feet. July-August.

Lathyrus latifolius Everlasting Pea. A perennial climber. Flowers in clusters, purplish-rose, pink and white or pure white. Spreads rapidly from the root but difficult to transplant so generally grown from seed. Height 5 feet. June-August.

Lavatera cachemiriana Kashmir Mallow. Easily grown from seed, makes large bushy plants. Flowers pink, borne in profusion all summer. Height 4 to 5 feet. July-September.

L. thuringiaca Siberian Rose Mallow. Similar to Kashmir mallow. A hardy and attractive plant for large borders. Height 3 to 4 feet. July-September.

Liatris pycnostachya Kansas Gay Feather. Conspicuous colored bracts along with the flowers make attractive spikes of rosy purple. Height 3 to 4 feet. July-September.

L. spicata Blazing Star. This has deeper-colored flowers and grows well in dry soil. Height 12 inches. July.

Limonium latifolium (Statice latifolia) Perennial Statice, Big Leaf Sea Lavender. Leaves large and leathery. Flower lavender-blue. Attractive in the garden and useful for winter bouquets. Height 3 feet. July-October.

Linaria macedonica Macedonian Toadflax. Flowers similar to common wild toadflax but much larger. Foliage grayish-green. Height 3 feet. July.

Linum flavum Yellow Flax. An upright growing plant with a woody base. Makes an attractive plant for border or rock garden and blooms over a long period. Not permanent at Ottawa but easily raised from seed. Height 1 foot. July-August.

L. austriacum. This is similar to L. perenne but has larger flowers.

L. perenne Flax. A dainty plant with narrow green leaves and pale blue flowers open only in the morning. Height 1 foot. June-September.

Lithospermum canescens Puccoon. A native of Manitoba and very hardy. Flowers bright orange. Height 10 inches. June.

Lobelia cardinalis Cardinal-Flower. A native plant with red flowers. Needs moist soil and a shady position. Height 2 to 3 feet. August.

L. siphilitica Large Blue Lobelia. Not such a showy plant as the last but the blue flowers are attractive. Height 1 to 3 feet. August-September.

Lupinus polyphyllus Perennial Lupine. Among the finest perennials but unfortunately they will not grow well in some gardens. Foliage ornamental, leaves remain in good condition all season. Pea-shaped flowers arranged on long spikes can be obtained in almost any color, such as pale and dark blue, pink, claret, yellow and apricot. Propagated from seed and plants should be set in permanent place when quite young as the long tap roots make them difficult to handle later. Ground should be well prepared by deep digging and if heavy, coarse sand should be used to lighten it. Spring is best time to plant and too deep planting should be avoided. Height 1 to 4 feet. June-July. Some of the best known strains are Downers, Harkness, Ipswich, and Regal.

Russell lupines flower the first year from seed and appear to be as hardy as other varieties. Individual flowers are large and more open and many are bicolors.

Lychnis Arkwrightii. A showy hybrid with large flowers varying in shade from white to bright red. Height 12 to 15 inches. July-August.

L. chalcedonica Maltese Cross, Jerusalem Cross. Individual flowers are not large but there are a number in the flower head. Color is brilliant scarlet and the plant is hardy and showy. Can be grown from seed or division. Height 2 to 3 feet. July-August.

- L. Coronaria (Agrostemma Coronaria) Mullein-Pink, Rose Campion. Leaves soft gray and flowers rich crimson. A short-lived perennial but sows itself freely. Height 1 foot. July-August.
- L. Haageana. Large flowers of various shades of red. Height 1 foot. July-August.
- L. Viscaria. Flowers rosy-purple arranged in a clustered panicle. A double-flowering variety is also attractive. Height 1 to $1\frac{1}{2}$ feet. June.

Lysimachia clethroides Snowy Loosestrife. An easily grown plant with spikes of white flowers. Spreads badly. Height 2 to 3 feet. June-August.

- L. Nummularia Creeping Jenny, Moneywort. A creeping plant with golden flowers. Spreads badly but attractive where it can be allowed to wander at will. June-July.
- L. punctata. An old-fashioned plant often found in gardens. Flowers yellow and arranged in axillary whorls. Height 3 feet. July.
- L. vulgaris Common Loosestrife. Differs from previous species in the arrangement of the flowers which are in leafy panicles. Height 3 feet. July.

Lythrum Salicaria Purple Loosestrife. A hardy plant, with dense spikes of small, purple-rose flowers. Horticultural forms of this species are listed as L. roseum. Height 3 to 4 feet. June-August.

Lythrum Morden Pink. A very good form originated at the Experimental Farm, Morden.

Macleaya cordata. Plume Poppy. Formerly known as Bocconia. A tall growing plant with coarse stem and leaves—only useful at the back of a wide border. Most attractive feature is contrast of white glaucous stem and underside of leaves. Tassles of small creamy flowers in July.

Malva moschata Musk Mallow. Leaves roundish with shallowly cut edges. Easy to grow and spreads rapidly from self-sown seedlings. Flowers pink (or white in one variety). Height $2\frac{1}{2}$ feet. July-August.

Malvastrum coccineum Prairie-Mallow. A native of the Prairies with hoary, finely-parted leaves and red flowers which is suitable for dry positions in the border or rock garden. Height 6 inches. July.

Mammillaria vivipara Pink Cushion Cactus. See Coryphantha.

Mertensia virginica Virginia-Bluebell. A beautiful spring flower that grows either in sun or shade. Foliage purplish at first but later grayish-green. After flowering, the plant dies down and disappears until the following spring. Can be propagated by seed or division. Flowers blue bell-shaped and borne in nodding clusters. Height 1 to 2 feet. May.

Monarda didyma Oswego-Tea. Bee-Balm. A common plant in old gardens and useful because of its date of blooming, hardiness and ease of culture, either in sun or shade. Spreads rapidly and easily propagated by division. Flowers arranged in round heads, crimson in color. Leaves fragrant. Height 3 to 4 feet. July-September.

Cambridge Scarlet. Large, rich scarlet flowers. Height 3 feet. July-August. Rose. Rose-colored flowers, very effective in the mass. Height 3 feet. July-August.

M. fistulosa Wild Bergamot. A species with mauve-colored flowers which will do well under dry conditions. Height 3 feet. July-August.

Myosotis Forget-Me-Not. Biennials or short-lived perennials. Self-sow freely so easily kept in border. Victoria, Royal Blue and Perfection are good blue-flowering varieties and rosea is pink. Seeds should be sown in early summer and the seedlings planted out in September. Height 6 to 12 inches. May-June.

Nepeta grandiflora var. Souvenir de Andre Chaudron. See Dracocephalum.

• N. Mussinii. A dwarf plant with grayish-green leaves and lavender-blue flowers. Height 1 foot. June-July.

N. ucranica Russian Catmint. Similar to N. Mussinii but has taller and sturdier stems. Very hardy. Height 2 feet. July-August.

Oenothera Evening Primrose. There are a number of species of this genus worth growing in the garden, several of which are native to Canada.

- O. caespitosa Rock or Alkali Rose. Does well on dry, alkaline soils. Leaves clustered on stalk and flowers stemless. White or pink in color. July-August.
- O. fruticosa hybrida Sundrops. Large yellow flowers. Height 1 to 2 feet. June-July.
- O. missouriensis. Trailing habit of growth and large yellow flowers. Height 1 foot. July-September.

Omphalodes verna Creeping Forget-Me-Not. A creeping plant with small sprays of blue flowers. Height 4 to 6 inches. April-May.

Opuntia polyacantha Prickly Pear Cactus. Useful for hot, dry positions in the garden. A compact growing plant with thick, fleshy leaves more or less covered with spines. Yellow flowers large, attractive. Height 8 inches. June.

Paeonia Peony. One of the most beautiful and hardiest of perennial plants. Attractive at all stages of its growth. Foliage dark glossy green turning to bronze in autumn. Not subject to insect attacks but sometimes destroyed by disease. Flowers large and showy and useful both in the garden and as cut flowers. Plants may be grown in beds by themselves or in large borders.

Best time to plant is in September and roots should be so placed that there are two inches of soil above the crown. Too deep planting is frequently the cause of peonies not blooming. Advisable to mulch plants for the first winter to prevent the alternate freezing and thawing. After first year no mulch is necessary. In late autumn leaves should be cut off and burned to control disease.

To divide a large plant, dig it up carefully, shake off the loose earth and leave the plant exposed to the sun and air for an hour or two to make the tubers less brittle. Make divisions with as little damage to the tubers as possible. A division with five eyes is a good size but others can be used.

Peonies can be grown from seed but the seedlings are not likely to be like the parent and many of them will have single blooms. It will be four or five years before the seedlings bloom and possibly another year or two before the flower will reach full beauty.

RECOMMENDED PEONY VARIETIES

| Double | Semi-double | Single and Japanese |
|------------------------------------|----------------------|----------------------|
| | White | |
| Festiva Maxima | Couronne d'Or | Isani Gidui |
| Kelways Glorious | *Rare China | Krinkled White |
| Le Cygne | | Le Jour |
| Mrs. Edward Harding | D11. | |
| | Blush | v - |
| Baronesses Schroeder | Lady Alexandra Duff | *Josette |
| Blush | Marie Jacquin | Toro-no-Maki |
| Solange | | |
| Tourangelle | Light Pink | |
| Coonsions Charles | Silvia Saunders | *Helen |
| Georgiana Shaylor Hansina Brand | Silvia Saunders | Kukeni-Jishi |
| Milton Hill | | Trunciii-o isiii |
| Myrtle Gentry | | |
| | Medium Pink | |
| Edulis Superba | Phyllis Kelway | *Largo |
| La France | , , , | Tokio |
| Martha Bullock | | |
| Sarah Bernhardt | | |
| Walter Faxon | | |
| | Dark Pink | |
| Auguste Dessert | Reine Baronet | L'Etincellante |
| Blanche King | | Tomate-Baku |
| | Red | |
| Adolphe Rousseau | Mons. Martin Cahuzac | L'Instituteur Doriat |
| Cherry Hill | | Mikado |
| Felix Crousse | | |
| Karl Rosenfeld | | |
| Mary Brand | | |
| Philippe Rivoire | | |

^{*}Newer expensive varieties.

Papaver Poppy. A number of species of perennial poppies are useful in the garden. All are easily raised from seed which is very fine and so must be just pressed into the soil and not covered. As poppies do not like to be transplanted it is best to sow seed in the situation in the border where they are to grow permanently.

- P. alpinum Alpine Poppy. A dwarf species suitable for the rock garden but can also be used in the front of the border. Has not proved permanent at Ottawa but easily kept by allowing it to self seed. Height 6 inches. May-July.
- P. amurense Yellow Wonder. Fine buttercup-yellow flowers which last well when cut. Grows easily from seed and blooms all summer. Height 2 feet.
- P. nudicaule Iceland Poppy. Native to Arctic regions, very hardy. Horticultural forms have better and more varied colors than the original species. Height 18 inches. May-September.

Gartref.—An Australian strain with large flowers of beautiful art shades, as well as orange and white. Many have dark line edging the petals.

Kelmscott.—Flowers in a great variety of colors on long, wiry stems.

Sunbeam.—Also a good strain.

P. orientale Oriental Poppy. Large red poppies with cut-up leaves. Handsome but color of some makes them difficult to place. Named varieties must be propagated by division, in August. Leaves die down in midsummer, and new leaves grow up in the fall. Should be moved in August.

Beauty of Livermore—Rich

crimson.

Ethel Swete—Cherry pink.

Cowichan—Rich red.

Mrs. Perry—Salmon pink.

Olympia—Orange, double. This is a bad spreader.

Perfection—Pink.

Perry White.

Wunderkind—Carmine rose.

Penstemon Penstemon, Beard-Tongue. Many are native to North America. Can be raised from seed or from cuttings. Prefer sandy, well-drained soil.

- P. acuminatus. A native of Saskatchewan, it has bluish leaves and bright blue flowers. Height 15 inches. June-July.
- P. albidus White Flowered Beard-Tongue. Dwarf plant with white or near white flowers. Height 6 to 10 inches. July-August.
- P. barbatus and P. Torreyi Scarlet Beard-Tongue. Both have long loose panicles of bright red flowers. Torrey's has the larger blossoms and is generally grown. Height 3 to 5 feet. July-August.
- P. erianthera (P. cristatus) Crested Beard-Tongue. Recommended for dry soils. Flowers red or purple. Height 6 to 15 inches. June-July.
- P. glaber Smooth Beard-Tongue. Attractive plant with glaucous foliage and clear blue or rosy-pink blooms. Stems partially prostrate. Should have more moist conditions than some of the others. Height 12 to 18 inches. July.
- P. grandiflorus Large-Flowered Beard-Tongue. Probably the most beautiful of all but does not do well in every garden. It seems to thrive on a hot, dry bank in full sunshine. Stems upright and bluish-green leaves very striking. Flowers large and lavender-blue in color. Height 2 to 5 feet. June.
- P. ovatus. An upright growing species with bright green leaves. Flowers blue changing to purple. Height 2 to 3 feet. July-August.

Phalaris arundinacea var. picta Ribbon Grass. A bad spreader. Grown for its white and green striped leaves which are attractive in the garden and useful for mixing with cut flowers. Height 12 to 18 inches.

Phlox Phlox. A large genus containing many beautiful species, as well as a large number of horticultural forms generally known as perennial phlox.

P. amoena Hairy Phlox. A semi-prostrate species with rose colored flowers. Height 6 inches. May-June.

- P. carolina (suffruticosa). Said to be the parent of the early flowering tall white phlox Miss Lingard. Similar to other named varieties except for its earlier blooming habit and thick glossy foliage. Height 2 to 3 feet. June-July.
- P. divaricata (canadensis) Wild Sweet William. Lavender-blue flowers. Prefers some shade and a fairly moist soil. There is a white flowering variety. Height 12 inches. May-June.
- P. Hoodii Hoods Phlox. Native of Alberta and grows in dry soil. Has a spreading mat-like habit of growth, useful for edging borders. Flowers white. Height 2 to 3 inches. May-July.
- P. ovata Mountain Phlox. Medium sized smooth leaves and semi-prostrate habit. Flowers in loose clusters, bright pink or red. Height 10 to 20 inches. May-July.
- P. subulata Moss-Pink. Useful for the sheets of color needed in rock gardens. Does equally well for edging borders if plants are cut back after flowering to prevent them growing too large. Propagated by cuttings or division. Old plants can be divided in either spring or early autumn or, if a shaded cold frame is available, immediately after flowering. Height 4 to 6 inches. May.

Phlox paniculata Perennial Phlox. Supposedly the parent of the horticultural forms that are so important in the garden in late summer. The brilliant colored flowers make a great show and where space is available a collection of varieties is well worth growing. Will grow either in sun or semi-shade but like good soil and plenty of moisture during the growing season. Every three years or so plants should be taken up in spring, divided and replanted in fresh soil. Subject to mildew and the foliage should be sprayed with a good fungicide, starting early in the season. Propagated by division or cuttings. Height and date of blooming vary. If main flower stalk is cut off as soon as blooms fade, side shoots will develop. Most varieties are not hardy on the Prairies.

RECOMMENDED VARIETIES OF PHLOX

Rheinlander Sweetheart

| Lighter Eye | Clear White | Deeper Eye |
|---------------|--|--------------------------------|
| | Mia Ruys White Admiral Henderson's | Bridesmaid Europa |
| | Pink to Salmon | |
| Apple Blossom | Columbia Elizabeth Campbell | Daily Sketch P. D. Williams |

Jules Sandeau

RECOMMENDED HEMEROCALLIS VARIETIES—Concl.

Red to Crimson

Eva Foerster

Charles Curtis Cheerfulness E. I. Farrington Leo Schlageter San Antonio Spitfire

Viking Wurtembergia

Lavender to Violet

Le Mahdi Mikado

Caroline Vandenberg

Crepuscule Prof. Went

Mrs. Ethel Pritchard

Progress

Physalis Alkekengi (P. Franchetii). Chinese Lantern Plant. Not an attractive plant and flowers are inconspicuous. Grown for the bladder-like calyx which colors brilliantly in fall and is dried for winter bouquets. Spreads badly. Height 2 to 3 feet. September-October.

Physostegia virginiana False Dragonhead. Useful because of its late blooming habit. Soft pink tubular flowers arranged in a close spike. Height 3 to 4 feet. August-September.

Variety vivid has deeper colored flowers and a dwarfer habit. Height 18 inches. August-October.

Platycodon grandiflorum Balloon-Flower. Common name describes shape of buds just before they open. Plants do not show above ground until quite late in spring so it is desirable to mark their position, otherwise they may be injured when border is being cleaned up. Require good sandy loam which must be well drained. Neat, tidy plants of upright habit. Flowers blue or white. Height 2 to 3 feet. July-August.

Polemonium caeruleum Jacobs Ladder. A useful hardy perennial. Pinnate leaves attractive, flowers blue with prominent yellow stamens. Height 3 feet. June-July.

P. Richardsonii (humile) Dwarf Polemonium. Similar to P. caeruleum but dwarf. Height 8 inches. May-June.

Polygonatum Solomons Seal. A useful plant for heavy shade. Arching stems rise from the rootstock, tubular white flowers hang down below the

- P. latifolium (P. Thunbergii). Height 4 feet. May-June.
- P. multiflorum European Solomons Seal. Height 2 to 3 feet. May-June.

Potentilla Cinquefoil. Several herbaceous species. Some only a few inches and others medium sized plants. Species are raised from seeds and varieties from division of the roots. Do best in fairly heavy soil.

- P. ambigua. Dark green leaves, brilliant yellow flowers. Height 6 inches. May-July.
- P. atrosanguinea. Leaves resemble those of strawberries. Flowers crimson. Height 1 foot. July.
 - P. nepalensis. Flowers rose colored. Height 1 foot. July-September.
 - P. ruprestris. Large white flowers. Height 1½ feet. May-July.

Poterium obtusum Japanese Burnet. See Sanguisorba.

Primula Primrose. Most species require a fairly moist soil. Hardy but do not grow well where summers are hot and dry. Raised from seed which can be sown as soon as ripe or in spring. Seed sometimes slow in germinating. Large plants can be divided immediately after flowering and grown in a shady position where they can be watered in dry weather.

- P. Auricula Auricula. The true species has yellow flowers but cultivated forms have large, richly colored, velvety blossoms with delicate fragrance. Foliage is grayish-green without conspicuous veins so the plants are easily distinguished from primroses. Can be grown from seed or division. Not very hardy and need a sheltered spot in the garden. Height 6 to 8 inches. May-June.
- P. cortusoides and P. saxatilis. Apparently similar and both have clusters of mauvish-pink blooms. Hardy and grow well in sun or shade. Height 8 to 10 inches. June-July.
- P. denticulata. Hardy at Ottawa but flowers sometimes damaged by late frost. They are arranged in round heads and are pinkish-mauve, mauve and white in color. Height 6 to 12 inches. May.
- P. japonica Japanese Primrose. Requires rich marshy ground and partial shade. Where the conditions are suitable it is a handsome plant. Flowers are in whorls and several tiers are formed on vigorous plants. The reddish color varies in different seedlings. Height 1 to 2 feet. June-July.
- P. Juliae. Small neat plants with purplish flowers. The variety Wanda is frequently grown. Height 6 to 8 inches. May.
- P. longiflora. Foliage and stems appear to be covered with fine meal and flowers are lilac. Requires ordinary garden soil. Height 9 inches. July.
- P. polyantha (P. vulgaris elatior) Polyanthus, Bunch Primroses. Showy spring flowers with clusters of large blooms in brilliant colors. Grow well in shady places, in reasonably moist soil. Strains vary somewhat in size and color. Good seedlings can be propagated by division of the plants. Height 6 to 12 inches. May.

Giant strains have large flowers in red, purple and yellow.

Gold-laced have smaller flowers in red shades with distinct gold lacing on the petals.

Munstead strains have large flowers in shades of white, cream and gold.

- P. pulverulenta. Resembles P. japonica in habit but flowers pink. Height $1\frac{1}{2}$ feet. May.
- P. Sieboldii. Foliage rich green, flowers large, pink, mauve or white in color. Do well in cool, light, rich well-drained soil. Height 10 inches. June.
- P. veris Cowslip. Flowers in clusters but individual blooms smaller than those of polyanthus and hang down instead of facing upwards. Where they grow wild flowers are rich yellow, but cultivated forms with colored flowers are obtainable. Height 6 to 8 inches. May-June.

Pulmonaria saccharata maculata Spotted Lungwort. Handsome leaves spotted with silver form large rosettes. Flowers purplish-blue and pink. Grows in either sun or shade. Height 1 foot. May-June.

Ranunculus acris flore-pleno Double Buttercup. Hardy old-fashioned plant with small, double, yellow flowers. Height 1 to 3 feet. May-October.

Rudbeckia Coneflower. Many species native to North America. Showy, easily grown plants with drooping ray florets and cone-like centers. Propagated from division or seed.

- R. fulgida Orange Coneflower. Orange ray florets and black-purple disks. Height 3 feet. July-August.
- R. hirta Black-eyed Susan. This is a well-known yellow daisy of the fields but is quite attractive in the border. Height 1 to 3 feet. August.
- R. laciniata var. hortensia Golden Glow. The cut-leaved foliage gives this plant its specific name. Handsome when well grown but spreads rapidly and should be given a corner to itself. Flowers double, golden-yellow. Height 7 to 8 feet. July-September.
 - R. nitida. Yellow florets and disks. Height 4 feet. August-October.

R. speciosa (Newmanii) Showy Coneflower. Golden-yellow florets and high black disk. Height 2 to $2\frac{1}{2}$ feet. August-October.

R. subtomentosa Sweet Coneflower. Soft yellow florets with dull brownish cone. Height 3 to 4 feet. August-October.

R. triloba Brown-eyed Susan. A biennial but once established will self-sow and may spread through the border. Blooms over a long period late in season. Must be propagated from seed. Height 2 to 4 feet. August-October.

Salvia Sage. The scarlet salvia frequently seen in gardens is a tender perennial but is grown as an annual in Canada. For the hardy border there are several species that do well in a sunny position. Easily raised from seed.

- S. Pitcheri (azurea grandiflora) Great Azure Sage. Gray leaves, blue flowers. Height 4½ feet. September-October.
- S. pratensis. A hardy species with bright flowers. Height 2 feet. June-July.
- S. Sclarea Common Clary. A biennial but self-sows freely. A stately plant for center or back of bed where its grayish foliage is attractive. Mauve flowers surrounded by mauvish-pink bracts. Height 2 to 3 feet. July-August.
- S. superba (nemorosa). Spikes of deep purple flowers and reddish bracts. Height 2 feet. July-September.

Sanguisorba obtusa (Poterium) Japanese Burnet. An uncommon plant which has attractive foliage all season. Purplish-pink flowers arranged on a blunt spike, having the appearance of a bottle brush. Height 2 to 3 feet. July-August.

Saponaria ocymoides Rock Soapwort. A creeping plant with starry rosepink flowers suitable for the rock garden. Height 9 inches. July.

S. officinalis Bouncing Bet. A very hardy plant of upright habit. In some districts it has escaped from cultivation and has naturalized itself. Flowers pinkish-mauve to white. A double form is similar in habit and color. Height 3 feet. July-October.

Saxifraga Rockfoil. Most species of this genus of plant are suitable only for growing in a rock garden and even there require specially prepared soil. The species that can be cultivated in borders are now called *Bergenia*.

Scabiosa caucasica Caucasican Scabious. Useful plants that bloom all summer if conditions please them. Prefer light soil with leaf mold and lime added. Annual dressings of well-rotted manure beneficial. After three or four years plants may deteriorate. Grown from seed but seedlings vary. Named varieties propagated by division. Height 3 feet. July-September.

House's Scabious is an improved strain and includes several named varieties with large flowers in various shades of blue and mauve, as well as white. Height 3 feet. July-September.

S. Fischeri. A smaller growing hardy species with heads of blue flowers. Height 2 feet. August-September.

Sedum Stonecrop. Many species and varieties but the majority suitable only for the rock garden. Seedlings frequently show great variation so choice varieties are propagated by division. The following are suitable for the border.

- S. kamtschaticum Orange Stonecrop. This is an upright growing species with orange-colored flowers. Height 1 foot. June-August.
- S. kamtschaticum var. variegatum. The variegated leaves of this variety make it an attractive plant all season. Height 1 foot. July-August.
- S. Middendorffianum. A useful, hardy species with upright habit and leaves that color beautifully in fall. Flowers yellow. Height 6 to 12 inches. June.
- S. Sieboldii. Leaves glaucous blue, stem decumbent and flowers pink. Height 6 to 8 inches. August-September.

- S. spectabile Showy Stonecrop, Live-for-Ever. The most useful species for the border. Neat glaucous foliage attractive all summer. Hardy and easily propagated by division. Pink flowers in large clusters. Height 12 to 18 inches. September-October.
- S. spectabile var. Brilliant, is similar in habit but has deeper colored flowers. Height 12 to 18 inches. September-October.
- S. spurium. Creeping reddish stems forming mats. Flowers pink or white. Height 6 inches. July-August. Variety coccineum, has deeper colored flowers.

Sempervivum Houseleek. Another group of plants that do well in hot, dry situations in the rock garden. Also make a neat edging for a border. Leaves arranged in more or less close rosettes and flower stalk rises from the center. After blooming the rosette dies but young ones grow around the edge of the old one. When the cluster becomes too crowded it can be divided.

S. tectorum Hen and Chickens. The large rosettes and its hardiness make this a useful edging plant. Grown chiefly for the foliage. Height 1 foot. July.

Sidalcea Prairie Mallow. A useful summer-flowering plant related to the mallows and lavateras but has neater foliage and more compact habit of growth. Leaves rich, dark green and slightly cut. Stems upright, flowers in loose spikes. Easily raised from seed or by division.

- S. candida White Prairie Mallow. This has white flowers and is very hardy. Height 3 to 4 feet. June-August.
- S. malvaeflora Checkerbloom. Flowers rose colored to purplish-red. "Rose Beauty", "Rose Queen" and "Sussex Beauty" have flowers of different shades of silvery-rose. Height 2 or 3 feet. July-August.

Silene alpestris Alpine Catchfly. Has compact habit of growth and starry white flowers. Prefers cool, rich, light soil and partial shade. Height 6 to 8 inches. June-July.

- S. alpestris flora-plena. Double white flowers. Height 6 to 8 inches. July.
- S. Schafta Autumn Catchfly. A small plant with pink flowers suitable for the edge of the border. Height 4 to 6 inches. August-September.

Spiraea. See Aruncus, Astilbe and Filipendula.

Stachys grandiflora var. robusta. Easily grown plant with nettle-like foliage and large pink flowers arranged in whorls. Height 1 to 2 feet. July-August.

S. lanata Woolly Groundwort, Lambs Tongue, Lambs Ears, Woolly Betony. The foliage is the chief attraction of this plant. It is like silver plush. The pink flowers are small and not very interesting. Height 1 foot. July-August.

Statice—See Limonium.

Stokesia laevis (S. cyanea) Stokes or Cornflower Aster. Lavender-blue flowers somewhat like a large cornflower in shape. Not hardy, recommended for mild districts only. Height 1½ feet. July-September.

Thalictrum Meadow Rue. Foliage attractive in the garden and for use with cut flowers. Clusters of small flowers in most species are on long stems and stand well above the foliage. Will grow in good loamy soil that is well drained. Propagated by seed or division of the root.

- T. aquilegifolium Columbine Meadow Rue. Flowers white. Height 4 to 5 feet. June-July. A variety called purpureum is listed and described as having metallic blue stems and purplish flowers.
- T. dipterocarpum Yunnan Meadow Rue. Not hardy but worth trying as the lilac-mauve flowers are very beautiful. Height 4 to 5 feet. July.
- T. minus. A small-leaved species with creamy-yellow flowers. Height 1 foot. June.

T. minus var. adiantifolium. Foliage resembles that of a maiden-hair fern and the small flowers are greenish. Height 1 foot. June.

Thermopsis caroliniana. A tall growing plant suitable for back of large border. Somewhat like a yellow lupin but blooms soon fade and seed pods are not attractive. Propagated by seed or division. Height 6 feet. June-July.

Thymus Thyme. Most of the species are dwarf shrubs or creeping plants. Useful for the rock garden or the front of the border. Do well in full sun in well-drained, sandy soil. Easily propagated by division.

- T. Serpyllum Mother of Thyme, Creeping Thyme. Many of the varieties listed in catalogues belong to this species. The type has a neat spreading habit, small leaves and pale pink flowers. Height 4 inches. June-July.
- T. Serpyllum albus. White flower and lighter green leaves. Height 4 inches.
- T. Serpyllum citriodorus Lemon Scented. Foliage has a yellowish tint and a distinct odor of lemon. Height 6 inches. July-August.
- T. Serpyllum coccineus. Rich red flowers and a larger habit of growth. Height 6 to 8 inches. July-August.
- T. Serpyllum lanuginosus. Woolly gray leaves and pink flowers. Height 2 inches. June.

Trollius Globe Flower. Might be described as a glorified buttercup with large globular yellow flowers. There are a number of species and varieties and they like rich moist soil. Seeds sometimes take over a year to germinate but established plants can be propagated by division.

- T. asiaticus flore croceo. Deep orange rather open flowers with narrow petals. Height 2 feet. May-June.
 - T. europaeus superbus. Lemon-colored flowers. Height 2 feet. May-June.
- T. Ledebouri. Flowers open, showing stamens and finely cut inner petals. Orange in color and blooms late. Height 3 feet. July.

Golden Queen.—This variety blooms all summer and has large deep orange-yellow flowers. Height 3 to 4 feet. July-August.

T. pumilus. A dwarf species with small yellow flowers. Height 6 inches. Some other garden varieties worth growing are:

Earliest of All.—Pale orange. Height 2 feet. May-June.

Goldquelle.—Rich orange. Height 2 feet. June.

Orange Globe.—Rich orange, incurved petals. Height 2 feet. May-June.

Valeriana officinalis Garden Heliotrope. A plant for the back of the border but a bad spreader. Foliage finely cut and attractive. Small sweet-scented white flowers arranged in large clusters. Height 3½ to 5 feet. June-July.

Verbascum phæniceum. Attractive plants that do well in semi-shade. Flowers in loose spikes. White, lavender, pink and purple varieties. Grown from seed. Height 12 to 18 inches. June-September.

Veronica Speedwell. A large group of plants easy to grow in sun in any good soil. Can be propagated either by seed or division.

V. fruticans (saxatilis). A very dwarf form with small leaves and bright blue flowers. Height 4 to 6 inches. July.

V. incana Woolly Speedwell. Silvery-gray foliage and spikes of small blue flowers. Height 1 foot. July.

V. latifolia var. prostrata. A plant with prostrate habit, only the tips of the stems growing upright. Flowers blue. Height 4 inches. June. Other related forms are V. ruprestris and V. Trehanii. The latter has golden colored foliage.

V. maritima subsessilis (longifolia) Japanese Speedwell. Valuable for the border, with long spikes of rich blue flowers. Height 2 to 3 feet. August-September. Variety "Blue Spire" said to be a hybrid of this and V. spicata. Has bushy habit, dark blue flowers and blooms all summer. Height 2 feet.

V. repens Creeping Speedwell. A very dwarf species, useful for the rock garden. The flowers are pale blue. Height 1 to 2 inches. July.

V. spicata Spike Speedwell. Deep bluish-violet. Height 2 to 3 feet. July October.

V. spuria. Generally called V. amethystina. Soft blue flowers. Height 2 to 3 feet. June-July.

V. spuria var. elegans. This is more branched than the type. There is also a form with a pink flower known as V. elegans var. carnea.

Vinca minor Common Periwinkle. An evergreen trailing plant useful for growing in shade where it will make a very attractive ground cover. Leaves dark, glossy green and flowers blue. June.

Viola Pansies, Violas, Violets. Pansies are most satisfactory when grown as annuals or biennials. Even if plants live over a second winter flowers are small. They do best in rich, cool soil that does not dry out in summer.

Bedding violas are useful in rock gardens and perennial borders. If the seed is sown indoors early in spring, plants will bloom all summer and autumn if kept watered during dry weather and not allowed to set seed. In some districts plants will live over winter and begin to bloom again early in spring. To get young plants ready for blooming in spring sow seed in cold frames in early August and transplant seedlings into other frames when large enough to handle. At Ottawa plants are wintered in cold frames which, after the ground is frozen, are covered with wooden covers. As soon as the ground is dry enough in spring the plants are planted in the border where they will soon begin to bloom. Seeds can be obtained in mixture or in separate colors. Height 4 to 6 inches. May-September.

V. cornuta Horned Violet. Flowers smaller than those of bedding violas but plants are floriferous and attractive and live for several years. Garden forms have larger flowers and one of the best is Jersey Gem. This blooms all summer if the faded flowers are removed. Its compact habit of growth makes it suitable for edging a border. The flowers are violet-blue and stand up well above the neat foliage. Grown from seed the color varies and best forms should be propagated from cuttings. Height 6 to 8 inches. May-September.

V. Florariensis, a variety originated in Switzerland, has larger flowers with white markings on the center of the petals. Height 6 inches. May-September.

V. gracilis. The yellow form of this species has small flowers, freely produced all summer. Foliage narrow and plant compact.

V. Jooi. Makes a compact plant with pinkish-lilac fragrant flowers. A mass of bloom in May and a few flowers in autumn. Seeds freely but surplus plants easily removed. Height 3 to 4 inches. May-June.

V. odorata Sweet Violet. The dark purple sweet-scented wild violet of England. The variety alba has white flowers. They spread by runners and may overrun other plants in places where they naturalize. In Ottawa they live but frequently are damaged in winter. Height 3 to 6 inches. May-June.

V. Priceana Confederate Violet. Large flowers on long stems. Sometimes described as gray but at Ottawa they are white with pencillings of blue in the throat. Do well in partial or deep shade. Height 6 to 8 inches. May.

Yucca filamentosa Adams Needle. Not herbaceous as the long strapshaped leaves live over winter. At Ottawa the roots are quite hardy but leaves exposed above the snow are badly bleached. Plants do not bloom every year. Should be grown in good light soil in a sunny situation. Flowers are deep cream hanging bells arranged in large spikes. Height 3 to 4 feet. July.

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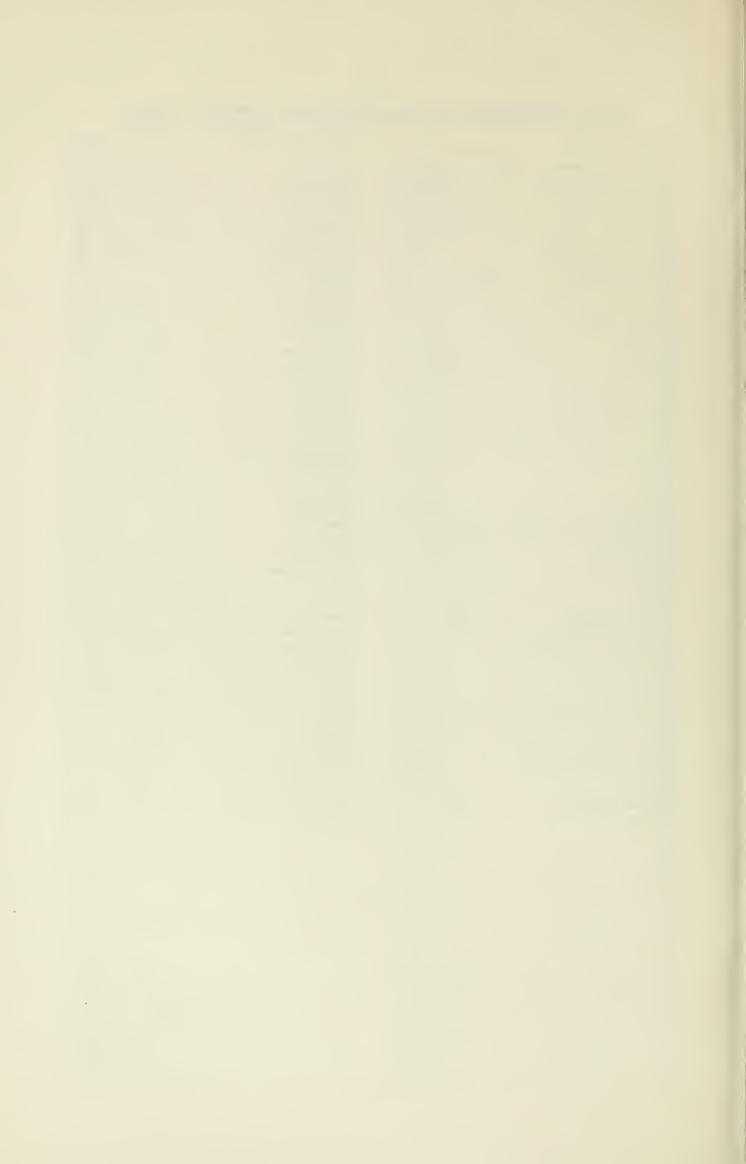
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